**Illustrations of difficult parturition.**

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# DIFFICULT PARTURITION.

# ILLUSTRATIONS

OF

# DIFFICULT PARTURITION.

BY

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# PREFACE.

These illustrations are the results of clinical experience in Difficult Parturition; and by way of introduction I have stated the principles which have guided me in practice.

The cases detailed are for the most part examples of obstructed labours.

I purpose to issue, at some future time, further contributions embracing other forms of irregularity and complication which have come under my care.

This small volume has been prepared with the hope that its contents—the fruits of extensive opportunities—may serve as a guide to some of my professional brethren in similar instances of difficulty and danger.

In an Appendix I have added two rare cases of interest, in which I was consulted when the last sheet of this work was in the press; and also a statistical analysis of upwards of seven thousand deliveries attended under my direction, chiefly in the Royal Maternity Charity. Here my best thanks are due to my friend and former pupil Dr. Siordet, for his valuable assistance in collecting and arranging my records of those labours.

11, Harley Street, Cavendish Square;
*August*, 1858.

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## OBSERVATIONS

ON

## DIFFICULT PARTURITION.

# OBSERVATIONS

ON

# DIFFICULT PARTURITION.

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## CHAPTER I.

### INTRODUCTION.

#### CAUSES OF OBSTRUCTED LABOURS.

The natural course of the function of parturition may be disturbed in a variety of ways. Thus, the expelling powers of labour may be defective, or irregular in their action from debility of constitution, depressing passions, internal causes of irritation, as indigesta, intestinal accumulations, retention of urine, interrupting in a reflex manner the supply of nervous influence to the muscles of parturition.

The accessory forces, which co-operate with the uterus, more especially in the second stage of labour, may be weakened in their power by diseases of the respiratory and circulating systems; or their due efficiency may be mechanically obstructed by abdominal tumours, enlargement of organs, dropsical collections, or extreme distention of the urinary bladder. The muscular con-

traction of the uterus itself may be prevented by the presence of an excessive quantity of liquor amnii.

The passages destined by nature to transmit the child may be at fault. The tissues, instead of yielding kindly to the agents of parturition, may be rigid, or from some morbid condition oppose an undue resistance to the progress of the birth.

Displacement of the pelvic organs, as of the uterus in retroversion (see Case XXVIII),[1] or the bladder when distended and prolapsed below the presenting head, may also occasion obstacles to the advance of the child, and here the swelling has sometimes been mistaken for the presentation of a dropsical head or the bag of waters, errors which may easily be avoided by ordinary caution. A true hernia of the bladder,[2] and of the intestine into the vaginal passage have sometimes been met with.

The osseous part of the genital canal may be affected, and its capacity thereby diminished in various degrees; proportional difficulties in labour thus arise requiring corresponding modes of management.

Among the causes of a small and deformed pelvis, the most prevalent is Rickets, a malady of childhood, depending upon insufficient nutrition, and various influences operating injuriously in early years. In this disease the hard material of bone, consisting of the

[1] See also two interesting cases by Dr. Merriman. 'Synopsis,' pp. 244, 246.

[2] See Davis's 'Obstetric Medicine,' pp. 52, 194, 203, for reports of cases in the practice of M. Chaussier, M. Robert, Sir Astley Cooper, Dr. John Sims, and of an instance in his own experience.

phosphate and other salts of lime and magnesia, is deficient, and too often, to the prejudice of child-birth, does this disease leave its deforming effects on the skeleton in after life.

Another affection productive of pelvic distortion, fortunately more rare, because accompanied by so much suffering to its unhappy victims, is that distressing and eventually fatal disease, Mollities Ossium. This deformity progressively advances till it reaches, should the patient live sufficiently long, the degree, which existed in the celebrated instance of Isabel Redman, who was delivered under the Cæsarean section by Dr. Hull, in 1794. In that case, the space at the pelvic brim was less than one inch at any point. Or the distortion may equal that reported by Professor Naegele, who found in one instance the antero-posterior diameter at the inlet of the pelvis reduced to two and a half lines.

A case of this disease of about twelve years' duration, in a patient aged 36, came under my notice in October, 1846, with Mr. Stratford Eyre, who consulted me on account of her severe sufferings, the extreme deformity of her figure, and its bearings on a suspected pregnancy of five months. For six years she had not been able to abduct the thighs, and could only go up and down stairs in the sitting posture; her height had been diminished eleven inches, viz., from five feet to four feet one inch. Her chest was greatly contracted, and she had long been asthmatic. She had given birth to six children, *the first three* living, at full term; the *fourth*, stillborn, at full term, after a severe labour; the *fifth*

was delivered by craniotomy; the *sixth* labour was induced at five months, the fœtus passing with difficulty. There proved to be no pregnancy, and the patient died of pneumonia a few days after I saw her. I made, with the assistance of my friend, Mr. Eyre, and one of my pupils, a post-mortem examination.

The frame was greatly emaciated, the leg bones were straight, which arose probably from the standing posture having long been impossible. The upper part of the fourth lumbar vertebra was depressed to a level with the symphisis pubis; the sacrum exceedingly bent. The measurements of the pelvis were *at the brim*—

| | |
|---|---|
| The conjugate diameter from upper margin of fourth lumbar vertebra to symphisis pubis . | $1\frac{3}{8}$ inch. |
| On the right side in the same direction . . . . . | 1 ,, |
| On the left side ditto . | $\frac{3}{4}$ ,, |
| Right oblique diameter . . | 3 inches. |
| Left oblique diameter . . | $3\frac{1}{4}$ ,, |
| Transverse . . . . . | 3 ,, |

*at the outlet*—

| | |
|---|---|
| Transverse between tubera of Ischia | 3 ,, |
| Sacro pubic . . . about | 3 ,, |

The thickness of the pelvic bones was much diminished; they were dark, spongy, and very oily; and were easily divided with a knife. Their microscopic structure was impaired; numerous nucleated cells with oil globules occupied the cancellous structure, and some of the remaining Haversian canals. The proportions of the

bony constituents, as ascertained by Dr. Garrod, were[1]—

| | | | |
|---|---|---|---|
| Phosphate of lime | 16·40 | 21·28 | earthy matter. |
| Carbonate of lime, Phosphate of magnesia | 4·88 | | |
| Fatty matters | 20·35 | 78·72 | animal matter. |
| Gelatine yielding matter | 58·37 | | |

Had this patient proved five months pregnant, as was supposed, the induction of labour at once would have been the right treatment, since delivery at the full term could only have been completed by the Cæsarean section.

Other causes of a small pelvis are fractures, exostoses or bony growths from the internal surface of the pelvic bones or ligaments. The most remarkable case on record of this rare disease, is that reported by Dr. Haber, of Carlsruhe,[2] in which instance the morbid mass filled up the whole cavity of the pelvis.

Dislocations of the head of the thigh bones, on the dorsum of the ilium, have also been known to lead to diminution of the pelvic space. Scrofulous hip-joint disease also (Case CIV), and the obliquely distorted pelvis. With the characters of this last disease we have now, from Naegele's first description of it in his treatise,[3] and from the descriptions and delineations in Moreau's, and some other obstetric works, become acquainted. It may be seen, that the symphisis pubis is

[1] 'Transactions of the Pathological Society,' 1846-47, pp. 105, 121. Papers communicated by Dr. Ramsbotham and myself.

[2] 'Library of Medicine,' vol. vi, p. 194, quoted by Dr. Rigby.

[3] 'Das Schräg Verengte Becken,' 4to, Mainz, 1839, with plates.

displaced considerably to one side of the middle line, the sacral promontory to the other; one side of the pelvis is flattened, the other bulging; one oblique diameter shorter, the other longer than natural; the conjugate diameter is not at all or but little diminished. Hence the deficiency of space has generally been overlooked till too late a period. In a case of rupture of the uterus and vagina occurring from this deformity, to which I was called in 1854 (Case XCVII), this was the fact.

Further, to the list of causes of difficult labour, I may add the equally contracted pelvis, apparently the consequence of a partial arrest of development, not altering the natural shape and proportions of the adult female pelvis, and confined to this part of the skeleton. Lastly, the funnel-shaped pelvis should be mentioned; ovarian and other encysted tumours, also polypoid growths.

But the pelvis may be of normal dimensions, and yet difficulty occur in a labour, from obstacles produced by faulty condition in the child, large size of the child, or of its head in particular; undue ossification of the cranium; distention of the skull by the fluid of hydrocephalus, enlargement of the chest by hydrothorax, of the abdomen by ascites, monstrosities attended by excess of bulk, or by such a derangement of the parts as may impede the birth. Transverse presentations of the child. Complicated presentations, such as one part of the child prolapsing by the side of another, as head and hand, head and foot, part of one child with part of another, may have the same effect.

*Malpositions* and *malpresentations* of the head, as face and ear presentations, are also mentioned, but with regard to these, some exceptions should be made. Thus, with respect to the so-called malpositions of the head, the direction of the face to either acetabulum was once deemed unavoidably a cause of difficulty. This, however, is now known not to be the case, for in the course of the natural change, the face, instead of always veering forwards to the pubes, as was thought to be the rule, only does so by exception. The rule is, that as labour advances, the face is turned round by the shortest route to the sacrum. This process I have very frequently watched and verified in my own practice, since my attention was first directed to it.[1]

A somewhat similar remark applies to face presentations. In their treatment the operation of turning was formerly thought the best proceeding, but that is now found to be, not only an unnecessary interference, but a mode of practice far less conservative of life, than where nature is left to her own resources. Thus, for instance, in the deliveries under my direction, in the Royal Maternity and other Charities, the face presentations alone have been 110, of these 102 were born living under the natural efforts. I may add, by the bye, that of the eight stillborn children in the above number of face presentations, one was in a putrid state, and had been dead long before labour set in.

Ear presentations are extremely rare (see the statistics).

[1] During a stay which I made in Heidelberg in 1835-36, I had opportunities of becoming acquainted with Naegele's accuracy of observation on this and other points of obstetric interest.

## TREATMENT OF OBSTRUCTED LABOURS.

According to the kind of difficulty, and the degree of encroachment on the pelvic space, shall we have to regulate our treatment.

Sometimes we employ remedies to improve parturient action; in those cases, viz., where the passage is sufficiently spacious, and nothing but the powers of labour are wanting to complete the birth.

If we suspect that the labour is arrested by any internal irritation, the removal of its cause will be indicated. Thus, where there are indigesta in the stomach, as when a patient shortly before labour has indulged in an excessive meal, an emetic is the obvious remedy. In one instance under my care, an impending attack of convulsions was apparently prevented by such timely means. Convulsions had ensued, in another example, before that remedy could be given.

Sometimes an enema will serve to rouse the dormant energies of parturition, and in any case it will be called for, if fæcal accumulation should exist.

In other cases *retention of urine* will be the occasion of inefficient action; here the timely use of the catheter will be the appropriate treatment.

The duty of carefully watching the state of the bladder during labour is one of very great importance. Serious have been the results of inattention to the condition of that organ in obstructed labours.

I might refer, for example, to the sad sequel of

Chapman's fortieth case; the patient died with a distended bladder, and undelivered. Two cases of melancholy interest are recorded by the late Dr. John Ramsbotham, eighty-ninth and ninetieth cases of his 'Practical Observations in Midwifery,' of rupture of the bladder from over-distention in labour. They were both in primiparæ, the pelvis was slightly deformed in one; the symptoms after the accident were in both similar, a small rapid pulse, cold extremities, acute pain in the abdomen. The one patient died within two hours after delivery; the other lived to the second day, in great suffering, and had felt the organ give way. The autopsy in both discovered the lacerated aperture in the bladder, through which the urine had escaped into the cavity of the abdomen.

Cases might also be instanced of a distended bladder being displaced downwards into the pelvic cavity by the pressure of the descending head; here it has sometimes been mistaken for a hydrocephalic head, or for the amnion and contained waters, and thus unfortunately punctured.[1]

In constitutional debility, light nourishment and a well-timed cordial will often be the only treatment needed.

When the uterine efforts are sluggish, without such general debility, when no absolute nor relative defect of space, nor rigidities exist, and no other tangible cause, as plethora or exhaustion, is present, the ergot of

[1] Merriman's 'Synopsis,' p. 214; Davis 'Obstet. Med.,' p. 988; Mr. Christian's Paper, 'Edinb. Med. Surg. Journ.,' vol. ix, p. 281; Hamilton's 'Cases in Midwifery,' p. 16.

rye may be administered in most cases with good effect.

Sometimes the application of the forceps will in the end be unavoidable.

I have known, however, a judicious opiate, by inducing a refreshing sleep, lead to a return of the uterine efforts, and so obviate the need for instrumental interference.

In another class of cases, where, for example, there is undue resistance of the soft parts, sometimes the cause, sometimes the result, of premature discharge of the "waters," such rigid state may in one case be resolved by tartar emetic; in another case, strength permitting, by bloodletting; in a third by opium. This last remedy appears to act here by its sedative influence on the nervous system; it procures sleep, and allays muscular spasm. It is sometimes also successfully exhibited after moderate depletion. It requires, however, to be used with caution, and due discrimination as to the cases selected for its action.

For the purpose of quieting muscular spasm, soothing the nervous system, and so relaxing these rigid conditions of the genital passage, *chloroform* in latter years has been much resorted to by some practitioners; and I must confess, that, whenever I have employed it with this intention, I have rarely found it fail me. But it is, in my opinion, an agent of too great potency to be used without great caution.

I first resorted to it in December, 1847, in a patient whose nervous system was much excited, and in whom the os uteri and vagina were extremely rigid. The

patient was reduced to perfect calmness, the resisting tissues yielded, with an abundant flow of mucus, and the birth, which promised to be long protracted, was quickly brought to a safe conclusion.

Occasionally the soft parts are the seat of impediments, which require to be removed by operation. Thus, an unruptured hymen has continued up to the time of labour, and formed the only hinderance to the birth, an obstacle which it has been necessary to remove by a crucial incision; though sometimes this assistance has been superseded by an unusual exertion of the parturient efforts, the violent bearing of the head upon the resisting tissue having at length effected its laceration. Instances are also on record, of labour being obstructed by a strong membrane stretching across the vagina above the os externum, and sometimes of a second higher up; also of frænal bands and cicatrizations, cohesions of the labia of the uterus.

Obstructing membranes must be divided; cicatrices, and smallness of the vagina not arising from any morbid source, will in most cases eventually yield to the natural efforts; although sometimes considerable time may be required before the difficulty is overcome, and the relaxing remedies above mentioned may eventually be called for.

Cohesion of the lips of the os uteri, and extreme induration of the cervix, will sometimes require surgical treatment, to prevent the more serious complication of an uterine rupture; however, such an indication is extremely rare, a full reliance on the natural efforts,

and a judicious medical treatment being, in the majority of cases, equal to the difficulty.

In head presentations, with contraction of the pelvic space absolute or relative, we shall be called upon according to its degrees to deliver by the forceps, or by the tractor (vectis). In a few instances craniotomy will be our only chance. In others, the Cæsarean section will be our painful duty.

There are some forms of enlargements encroaching upon the pelvic space, which may be removed by various proceedings, and which otherwise would necessitate instrumental delivery. Thus abscesses, dropsical ovaries,[1] and other encysted tumours, may be punctured, and their contents removed by a small trocar and canula. A tentative opening should, however, first be made.

In a few instances of the latter complication, when the tumour is not fixed by adhesions, it has been possible to push it above the brim, before the head has entered that aperture.[2]

When this cannot be done, and the tumour is of the solid kind, we shall have to deliver by the forceps should

[1] Mr. Ingleby gives two interesting cases of dropsical tumours obstructing labour, in which he punctured them by a trocar from the rectum; one child was stillborn, the other extracted alive by the forceps. ('Obstetric Medicine,' p. 128, et seq.)

See also Mr. Park's cases, in which the opening was made per vaginam; the children were then born without further aid. ('Med.-Chir. Trans.,' vol. ii, p. 296, et seq.)

Also Dr. Lever's case ('Med.-Chir. Trans.,' vol. xxiii).

[2] Dr. Merriman's case ('Med.-Chir. Trans.,' vol. x, p. 61), which afterwards ended in a living birth; and one by Dr. Ramsbotham ('Obstet. Med. and Surgery,' p. 225).

room permit; if not, by embryotomy, which would be preferable to a hazardous surgical operation at such a time. If, however, the space left by the tumour should not admit of delivery by the natural passages, extirpation of the obstacle, should be attempted in preference to the Cæsarean section.[1]

Polypoid tumours descending into the vagina and obstructing labour may be ligated and excised, or more speedily removed by means of the écraseur. Sometimes the presenting head propels the body of the polypus before it, out of the vagina, and the birth of the child then follows easily. This is a more satisfactory result, for then the removal of the polypus may be postponed to a later period, when the operation might be more safely undertaken.

Labours have in rare instances been impeded by *calculi in the bladder*.[2] Where possible they should be pushed up above the brim before the head engages, or else cut down upon, through the vaginal and vesical walling, and thus removed.

When deformity of the pelvis is known to exist, such as to be incompatible with a living birth at full term, but yet to admit of the ready passage of a child a few weeks short of maturity, it becomes our duty, for the

[1] Dr. P. P. Drew met with two cases of tumours connected with the sacro-sciatic ligament: one patient died, and it then appeared that the tumour could have been easily removed; in the other instance it was extirpated through an incision in the perinæum. A living child was then extracted by the forceps. The tumour weighed upwards of two pounds, and measured fourteen inches in circumference. The mother did well. ('Edinb. Med. Surg. Journal,' vol. i, pp. 20, 23.

[2] Dr. Churchill's 'Theory and Practice of Midwifery,' p. 220.

preservation of the child's life, to perform the induction of premature labour.

But there may be contraction of the pelvic space to so great an extent, that a child, even in the seventh month, could not be born by the natural passages. Nay, at that time it might be necessary to deliver by the Cæsarean section, for embryotomy has its limits of application. Delivery through the pelvic canal by embryotomy cannot be adopted at full term, and I may say even at seven months, unless there is an antero-posterior diameter at the brim of one and a half inch, or, at the least, without an available space in that direction of one inch and three eighths, by three and a half inches in the transverse diameter. Some, indeed, have alleged, that even with a conjugate diameter of two inches, the Cæsarean section would be necessary.

In the case of mollities ossium which came under my care in 1846, a child at full term could only have been delivered by the Cæsarean operation, as the diameters at the inlet were in the conjugate only one inch and three eighths; at either side of it still less; in the transverse direction three inches. In consequence of this extreme contraction, it was my intention, had the patient been pregnant, to have induced abortion at the period of pregnancy, at which she supposed she had arrived, viz., five months.

In all cases, where we have evidence, that the head is distended by hydrocephalic fluid, it would be cruel to keep the patient long in fruitless labour; therefore, as soon as the os uteri will allow, the bulk of the child's head should be lessened by perforation.

In other cases, where difficulty arises with a pelvis of apparently standard measurements, and where nothing positive can be ascertained about the cause of the impediment, we must regulate our conduct as to interference by *time* and *symptoms*.

With regard to *time*, different limits to our delay have been assigned as proper, after full dilatation of the os uteri, and escape of the waters, with arrest or impaction of the head in the pelvic tube, have taken place. Periods varying from four to twenty-four hours of arrest of the head have been by different authorities advised for our adoption; but I have known a lapse of less than twelve hours[1] cause most serious mischief to the maternal tissues, and that, although delivery in the end was spontaneously effected. In my own practice I adopt as a rule, modified by the circumstances of each case, a limit of from four to six hours of arrest of the head in the second stage of labour, under strong pains, in one position, from which it neither advances nor retires. But the *symptoms* in each particular patient must be borne in mind, for should serious prostration, or ill effects of pressure on the parts, appear sooner, it would be necessary for the patient's safety to deliver even within either of those periods of time. On the other hand, in some instances, if the patient is carefully

[1] Dr. Ramsbotham reports, that he once delivered a patient under fatal depression, although *six* hours only had elapsed from the rupture of the membranes. Cold extremities and dark vomiting had supervened; no hæmorrhage or laceration had taken place; fatigue from great exertion was the only apparent cause of the symptoms in this fatal case. ('Obst. Med. and Surg.,' p. 277, fifth edition.)

watched, and any indications of treatment promptly met, it might be permitted to extend our delay considerably beyond even a period of eight hours (see Case LXXIII), in the hope that nature might yet be sufficient.

The symptoms which should call for interference and excite our anxiety are a feverish pulse and skin, loaded tongue, dry, heated vaginal mucous membrane, a brown, often offensive discharge from the uterus, tenderness and swelling of the genital surfaces, and soreness of the abdomen. But sometimes there are other symptoms of a still more serious kind,—a haggard countenance, dark vomiting, a cold, clammy skin, a small, irregular, intermittent pulse, laboured respiration, a brown tongue, rigors and delirium; a hopeless state, in fact, but which I have found to have been, in every instance, the result of violent but fruitless exertions and suffering for many hours.

Having determined upon interference, we have to decide in a head presentation between delivery by the forceps and delivery by the perforator. But sometimes, before resorting to the latter destructive operation on the child, it will be right, where positive proof of the child's death is not present, to make a cautious trial of the forceps first.

## CHAPTER II.

### FORCEPS DELIVERIES.

---

Before having recourse to these instruments which are intended for the safety of the child, we should first have made ourselves conversant with the positions of the head in the pelvis, also with the mechanism of labour in natural cases, otherwise we might infer the existence of mal-position, when such really does not exist.

To Solayres de Renhac, Saxtorph, in 1771, but especially to Naegele,[1] are we indebted for the view in respect to the mechanism of natural parturition, now known by careful observation to be correct.

Bandelocque also adopted the doctrine of his distinguished master Solayres, and by his influence spread it widely through the French and other schools of midwifery; but it will be remembered, that in his classification he made additions of his own, and so departed

[1] In his excellent 'Essay on the Mechanism of Parturition,' published in Germany in 1818; and by Dr. Rigby translated into English, in 1829.

from the simplicity of his teacher.[1] It should, however, not be forgotten, that M. Capuron fully accepted, without modification, the views of Solayres of the four oblique positions of the head in natural labour.[2]

It is now established beyond all doubt, that the head enters the pelvic brim with its long axis in the direction of one of the oblique diameters, as might indeed, *a priori*, have been predicted, and most frequently, as we shall see, in the right oblique diameter. It is found, moreover, that an easy transit of the head is further secured, by its being disposed throughout the labour in an oblique direction, as respects both its longitudinal and its transverse diameters. Thus, it is not the vertex proper, in the line of the sagittal suture, which is the most depending part, but the posterior and superior quarter of the right or left parietal bone; and this is the part which mostly exhibits the puffy swelling of scalp or caput succedaneum, with which the child is usually born.

Lastly, in the composition of the fœtal skull of its constituent bones and connecting membranes, we have a beautiful provision, not only for the development and growth of the contained brain, but also one calculated to diminish greatly the dangers of parturition.

The normal positions of the head in labour are, as already implied, four in number.

[1] MM. Dubois and Stoltz, of Strasburgh, it appears, were the first to spread Naegele's views in France. ('Traité Théorique et Pratique des Accouchemens,' 5me edit., p. 416, par M. P. Caseaux.)

[2] 'Cours d'Accouchemens,' M. Capuron, 2de edit., Paris, 1816, p. 215.

I. *The first or left occipito-cotyloid position.*

Here the small fontanelle is directed to the left acetabulum; the large fontanelle to the right sacro-iliac synchondrosis; the long axis of the head corresponds to the right oblique diameter of the pelvis; the right parietal bone, its posterior superior quarter, is the most anterior and depending part.

*Its progress and changes.* Under the powers of parturition exerted on the body of the child, and through it on the presenting part, the head is propelled downwards, till it meets with the resistance of the ischiadic plane; its course is then altered. A rotation of the head on its perpendicular axis follows; the occiput passing behind the left obturator foramen, the left ramus of the pubes, and finally, into the opening of the pubic arch. During these steps the face is gliding downwards, and from right to left, over the above plane, into the hollow of the sacrum; indeed, the descent of the head is blended with a movement of rotation. The chin, before closely applied to the chest, now becomes separated from it, and the face, in its descent, sweeps forward over the sacral, coxygeal, and perinæal planes, describing a curve. The head finally makes its escape through the pelvic outlet, and, on expulsion, undergoes a turn, so that the face looks to the thigh of that side, to which it was originally directed.

II. *The second or right occipito-cotyloid position.*

Here the small fontanelle looks to the right acetabulum; the large fontanelle to the left sacro-iliac junc-

tion; the long axis of the head lies in the left oblique diameter; the left parietal bone, its posterior superior district, is the most anterior and depending part.

*Its progress and changes.* The head is propelled downwards, as before, by the powerful agents of parturition, till it meets with the plane of the ischium; the face then glides from left to right into the hollow of the sacrum, and advances, as in the former case, in a spiral or "screwing-like" manner, the occiput undergoing a rotation from the right acetabulum to the pubic arch before its final expulsion. On the birth of the head, the face turns to the left thigh.

III. *The third or left fronto-cotyloid position.*

The small fontanelle is turned to the right sacro-iliac joint of the pelvis; the large fontanelle to the left cotyloid region; the long axis of the head is parallel to the right oblique diameter, as in the first position; the left parietal bone, its tuber, and subsequently its posterior superior quarter, are the most anterior and depending parts.

*Its progress and changes.* The head is urged downwards by the propellent powers already indicated, and undergoes, as before, a spiral rotation, the face moving round the left side of the pelvis; so that the long axis of the head comes to be placed in the left oblique diameter, and thence on, it advances as in the second position.

IV. *The fourth or right fronto-cotyloid position.*

The small fontanelle is turned to the left sacro-iliac joint of the pelvis; the large fontanelle to the right

acetabulum; the long axis of the head is parallel to the left oblique diameter; the right parietal bone its tuber, and subsequently its posterior superior quarter, is the anterior and depending part.

*Its progress and changes.* The head is urged downwards by the propellent powers, and undergoes a spiral rotation, the face passing round the right side of the pelvis, so that its long axis enters the right oblique diameter, and is thus converted into the first position.

In these third and fourth positions just mentioned, a variety in the changes *sometimes* takes place, viz., the face is occasionally rotated forwards from either acetabulum to the pubes; when this is the case, the birth, in my experience, has been usually more protracted. This change of position was, in former years, erroneously supposed to be the rule, and not the exception, as Naegele was the first to point out.

As regards the third position in particular, it should be remarked, that Naegele found it to rank next to the first in order of frequency; thus, in 3491 cranial presentations at the Heidelberg Hospital—

| | | | |
|---|---|---|---|
| The first position occurred in | | 2,262 | labours. |
| The third | „ | 1,217 | „ |
| The fourth | „ | 8 | „ |
| The second | „ | 4 | „ |

My own experience goes to confirm in a great degree Naegele's conclusions. I have, however, to avoid confusion, not disturbed the order of oblique positions in general use.

The discrepancy, which appears between the statements of different observers, as to the relative frequency of the *second* and *third* positions, may easily be reconciled, if we admit, that in very many instances the position of the head has not been noted sufficiently early in the labour; the first observation having been made after the head had rotated from the *third* into the *second* position.

Now, the above being the four normal positions, there are besides two irregular or transverse positions, where the face is directed to the left or right ilium. These indeed were formerly supposed to be very usual and natural positions of the head.[1] They are rarely original, being generally derived from the *third* or *fourth* (fronto-cotyloid) positions; the head being caught, as it were, in its transition state, arrested in the course of rotation of the face from either acetabulum to the synchondrosal joint or sacrum. It is possible, that after a pause, that change may yet be completed; but if not so, a little assistance by the forceps or tractor will alone be required.

The practitioner, who is well acquainted with the above positions, and the mechanism of the head's advance in labour, will not be so ready to withhold his reliance on nature, as he would be, and as our forefathers were, without the advantage of that knowledge.

[1] Ould's 'Midwifery,' 1742, p. 28; Smellie's 'Midwifery,' 1752, p. 221.

## LABOURS REQUIRING FOR THEIR COMPLETION A RECOURSE TO THE FORCEPS.

At different periods in the history of midwifery there has been, in regard to the use of the forceps, a tendency to the opposite extremes,—of a rash employment of them, and of an ill-timed delay in their application, frequently till too late for any useful purpose. In the present day we have profited by the experience of the past failures of those extremes of practice, and are thus better judges as to the proper time for interference.

### *Indications and precautions to be observed in the use of the Forceps.*

The general indications for their use are three:

1. Defective parturient power.
2. Deficient pelvic space.
3. Some dangerous complication of a labour, as flooding, convulsions, &c.

Before deciding on the employment of the forceps, *the following precautions must be observed:*

The *head* must be the presenting part, and its position ascertained.

We should have evidence, positive, or at least presumptive, that the child is living; for otherwise we should not be justified in exposing the mother to the risks of a forceps operation; craniotomy being then the proper proceeding upon a dead child.

There must be room in the pelvis for their safe introduction at the two opposite points of the circumference

of the head. If the child is known to be at or near the full term, and appears to be of average size, there should, in my opinion, be at the brim of the pelvis in the conjugate diameter, and at the outlet in its transverse diameter, a clear space of three inches and a quarter, to afford us any hope of success in a forceps operation. A labour, in which the head is so completely locked, or wedged in the pelvis, that an ear cannot be reached, and where the examining finger cannot be passed between the head and the pelvic wall, at any point, is obviously one in which we could not have recourse to the forceps.

In all cases, where the short forceps are used, the head must have entered pretty deeply into the cavity of the pelvis, if indeed it shall not have reached the outlet of that tube.

The os uteri should be fully dilated, or at least must be soft and dilatable; the vagina should also be of ample capacity throughout.

We should feel satisfied, that there is risk to either the mother or child from a longer protracted pressure.

But on no account must we withhold our assistance, till that extremity of prostration of the vital powers has supervened, in which little or no hope remains, that art can avail us in rescuing either life.

The danger of injury lies in the pressure, exerted in labour, being violent and long continued on the same tracts of tissue, the head immoveably fixed in one position, so as to interrupt the free circulation in the parts pinched, so to speak, between it and the pelvic walls.

The head may sometimes remain stationary in the pelvis after full dilatation of the uterine orifice, for a longer period than even twelve hours, and no evil result follow. But for this to occur, there must be ample space, with the soft parts moist and relaxed, and little or no labour action present. In due time, often after a refreshing sleep, which it may be judicious to promote by artificial means, nature resumes and completes her work with safety.

It is usually admitted, that so long as the head advances *pari passu* with the pains of parturition, so long there can be no necessity for interference, even though the above-stated limit of time may have been much exceeded. As a general principle this is undoubtedly a fact, but fatal exceptions to its universal truth have occurred. I will quote one instance in point[1] from my father's work. Lady ——, who had had a previous difficult labour, in which she was delivered by the forceps, was some years later taken in her second labour, and gave birth, without instrumental interference, to a still-born child, after a severe labour of eighteen hours' duration, the waters having escaped at first. The head had entered the cavity of the pelvis in the first position, but had made its transit through that tube in the midst of unnatural violence of parturient efforts, of which at no period was there a suspension. There was a constant progressiveness in the head's transit; but so great was the irritation and vascular excitement, that the patient became the sub-

[1] Davis's 'Operative Midwifery,' p. 149.

ject of a severe rigor, the head then bearing strongly on the perinæum. The patient died on the tenth day after delivery, and the cause of death was found to have been a large abscess at the superior part, and left side of the cavity of the pelvis, involving the left ovarium, which, probably much contused during labour, appeared to have been the nucleus of suppurative action.

A somewhat similar instance, also following a spontaneous birth, came under my own observation in the autumn of 1853, excepting, that here the child was born living; it was a fifth labour; the placenta was thrown off naturally, shortly after the birth of the child. The pulse never fell below 100 after delivery; a tremendous shivering appeared on the third day with great heat of surface, and other febrile symptoms; the pulse quickly rose to 140; the respirations became hurried; delirium and a tympanitic abdomen quickly ensued. This patient died also on the tenth day, notwithstanding every possible effort to save life; a post-mortem examination could not be obtained, but the seat of the patient's suffering was referred to the left iliac region, and, on vaginal examination during life, a fulness was discovered to the left of the cervix uteri, extremely tender to the touch; the passage of the fæces caused much pain, and during the last two days no urine could be passed without the catheter.

In this case the transit of the head was difficult, yet steadily progressive; there was no swelling nor heat of the passage during labour, and the bladder acted regu-

larly from first to last. These circumstances, with the history of the patient's previous deliveries, justified the attendant in non-interference; yet it is possible, though it could not have been foreseen, that a timely application of the forceps, by shortening the labour, might have averted the fatal inflammation.

As an aid to our decision in favour of interference, I may refer to a sign, which I have for several years past found useful as an intimation of approaching danger from protracted pressure in obstructed labours, namely, an olive-coloured, or brownish slimy discharge,[1] a depraved secretion from the mucous membrane, the result of long-continued irritation. The child may often be saved after the occurrence of this discharge, which differs in character from that of meconium.

In some cases, especially in robust subjects, it will be necessary, on account of high pyrexia, or of rigidities of the soft parts within the pelvis, to resort to bloodletting, ere employing the forceps. By this precautionary proceeding, we shall lessen the risks incurred from pressure, and those of a forceps operation, as also diminish the patient's tendency to inflammation. But there are cases of this kind in which bloodletting cannot be borne, and then febrile complications and rigidities may be treated by repeated moderate doses of tartar emetic.

Sometimes the above preparatory treatment has so altered the character of the labour, by removing ob-

[1] See 'Practical Observations on Midwifery,' 1852, vol. i, p. 270, first edition, by the late Dr. John Ramsbotham.

structive conditions of the soft parts, or improving action, that the use of the forceps has been superseded.

It is our duty on so important a subject as the prognosis, in regard to the use of the forceps, as indeed in the adoption of all operative proceedings, to communicate openly and freely with the husband, relatives, or friends of the patient. We should not, however, promise more than the circumstances of the case will strictly warrant; explaining that as regards the mother, we are about to take means for her security, and at the same time to do our utmost to save the child; yet, after all, that the life of the child may not be spared.

### *Properties of the Forceps to be employed.*

Various forms of forceps have been at different times adopted. In the present day many prefer the short straight forceps of Denman, for application to the head, after it has entered the cavity of the pelvis.

After a comparison of Denman's forceps, with those having the pelvic curve and wide fenestræ,[1] I prefer the latter, as being, in my opinion, the best adapted for general use, since they cover more points of surface of the child's head, and conform to the axis of the pelvis. They thus make a more secure and equable compression of the head, than do the straight forceps, and a hold so sure, as not to slip during our extractive efforts.

[1] Those delineated in Davis's 'Operative Midwifery,' p. 40, pl. i, fig. 3, or my modification of them adapted to most short and long forceps cases.

The head curve of the forceps should not be too slight, which is the case in French, and some English forms of the instrument; but such, as closely to correspond with the surface, to which it is intended to be applied.

The width between the opposite blades should be sufficient to guard against dangerous compression of the child's tender brain.

The blades should be of moderate thickness, so as not to encroach too much on the space of the pelvis, nor to press hurtfully on the maternal tissues.

Their internal surfaces not flat, but concave, so as to guard the delicate skin of the infant from chance of abrasion by sharp edges.

With the above requisites, the English lock, which recommends itself above all others for its simplicity, ready separability and adjustment, a shank long enough to remove the locking from the perinæum, hard tempered steel, smooth surfaces, rounded edges, the English handles of sufficient length for a firm purchase, we shall be in possession of a good instrument.

In the *third* and *fourth* positions (left and right fronto-cotyloid), and in the *two transverse* positions, where the face looks to either ilium, the natural rotation of the face backwards not having been completed, the fenestræ of the forceps, which I have just described, are not so well adapted. Here, Denman's forceps are considered by some as peculiarly suitable; but as respects the safety of the maternal tissues, the bladder especially, during the rotatory movement, which

we have to execute, I must give the preference to the *oblique forceps*.[1]

### *The application of the Forceps.*

We must first prepare our patient by encouraging assurances, that we are about to give her some needful assistance, with a view to her safety and release from suffering, and that, at the same time, we shall make every possible effort to preserve her child.

Having passed the catheter, if necessary emptied the rectum, and seen that everything required for the operation is in readiness, we then place our patient on her left side, across the bed, the breech at its edge, so that the pelvic outlet shall be fully accessible. The lower extremities are to be flexed, and drawn up to a convenient angle with the trunk. A trustworthy attendant must now be directed to raise the right knee from its fellow, and support it steadily at a distance of about twelve inches, a little upwards also towards the abdomen.

In some cases there is extreme restlessness, and our patient is perfectly uncontrollable. Here, the risks of a forceps operation would be greatly increased, unless we adopted means to prevent them; we may, therefore, find it expedient to resort to the sedative influence of chloroform. I may observe in passing, that I do not often appeal to this agent in ordinary labour, and by no means in all obstetric operations; but it

[1] See Davis's 'Operative Midwifery' for delineations of their form and application, pp. 219—225.

seems to me, that this is one of the conditions, in which this anæsthetic vapour may be usefully employed.

The blades and locks having been warmed and greased, the blade for the left side of the pelvis, its convex edge turned towards the sacrum, is first to be taken up with the left or right hand, at the choice of the operator. It must be held lightly as a pen, that in its passage we may be able to appreciate the least resistance; and not thrust it onwards to the injury of the mother, as we might do if the instrument were firmly grasped. When an obstacle offers, we must then at once withdraw the blade a little, and readjust it in a right course.

In passing this blade, the instrument is to be introduced over the left sacro-sciatic ligament, and in front of the left synchondrosis; at the same time the fingers of our disengaged hand are to be interposed between the outer surface of the blade and the mother's soft parts, till they reach the angle between the presenting head and vaginal wall; the point of the blade further is to be directed well away from the latter, the convexity of the head being our guide to the right course of the instrument. By these precautions will the mother be secured from injuries, which unskilfulness and rashness would occasion. The handle is first to be held forwards between the thighs, a little upwards also; then, as the point of the blade advances, the handle is to be depressed, and carried backwards into a line with the axis of the pelvic cavity. Finally, the blade itself, as it lies within the pelvis, is to be shifted gently forwards, so as to be applied over the left lateral surface of the child's

head. The right-hand blade is now to be introduced, delicately poised between the fingers of the right hand, in the way that a violin bow is held, and passed in at the same point as the first blade; but on the opposite, or right side of the pelvis. The handle is here first to be held downwards and forwards, and in a line with the left hip-joint; then, as the curve of the blade gradually disappears within the pelvis, the handle is to be inclined a little backwards into parallelism with the first blade. In making the above movement, the blade at the same time is to be carefully shifted forwards to its destination, the right side of the child's head.

The locking of the instrument must now be made, and this should be perfectly easy. An imperfect locking implies that the blades are not parallel, and that the edge of one of the blades, therefore, must be abutting against the vaginal wall. If we attempt a forced locking, we cannot but inflict serious injury on the maternal tissues. To avoid so great an evil, the blade out of correct position must be cautiously withdrawn, and readjusted in the right direction.

Should an easy locking not be attainable, a short straight blade on the side of difficulty, in lieu of the ordinary blade, will sometimes fulfil our object. For such cases I use a short blade to correspond with either counterpart of my ordinary forceps. Should even this plan not obtain an easy locking, the forceps must be withdrawn, and delivery accomplished by other means.

It is a wise rule, which requires that in a forceps operation, we should co-operate only with parturient

action, discontinue our traction in its absence, unlocking the instrument the while, between our efforts. If pains are absent altogether, we must then follow nature in her intervals of action and rest, by intermitting our traction, and also the pressure on the child's brain. We thus guard the mother and child from serious and unnecessary risks.

For the safety of the child, it is important, that we should separate the locking, as above described. The former common practice of tying the handles together, which defeats a principal object of the English lock, facility of separation, as well as of adjustment, should be entirely abandoned.

In the use of the forceps we must be most gentle; no hasty nor violent manœuvres are admissible, either in the introduction of the blades, or in the traction which we employ. We must also be careful, as to the *degree and duration* of extractive force, which we exert; serious have been the results of inattention to this precaution. Most scrupulous must we be, as to the safety of the mother in every way, knowing, that in one short moment, by one rash act, we may inflict upon her an irreparable, nay, a fatal injury.

We are also to observe, that at every stage of the operation, we must draw upon the head in the direction of the axis of the pelvic tube.

We will suppose, that we have now brought the head into full bearing on the perinæum, when, if that structure is imperfectly developed, we must carefully remove the blades, and as on all occasions of their removal, follow closely the curved line of the head; since by

withdrawing them in a straight direction, we should at least bruise, if not lacerate the parts, with which they come into collision in their passage outwards. The head is then left to be slowly and safely expelled by the natural efforts.

But some urgent complication, as hæmorrhage, or convulsions, may require a completion of the labour; when so, every possible care must be taken of the soft parts at the outlet.

In the *third* and *fourth* positions, in which the anterior fontanelle is applied to the left or right acetabulum, it has been shown that in the natural change, as the labour progresses, the face is moved round to the nearest sacro-iliac joint; viz., to the left joint in the *third*, to the right synchondrosis in the *fourth* position.

It is obvious, that we should, if possible, do our best to imitate nature by endeavouring to effect that, which she has failed to accomplish, namely, the rotation of the face backwards. Should the face, however, as sometimes happens, have already moved somewhat forwards to the pubes, in that case it is equally clear, that we should promote the rotation of the face to the pubic arch.

In these two antero-oblique directions of the face, some prefer, as I have already intimated, the use of Denman's forceps; they are, in these positions, respectively applied against the cotyloid and sacro-iliac synchondrosal regions of the pelvis, to which the opposite sides of the face are directed; in other words, in the opposite oblique diameter to that, in which the long axis of the head is lying. Thus, in the left fronto-cotyloid

(third) position, one blade must correspond to the right acetabulum, the other to the left sacro-iliac junction; in the *fourth*[1] they will correspond respectively to the left acetabulum, and right synchondrosis. The rotation is now made, in the *third* position, from left to right; in the *fourth* position, from right to left; or as it may be otherwise expressed, we supinate the wrist in the former movement, pronate it in the latter. Thus the face is moved round the left or right side of the pelvis, as the case may be, by the shortest route to the sacrum. Now, in accomplishing this change with the straight forceps, the bladder is inevitably exposed to risk of contusion from the anterior blade, during the rotation; on this account I prefer the oblique forceps, which are not liable to this objection.

The oblique forceps are to be applied as follows: the long blade at that side of the pelvis to which the face is inclined; the shorter blade at the opposite side of the pelvis, that, to which the occiput is directed. So that, on the head of the child, the blades will be respectively adjusted, on the fronto-lateral and occipito-lateral regions. A firm and safe purchase is thus obtained, by which the rotation may be easily effected, as just described for the two positions. For each of them there is a separate pair of oblique forceps, as they turn in opposite directions for the two positions, viz., the blades in both instances are made, so as to incline towards the front of the pelvis, in order that in the rotation of the face backwards in each case, the movement may be more

[1] Right fronto-cotyloid.

easily, and therefore, as regards the maternal structures, more safely executed.

In the *transverse positions,* where the head has been arrested in its rotation, with the face looking to either ilium, the oblique forceps are equally well adapted, similarly applied as regards the child's head. The long blade is passed behind the acetabulum of that side of the pelvis, to which the face is turned, thus corresponding to a fronto-lateral part of the head. The short blade in front of the sacro-iliac junction of the side, to which the occiput is apposed, so answering to the opposite occipito-lateral part of the child's head. Thus the long or fronto-lateral blade will, where the face is to the left ilium, be adjusted behind the left acetabulum; the short or occipito-lateral blade at the opposite synchondrosis. Where the face looks to the right ilium, the long blade will be introduced, and applied behind the right acetabulum; the short or occipital blade at the opposite synchondrosis.

The rotation is to be made as before, but to a less extent, seeing that the line to be traversed, in order to place the face obliquely backwards, is so much shorter.

Having then, in the above positions, rotated the face to the sacro-iliac joint, or to the corresponding half of the sacrum, we shall, where adequate pains are present, best consult the safety of the patient, if we leave the final expulsion of the head to nature; excepting, indeed, where some pressing complication should call for an immediate delivery.

*Forceps operations where the head is arrested at the pelvic brim.*

The long forceps are very rarely indicated, since, on account of their application beyond reach of easy observation, they require still greater care and dexterity in their adjustment and use, than do the short forceps. Indeed, so much injury has resulted from their employment, that certain authorities, with a considerable show of justice, consider them most dangerous instruments.

It may with truth be observed, that as a rule, when the head is arrested at the upper strait, the difficulty is of that degree, which can only be overcome by the safer operation of craniotomy. Nevertheless, cases do, though very rarely, fall under our notice, justifying a cautious trial of the long forceps. In cases, for example, where the head has been at the brim of the pelvis for several hours under good pains, the child is known to be living, the soft passage well dilated throughout, apparent room for the forceps exists, and we have reason to apprehend, that the patient may sink from exhaustion, or that the womb may suffer a laceration of its coats.

It has been proposed by Professor Simpson,[1] in revival of a practice of bygone times, to substitute turning for long forceps and craniotomy operations, in all cases of contraction of the pelvic brim, where the passage of the hand is at all possible. But it appears

[1] 'Obstetric Memoirs,' vol. i, pp. 506—620.

to me, that the results to the child in footling cases *ab origine*, and in those derived from version in cross presentations, even in standard pelves, are not calculated very favorably to impress one in its favour. We have to reflect also upon the additional suffering, and risk, which the operation of turning might occasion to the mother, and with so little prospect of an equivalent good.

I am nevertheless disposed to admit, that it may be right to attempt the operation of turning in a small pelvis, in *extremely rare instances*.

Thus, if a patient, in consequence of defective space at the brim, has already been delivered—as in Denman's solitary case was the fact—of two or more dead children in succession; the waters have not come away, or have not long escaped, and the head is moveable on the brim, the uterus not having contracted closely on the body of the child; the soft parts lax, and well dilated; and above all the pelvic contraction is not extreme,—we might be justified in resorting to this operation for the sake of the child, for whose benefit, indeed, it is undertaken. It behoves us, however, to bear well in mind, that great caution and dexterity will be required for its safe performance in such a case.

Dr. Denman's admonition on this subject is so judicious, that we cannot do better than regulate our practice by it, viz., "The success of such attempts to preserve the life of the child is very precarious, and the operation of turning a child, under the circumstances, is rather to be considered among those things, of which an experienced man may sometimes avail himself in

critical situations, than as submitting to the ordinary rules of practice."[1]

Again, the long forceps may be applied in some exceptional instances of hæmorrhage, convulsions, rupture of the uterus, provided the space at the brim is adequate for the purpose, the soft parts are also favorable for their application, no proof is present of the child's death, and the operation of turning might be considered a more dangerous proceeding to the mother.

To ensure, however, the greatest possible safety in their application, the operator should have a full knowledge of their risks, and have had some experience in the use of the short forceps.

As with the short forceps, the precaution of emptying the bladder, and if necessary the rectum, must not be overlooked.

In most cases of arrest at the brim of the pelvis, the head lies transversely, the face being directed to the left or right ilium; positions for the most part caused by too great a projection of the sacral promontory. The head is sometimes, however, found in one of the four oblique positions.

In the *posterior oblique positions of the face,* the ordinary pelvic curved forceps, with a short blade to correspond to either counterpart, in case of need, are applicable, as in the same positions within the cavity. Indeed, by a very little alteration in the blades, and elongating the shank, I designed a pair of forceps, in 1846,[2] which I employ in these oblique positions,

[1] Denman's 'Introduction to the Practice of Midwifery, 1816, p. 382.

[2] Constructed by Coxeter.

whether the head has gained the pelvic cavity, or is arrested at the pelvic brim, thus superseding the necessity of a special pair of long forceps. There is also a short blade to lock with either of the other branches, where space in the pelvis does not admit of an ordinary blade, or where the umbilical cord may have prolapsed at the side of the head.

In the antero-oblique positions of the face (third and fourth), the blades are to be passed respectively at the sides of the pelvis; the short blade on that side to which the occiput inclines. They will thus be applied diagonally on the child's head, fronto-laterally, and occipito-laterally. The instrument being now locked, traction is to be made at intervals, till the head has entered the cavity of the pelvis, when the rotation may be left to nature, or else, if the symptoms should demand such aid, delivery may safely be completed by the oblique forceps applied, as already explained.

In the two transverse positions, where the face is directed to either ilium, *three modes* of applying the forceps have been followed.

In the *first*, one blade is passed behind the pubes, the opposite branch in front of the sacrum; but as this method exposes the bladder on the one hand, and the rectum on the other, to almost certain injury from the pressure of the blades, it is discarded by all cautious practitioners.

In the *second* method, the blades are applied in the transverse diameter of the pelvis, over the face and occiput respectively. By this purchase the head is brought into the pelvis, and the face is then inclined

backwards; the instruments may then generally be removed, and the remainder of the case be intrusted to nature. This plan, first adopted by Deleurye, in 1779, I have pursued with success (Case XXXII), and my father before me; notwithstanding, that some authors have imagined that the child's brain will not, without increased risk, bear the requisite compression in this, its antero-posterior diameter.

The *third* method. The forceps are here applied in the oblique diameter of the pelvis, diagonally on the fœtal head, as in the like position within the cavity of the pelvis. One of the long or ordinary blades is to be applied behind the left acetabulum in the *third* (left fronto-cotyloid) position; behind the right acetabulum in the *fourth* (right fronto-cotyloid) position.

For the opposite or occipital blade in each case, I employ the shorter branch before alluded to. The forceps are thus introduced at that part of the pelvis, where there is generally the most available space. On this account, we have good reason for preferring this mode of application, but when, as sometimes happens, they cannot be easily passed in this direction, we have the alternative of the second mode.

Having brought the head by successive extractive efforts into the cavity of the pelvis, and directed the face obliquely backwards, we may now, in most cases, leave the completion of the labour to the natural efforts.

Should there be any complication, as hæmorrhage, convulsions, exhaustion, &c., or in the event of the pelvic outlet being also defective in its diameters, it will then be our duty to complete the delivery.

*Summary of preceding observations.*

1. As some risk is inseparable from the use of the forceps, it behoves us to reflect well on all the data before us, ere we resort to their employment.

2. It being the fact that, under circumstances of equal skill, the forceps operation is more dangerous to the mother than that of craniotomy, the former should never be resorted to for the delivery of dead children.

3. So long as the head advances with the pains, and recedes on their retirement, the patient is safe from dangerous pressure on her soft tissues. If on the contrary, the head has been *wedged in the pelvis in one position, under strong parturient action,* for five or six hours, we are bound, as a general rule, for the safety of the lives concerned, to extend our aid.

4. In some instances, untoward symptoms appearing, it may be necessary to act, even within the above time. But, before resorting to the forceps, we must be sure, that there is space for their safe application. Should that not be the case, the only security to the mother will lie in delivery by craniotomy.

5. Where much febrile disturbance exists, extreme dryness and morbid heat of the genital passage, and the forceps yet hold out a chance of a happy issue, it will be necessary to prepare the patient by remedies adapted for the removal of those conditions.

6. The introduction of the forceps must be undertaken only with a perfect knowledge of the form of the pelvic canal, and of the mechanism of the second stage of

a natural labour; also of the direction in which the blades should be passed, in the several positions of the head.

7. For the safety of the mother and her child, our traction must cease, and the lock be loosened between the pains. Moreover, the degree of extractive power, which we exert, must not be such, nor its continuance of so long duration, as to endanger the integrity of the mother's parts. If therefore, after well-directed efforts, no advance is made, the blades must be removed and other means of delivery had recourse to.

8. Operations with the *long forceps*, or those performed at the pelvic brim, are, by general experience, admitted to be far more dangerous than those performed in the cavity of the pelvis. They should not, therefore, be attempted unless in very favorable circumstances.

9. As the integrity of the perinæum should be an object of care, we must, where adequate pains exist, where the outlet of the pelvis is not contracted, and no urgent complication is present, remove the blades so soon as the head presses fully on the soft outlet, leaving the final expulsion of the child to nature.

In referring to the cases of forceps operations in this volume, and to others which I have omitted for want of space, and as containing points already sufficiently illustrated, I am able to add, that it has been my good fortune never to have lost a single patient after forceps delivery. This result is partly due to caution in their employment, partly to the preparatory and after treatment of the patients, to watchfulness for the earliest indications of inflammation, which have sometimes

ensued upon the use of that instrument. But I must also give just weight to the fact, that my professional friends, who have consulted me, have in no instance added the dangers of delay to the difficulties before them. For this, and for their ready co-operation in the treatment, they have my best thanks.

### THE VECTIS, OR TRACTOR.

The tractor is another mechanical contrivance, which at various times has been resorted to in labours, with the view of promoting a living birth.

The vectis, as it was originally termed, was first employed as a lever of the first order; the pelvis with its lining structures formed the fulcrum, greatly to their injury, as might have been anticipated.

The only safe use of this instrument is as an extractor or tractor, as first suggested by Dease in 1783.

Of the different forms, Lowder's is generally preferred. It is fenestrated, has the ordinary English handle, is curved towards the extremity more than other kinds. My own experience in regard to the tractor is not extensive, because I have considered it of very limited application, believing that for the large majority of cases of arrest, the forceps is a much more efficient instrument; its compressing power and secure purchase giving the latter an immense advantage. Where there is little or no disproportion between the pelvic tube and the size of the child's head, the tractor will sometimes be of service.

It may occasionally aid us in assisting the rotation of the head in occipito-posterior positions, in shifting

the occiput forwards to the nearest acetabulum; the blade being applied over the side of the occiput, while we make pressure with our fingers, on the opposite side of the forehead.

In brow and face presentations, the tractor may also, in the rare cases, where nature fails in her object, sometimes be applied with advantage over the occiput; also in ear presentations—which however, are of extremely unfrequent occurrence.

Before resorting to it, we must ascertain the position of the head, the catheter must always be first employed, and the rectum be emptied by a clyster, if required.

In the use of this instrument the utmost gentleness must be observed, and especially must we abstain from using it as a lever, lest the mother's structures being made the fulcrum, irreparable injuries should ensue. The friends of the patient, as often has been the case, must not be kept in ignorance of our proceedings, a fair communication of our intention to use the tractor should be made.

The instrument is to be introduced along the hollow of the sacrum over the sacro-iliac joint, and then passed round to the point of the head, from which we intend to act, generally the occiput, sometimes the mastoid process, rarely the chin, which we must be very cautious not to injure.

The handle is to be grasped with the right hand, the shank firmly held with the left hand, and the curved extremity of the fenestra is to be pressed closely upon the head. Our traction is to be made with a succession

of short, steady, not jerking, extractive efforts, and, as with the forceps, only during the pains. The tractor is of little or no service, when there is no pain, in such circumstances the superiority of the forceps is very manifest.

### TREATMENT AFTER OPERATIVE DELIVERIES.

As I have already intimated, much of our success in forceps deliveries will depend on our assistance being given at the proper time, and where needful, on due preparation of our patient before operative proceedings are resorted to.

But further than this, it is most important that our cases should be carefully watched, and judiciously treated after the labour. If the patient has been timely relieved, it will frequently happen, that beyond the ordinary treatment after a natural birth, no interference will be required; yet it will be prudent, in all cases, to enjoin quietude, strict attention to diet, &c. Should the bladder not have responded, the catheter must be passed at least twice in the twenty-four hours, until the tone of that organ has returned.

The events which we have anxiously to watch for, especially where labour shall have been unsually severe, before delivery is undertaken, are pyrexia, with or without signs of peritonitis, or of inflammation of the structures within the pelvis. The venous system of the vagina, uterus, and connexions more especially, may become inflamed; or the veins of the lower extremity may be more particularly affected, as in phlegmasia dolens; though

this disease I have more frequently witnessed after non-instrumental labours. Diarrhœa may sometimes supervene on severe labours, whether instrumental or otherwise, and indicates an inflamed state of the mucous membrane of the intestines.

Under all these various forms of puerperal disease consequent upon protracted and instrumental labours we must, to be successful, act early; for the inflammatory affections of the puerperal state are rapid in their course. They admit of no temporising treatment, and delays. A few hours of neglect of the appropriate measures will decide the fatal termination of a case. On the other hand, prompt and judicious means will very rarely disappoint our expectations of a happy issue.

Sometimes general bleeding, at other times local abstractions of blood will be needed. In certain cases, as of uterine inflammation, I have produced more immediate relief by the direct application of leeches to the neck of the uterus, or upper part of the vagina. We shall also find hot linseed or mustard poultices, turpentine stupes, blisters to the abdomen, of great service in some cases. Diaphoretics with opium, laxatives, if the intestines are not the seat of inflammation; and calomel or hydrargyrum c. cretâ with opium will be necessary, if the peritoneum is inflamed; but here we must except those cases, where diarrhœa is associated with that disease.

There is, however, a febrile affection, which we must be careful not to mistake for inflammatory fever, since the treatment of the two diseases is widely different;

and if we were to apply depletive measures of an active kind to the former, we should seriously injure the patient's prospects of a good recovery.

The disease, to which I allude is *ephemeral fever*. Here there is great heat of skin, preceded by rigors, and followed by profuse sweating; there is usually aching in the spinal region, and in the head and limbs. The pulse beats during the hot stage at from 140 to 160, gradually falling again during the sweating stage to 120 or 100. These paroxysms are generally repeated daily, but sometimes on alternate days, but not at any regular periods; and thus, though analogous in many respects to intermittent fever, it differs from it at least in the irregular returns of the paroxysms.

The ephemeral fever usually comes on in weakly subjects, in languid convalescents, equally after severe and other labours.

The requisite treatment consists in supplying the patients with hot tea, or some other harmless fluid, and putting on more bed-covering during the cold stage, gradually lessening these as the hot stage advances. An emetic, and afterwards a purgative followed by quinine; sometimes morphia at night—when, as often happens, the patient's nights are restless,—with change of air at a later period, have constituted the principal remedies in my practice.

I have seen some patients, who have been treated antiphlogistically under this disease, and a protracted convalescence has been the consequence. I witnessed

an instance of this fever some months ago, where the case was mistaken for the disease, which we usually understand as puerperal fever, and the patient's case had been given up as hopeless. I at once recognised a case of ephemeral fever, and by adopting the above treatment, the attacks were soon lessened in force and frequency, and in a fortnight I took my leave, the patient being convalescent.

I have never met with any fatal instance of the above fever.

But there is another disease not so easily subdued, indeed, generally fatal in its result, characterised by violent shivering, returning from time to time, followed by ardent fever and profuse perspirations; the heat and quickness of pulse remits between the paroxysms, but never, as in ephemeral fever, entirely subsides. Moreover, unlike that fever, it is accompanied by inflammation and suppuration within the pelvis, generally in the uterine appendages, and accompanied by tenderness, often by throbbing, in one of the iliac regions. I have already referred to two cases (pp. 25 and 26). I may, perhaps, be permitted to quote shortly a very instructive case in point from my father's 'Obstetric Medicine' (p. 1198):

"The forceps were in application for several hours, during which they were from time to time violently adducted; a stillborn child was at length the result of the operation. The mother became the subject of a violent shivering on the following day, a burning fever followed, and then a sweating stage. Fifteen hours later a second paroxysm occurred, was repeated at varying intervals, and so the disease advanced, proving

fatal at the end of six weeks. On post-mortem inquiry, the ovarian pinion of the broad ligament was found the seat of the inflammation, which had been produced most probably by a very improper application of the forceps. In that situation an abscess was detected of the size of a large hen's egg."

The treatment in such a case should be antiphlogistic; such events should induce us to interfere prophylactically, and to be very guarded as to the use of the forceps in obstructed labours.

### *Statistics of Forceps Operations.*

If we inquire what has been the average frequency of forceps operations, we shall find that in British midwifery, during the last fifty years, five registers, comprising in all 92,812 births, yielded respectively the following proportions, mentioning the authorities in the order of frequency of the forceps operations, thus—

| | *Forceps deliveries.* | *Craniotomy.* |
|---|---|---|
| Simpson[1] . . | 1 in 472 . . | 1 in 1417. |
| Lever . . . . | 1 in 518 . . | 1 in 186. |
| Churchill . . | 1 in 546 . . | 1 in 149. |
| Ramsbotham[2] . | 1 in 611 . . | 1 in 805. |
| Collins[3] . . . | 1 in 617 . . | 1 in 141. |

In the above number of 92,812 deliveries, therefore, the aggregate proportion of operations was—

Forceps cases, 1 in 550 births.
Craniotomy, 1 in 530 „

[1] Simpson's 'Obstetric Memoirs,' vol. i, p. 854.

[2] Ramsbotham, 'Obstetric Med. and Surg.,' 4th edit., pp. 755, 756.

[3] Collins, 'Practical Treatise on Midwifery,' 8vo, 1835.

In the western district of the Royal Maternity Charity, and other institutions, there have been delivered under my official direction from March, 1842, to the end of December, 1857, 7371 women.

The forceps cases, in these labours, did not exceed 7, or 1 in 1053. The craniotomy deliveries being 9, or 1 in 819.

The greatest proportional frequency in which the forceps have been used in Great Britain, has been that recorded by Professor Burns, of Glasgow, of 1 in 53; probably in some degree to be explained by the daily employment, from a very tender age, of so many thousands of the poorer classes in the extensive cotton factories of that city.

If we compare the registers of France and other countries, with those of our own country, we shall find, that in the former, the forceps have been much more frequently had recourse to.

In France, 53,146 deliveries[1] yielded a proportion of forceps cases of 1 in 243.

In Vienna (Boer), two registers gave the proportions of 1 in 238, and 1 in 274.

In Holstein (Luders), 1 in 109.

In Stockholm (Cederschjold), 1 in 100.

In Strasburg (Lobstein), 1 in 36.

In Heidelberg (Naegele), two registers, 1 in 31, 1 in 53.

In Berlin (Kluge, Busch, Hagen, Siebold), 1 in 16, 1 in 12, 1 in 10, 1 in 7.

In Dresden (Carus), 1 in 14.

In Göttingen, 1 in 18;

[1] Those of Baudelocque, Boivin, and Lachapelle combined.

but some allowance is to be made for Göttingen, and probably for some of the other continental hospitals exhibiting the greatest frequency of forceps cases, for the practice there adopted, of selecting such patients for admission, as were most likely to require the services of art.

After all, as regards the frequency of the indications for instrumental delivery, much must depend upon the pursuits and mode of life of our patients; whether they live in the more crowded and unhealthy parts of large cities, in the more open situations of the same, or in country districts; whether they are, or are not employed in manufacturing pursuits, which especially tend to produce deformities; as well as upon circumstances relating to food and clothing, during the periods of infancy, childhood, and puberty.

For in proportion, as we find all the conditions present in favour of a healthy development of the body, so shall we see, that the relative frequency of all instrumental deliveries will greatly decline.

## CHAPTER III.

### ON THE INDUCTION OF PREMATURE LABOUR.

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This operation may indeed be considered as one of the most important improvements in obstetric science, since it has been the means of saving the lives of many hundreds of children, to the extent of somewhat more than half the number born, and of preserving the mother in almost every instance.

Its original application was to cases of contraction of the pelvis of a moderate degree, where the space was too small to admit of the birth of a living child at the full term of gestation, yet sufficient to transmit a child of seven or eight months' growth. In later years, the principle has been extended to cases of extreme deformity of the passage, produced by mollities ossium, or other diseases, to such an extent, that otherwise embryotomy under great difficulty, or even the Cæsarean section, would be the only resource. Here the operation is performed at four or five months' gestation.

We have to resort to this proceeding occasionally also, to anticipate the death of the child, which, from various morbid influences, uniformly takes place a few

weeks before full term in some women. In these cases the child, if sufficiently mature, may thus be saved.

Again, the premature induction of labour is called for, when on various accounts, danger is to be apprehended, as in pregnancies attended by severe hæmorrhage not to be subdued in any other way; in cases of harassing vomiting, where, no food being retained, the patient is rapidly progressing to a state of extreme exhaustion.

Not many years ago I was called to a patient, who had been allowed to go on to an advanced period of pregnancy under this complication, who had from a fine young woman become greatly attenuated, and so much reduced in strength, that when labour came on, a very moderate hæmorrhage proved quickly fatal. This individual, who might have been saved, had this operation been timely resorted to, had been attended and treated for ulcer of the stomach, by a physician of eminence, not, however, engaged in obstetric practice. I was present at the post-mortem enquiry, and no disease of the digestive, or any other organ was found.

Labour is occasionally required to be induced prematurely, when a patient has had a succession of children born dead under difficult labour, by reason of their disproportionate size, the pelvis being of standard dimensions. I have had under my care two such instances, in which I have been obliged to perform the operation, on one of the patients twice, the children were each time saved.

There are also other cases, in which the operation may be required, as where pregnancy is complicated by ascites, or dropsy of the amnion, cancer and some

other affections of the uterus, diseases of the heart, lungs, liver, kidneys, bladder.

The induction of premature labour was first performed in England in 1756, and by Dr. Macauley; both mother and child were saved.[1] It seems to have been first proposed in France in 1779 by M. Roussel de Vauzesme; but it was strenuously opposed by M. Baudelocque, his followers, and by the doctors of the Sorbonne. Foderé, on the other hand, advocated it. M. Burchardt, of Strasburg, defended a thesis on the subject in 1830, and lastly, Professor Stoltz was the first to practise it in France, in 1831. It has been supported further by P. Dubois, Ferniot, Dezeimeris, Lacour, and many others, including M. Cazeaux. The last author[2] states that in 250 cases of this operation collected by Lacour, up to 1844, more than half of the infants survived, and only one mother died.

A variety of methods have been pursued for the induction of labour, but they may be divided into two orders.

I. In *the first*, the object, and it must be allowed to be an important one, is to retain the liquor amnii for the labour. This may be accomplished, or attempted in several ways.

By abdominal friction, with or without warm baths and brisk purgatives (D'Outrepont, Ulsamer, Rigby).

By simply distending the vagina by a sponge plug (Schöller). I have never adopted this, except in preg-

[1] Dr. Kelly later adopted it with success; but to Dr. Denman is the merit due of having brought this valuable operation into general use.

[2] 'Traité des Accouchemens,' 5me edit., Paris, 1856, p. 853, &c., par M. P. Caseaux.

nancies with hæmorrhage, and then it has sometimes been successful in producing expulsion.

By dislodging the mucous plug, and separating the membranes of the ovum from the uterus, by the use of the finger, as high as can be reached. This plan seems to have been first suggested and practised in London in 1798, by Mr. Jones, of Finsbury Square, and soon afterwards adopted by Dr. Sims and other eminent obstetric practitioners.[1] In 1795, Professor Hamilton, of Edinburgh, we are informed,[2] first employed the finger for this purpose, but not alone, for he accompanied it by the use of a bent brass wire. I have, on two or three occasions, endeavoured to effect the separation, and to induce labour by passing up a bougie between the membranes and the uterine wall, but without succeeding in my object.

By the introduction of sponge tents within the uterine orifice, gradually increasing their size, a sponge being adjusted at the top of the vagina to give them support.[3] I have resorted to this means in four instances, in two of which labour followed without further interference.

In 1846 Kiwisch first suggested and adopted the injection of a strong stream of warm water into the vagina, directing it forcibly upon the os uteri; he employed for this purpose an elevated reservoir with a syphon tube.[4] Dr. Cohen[5] of Hamburgh, and subse-

[1] Davis's 'Operative Midwifery,' p. 280.

[2] Hamilton's 'Practical Observations,' p. 285.

[3] Brüninghausen, Kluge, P. Dubois, Simpson, and others.

[4] Scanzoni, 'Lehrbuch der Geburtshülfe,' p. 736, &c., 2te Aufl., 1853.

[5] Ibid., p. 739.

quently Professor Simpson[1], proposed that the water should be at once injected into the uterus itself, by a syringe with a tube sufficiently long to enter the uterine cavity. By this method, the mucous plug is removed, and the fœtal membranes are separated for some extent from the internal surface of the womb. Care must be taken, that air is not injected into the uterus at the same time.

It was proposed by Dr. Tyler Smith to throw up streams of hot and cold water alternately, upon the os uteri, and in a case which he reports, labour supervened on the fourth day. The douche has also been applied to the external surface of the abdomen, but it may be considered a severe and not very safe proceeding.

Electro-galvanism was first introduced on the Continent in August, 1844, by Hæninger and Jacobi,[2] and in this country in December of the same year by Dr. Radford of Manchester,[3] both, to originate uterine action, and re-excite it in various circumstances; but the results have not been equally satisfactory in the hands of all.[4] This may possibly be due to the particular mode of application, and to the degree of strength of the current.

Hitherto the balls of the conductors have been applied respectively to the mouth of the womb, and upon the abdomen over the fundus of the uterus, or to opposite

[1] 'Obstetric Memoirs,' vol. i, p. 841.

[2] The child was born in an hour from the commencement of the operation. See Busch's 'Neue Zeitschrift für Geburtskunde,' Band xvi, pt. 3, p. 424.

[3] 'Provincial Med. and Surg. Journal,' Dec. 24, 1844.

[4] Dr. Simpson's 'Obstetric Memoirs,' vol. i, p. 375, et seq.

sides of the abdomen, so as to pass the current transversely through the uterus. But very recently, in a paper read before the Royal Medical and Chirurgical Society of London, Dr. F. Mackenzie[1] has suggested, that the application should be made on the one hand to the os uteri, and on the other to the upper part of the spinal column; thus the galvanic stream is directed longitudinally through the structure of the womb, and possibly it may be found, on further trial, to be more efficient, when so applied.

Suction applied to the nipple by means of an India rubber apparatus, was proposed by Scanzoni. It is open, however, to the liability of producing soreness of the nipples.

The Secale cornutum has been recommended and used by Drs. Ramsbotham,[2] Hoffman, Paterson, and others. This drug I found successful in one case, as to the mother, but the child was stillborn. In every other case it failed to induce the required action.

II. The *second order* contains but one mode, first adopted by Dr. Macauley in 1756, that of drawing off the liquor amnii by puncturing the membranes. This may be done with a stilet not sharp at the end, or by a trocar, or lancet-pointed instrument and canula; care being taken not to injure either the uterus, or the

[1] See 'Proceedings of the Royal Med. and Chir. Society.' vol. ii, pt. 1, p. 40, et seq.

[2] Dr. Ramsbotham afterwards found the number of stillborn children increased by this plan, so he now gives only a few doses of the drug, and then discharges the "waters." ('Obstet. Med. Surg.' p. 332.)

child. This method is the one, which I have generally been obliged, through the failure of other modes, to resort to eventually. The child has always been born living, and in three out of every four of my cases, the children have survived. I make a small puncture, and let the waters drain off gradually; the action has supervened in from twenty-four hours to the seventh day. I previously prepare the patient for a day or two, by lowering her diet if too full, also by the exhibition of purgatives. On the moment of labour appearing, I give tartar emetic to relax the os uteri and vagina, as these parts are apt otherwise to become heated and dry. The instrument employed is to be conducted upon the palmar surfaces of the index and middle fingers of the left hand, and carefully introduced within the os tincæ in the axis of the uterine cavity; the membranes are then punctured.

### *Attempts to limit the growth of the fœtus by low diet, &c.*

As a substitute for the induction of premature labour, it was proposed some years ago by the late Mr. James Lucas of Leeds,[1] to attempt to moderate the growth of the fœtus in utero, by subjecting the mother to a spare diet, with occasional bloodlettings, and aperients. The results, however, of experiments and observations have not led to many trials of so severe a discipline. How frequently do we not see women greatly reduced by phthisis and other exhausting diseases, or by the

[1] Mem. Med. Society, vol. ii, p. 412. (Merriman's 'Synopsis,' 4th edit., pp. 178—319.)

scanty sustenance of extreme poverty, who nevertheless give birth to well nourished and full grown children.

M. Dupaul records two successful cases; these and others are referred to by M. Caseaux.[1] Dr. Holcombe reports five examples of a happy result.[2]

*Another mode for controlling the growth of the fœtus* is that suggested by M. Delfraysse.[3] He recommends small doses of iodine with iodide of potassium to be given to the mother, during the two latter months of pregnancy. He prescribes—

Iodine, one scruple.
Iodide of potassium, two scruples.
Distilled water, one ounce.

The dose, six or eight drops once a day.

M. Delfraysse gives three successful cases, and states that the infants weighed from twenty-two ounces and three-quarters to three pounds and a half less than the previous children of the same parents.

We might be disposed to give this plan a trial, where a patient refuses to undergo the induction of premature labour.

[1] M. Caseaux. 'Traité des Accouchemens,' pp. 873—874, 5me edit.

[2] Ibid., p. 876.

[3] Dewees 'Midwifery,' 2d edit., p. 597.

## CHAPTER IV.

### ON DELIVERY BY CRANIOTOMY.

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*On labours requiring delivery by Craniotomy.*

When the impediment to delivery is greater, than can be overcome by the means already considered, it will be impossible to save both the mother and her offspring; both lives would inevitably be lost in the attempt. Under these circumstances, it becomes our imperative duty to rescue the more valuable life, which for obvious reasons is that of the mother.

This important object is fulfilled by craniotomy, in which operation, we lessen the bulk of the presenting head by perforation, and the removal of its cerebral substance; sometimes of portions of bone also; and deliver by the crotchets.

In performing this destructive operation, however, on the child, we are not necessarily sacrificing its life, for it is consolatory to know, that in most cases, ere we are compelled to resort to it, the child has already ceased to live.

This mode of delivery may be necessary, on account of deformities of the pelvis, which, as the results of

rickets, are so prevalent among the poorer classes of our manufacturing towns.

Before using the perforator, especially, where by auscultation or otherwise, we find that the child is still living, we are sometimes induced, namely, where space for their application appears not entirely deficient, to give the forceps a cautious trial; when, if after their tentative employment, delivery by them should not be practicable, we shall then, with less compunction, resort to perforation.

These trials, however, must not be made without due reflection; for ill-directed efforts with the forceps, in contracted pelves, can only diminish very greatly the chance of the patient's life being ultimately saved. For instance, in a pelvis distorted at the conjugate diameter to the extent of two inches and a half, a prior use of the forceps upon a child at, or near full term would be most improper; on the contrary, upon grounds of humanity, we should save the patient as much suffering as possible by an early delivery through the only available mode—craniotomy.

In one case of contracted pelvis, which came under my notice, a surgeon, now deceased, was too anxious to save the child by the use of the forceps, and induced thereby inflammation of the vagina, which terminated in gangrene and a fatal result. (Case LIX.) In other cases, such unfortunate decisions, to resort to that instrument, have led to lacerations of the maternal structures. But by a careful observance of correct principles, such evils need not occur.

Let us not, on the other hand, take for granted, that

because craniotomy has been the only alternative in one labour, it must of necessity be resorted to on a subsequent occasion. On account of swelling of the maternal tissues and fœtal scalp, of rigidities, of inordinate ossification of the head, or by reason of its being above average size, perforation may have been perfectly proper in the first confinement, and in a succeeding delivery a child of equal, or of not much smaller size, may pass living without obstruction.

Again, though much more rarely, a patient's first or second labour may be easy, and a following one difficult, requiring the forceps, or even craniotomy, on account of the like swelling in the soft tissues, undue hardness and thickness of the fœtal cranium, or from its head being larger than on previous occasions.

In some patients, of sufficient strength to bear the treatment, the difficulties due to swelling, or rigidity of the soft parts may be removed by bloodletting. Thus, a labour, which must otherwise have required the perforator, may, from the subsidence of those obstacles under such treatment, terminate safely without instrumental aid of any kind. Should that not be the case, the patient's delivery will nevertheless be more safe, and her after progress more prosperous.

The bleeding, however, to be of service in such cases, must not be deferred to too late a period; for then not only will it be useless, but it may, in a patient prostrated by long and unavailing suffering, become positively injurious.

As regards the operation of craniotomy, unfortunately, it has its limits of usefulness. The pelvis may

be so confined in space, as not to admit of delivery by the natural passage, even after mutilation of the body of the child. It is a point of great importance to decide where those limits lie, as beyond them, the only expedient left to us, is a dangerous operation on the mother, the Cæsarean section, which in the British isles has proved so extensively fatal.

I have already observed, that with every attainable advantage from operative skill, and the best adapted instruments, delivery by the natural passages cannot be effected, unless there is a space at the brim of one and a half inch in the antero-posterior direction; or of at least one and three eighths of an inch in the conjugate, and three and a half inches from ilium to ilium.

### *Details of the operation of Craniotomy.*

The patient must be placed at the edge of the bed, as for a forceps operation, with some judicious friend, seated at her head, to give her confidence.

Everything being in readiness, having prepared our instruments for the occasion, we now take our place at the bedside, at a convenient height for conducting the operation. The instruments in use vary somewhat. They consist of a perforator, a pair of craniotomy forceps, a single crotchet, a small pair of bone forceps, and the osteotomist.

*Smellie's scissor perforator* is usually preferred; with this, the opening being made, it is extended crucially by separating the handles first in one direction, then in the opposite. Some operators prefer Naegele's perforator; the points of which, after it is introduced, are

separated by closing the handles, which at other times are fixed in a state of divergence.

A few years ago I designed, and had constructed[1] a trocar perforator of a quarter-inch diameter with a canula to guard it to the head's surface; its size might usefully even be increased. The entire length of the instrument is thirteen and a half inches, of which the handle measures four inches. I find it makes the opening more easily, in less than a quarter of the time occupied by the scissors, and more safely.

It will be necessary to use one of the ordinary perforators to extend the opening, and to break up the cerebral substance. For this purpose I prefer Smellie's scissors, as improved in the present day.

Secondly, is required a pair of *craniotomy forceps*. The simple crotchet I have long discarded, after ample trial, as a most inefficient instrument in the more difficult cases. I have repeatedly been called to finish deliveries, which had been commenced with the crotchet, and that, in the hands of practitioners not otherwise undexterous. I have given among the cases two or three examples. The records of protracted operations with this instrument, by its advocates even, afford but little inducement to its use, especially in cases of much confinement of the pelvis.

The craniotomy forceps of proper construction meeting the demands of any difficulty, however trying, are therefore to be preferred. They are of various forms; some of these, such as a pair with alternate transverse ridges and grooves which I have tested, have this dis-

[1] By Coxeter.

advantage, that they slip from their hold.[1] I have not yet met, although without any prejudice, I have taken some pains in the matter—with any instrument which has afforded me so good and so safe a purchase as the *internal* guarded crotchets introduced to the profession many years ago by my late father.[2] In this form there project from one blade, which is passed *within* the skull, three strong teeth disposed in a triangular form, which, when the blades are locked, fit into three corresponding openings in the opposite or outside blade; but not passing through, are guarded from doing injury to the mother. The blades are separable, and the lock and handles made like those of the English forceps.

The slipping of an instrument is attended with additional risk to the mother, and as with these forceps such a mishap is not possible, I much prefer them. Mr. Holmes has contrived a pair of guarded forceps with chisel, or rabbit-shaped teeth; they make a tolerably good purchase, but the joint being riveted, they are not so easy of safe application, as those with separate blades.

It is useful also to possess a pair of small *bone forceps* of sufficient length, for the removal of irregular pieces of bone.

A fourth instrument adapted to facilitate deliveries in extreme distortion of the pelvis is the osteotomist;[3] by

[1] To avoid this objection the locking part has in more recent forms been placed near to the purchase.

[2] Davis's 'Operative Midwifery,' 4to, 1825, pl. xiv, p. 295. ('Obstet. Med.'), 1836, pl. xl, p. 1157.

[3] 'Operative Midwifery,' pl. xix, p. 319. 'Obstetric Medicine,' pl. xliii B, by same author.

its means, we are able,—as I have often tested,—to remove long sections of the cranial bones, in cases of great contraction of the pelvic space.[1]

This further reduction of the size of the impacted head materially shortens and facilitates the operation, rendering it proportionally safer to the mother.

The bladder having been emptied by the catheter, the trocar perforator is to be guided along the palmar surfaces of the left hand, and the index, middle, and ring fingers of the same to the centre of the presentation, where the opening is to be made, and not at a suture or fontanelle, unless they should happen to form the central part.

After withdrawing the trocar, Smellie's scissors are to be passed into the opening, their points separated first in one direction, and then crucially. They are now to be advanced within the cranium, and used to cut up the tentorium, and other processes of the dura mater with the cerebral substance. Thus a complete breaking up of the brain, its escape and the subsequent collapse of the cranial bones, on traction being made by the crotchets, is ensured.

We must be careful to destroy the pons varolii and medulla oblongata, as far as we can reach—for without this precaution, should the child yet be living, certain reflex movements may occur, even after a considerable loss of brain has taken place. The child has, under these circumstances even, breathed and cried, and performed other excito-motory movements, after its extrac-

[1] The osteotomist should be made with great care. See cases of Craniotomy.

tion by this operation, much to the horror of the attendants, as we might well imagine.[1]

The next step is to apply the guarded crotchets. Its armed blade is to be conducted along the palmar surface of our left hand and fingers, through the opening into the skull; its teeth placed against *the interior surface* of a part of the skull opposed to a sacro-iliac joint or side of the pelvis. The front of the pelvis should be avoided, as much as possible, on account of the bladder. The guard or perforated blade is to be passed up with the same precautions *on the outside* of the skull, taking especial care that any part of the os uteri yet undilated, shall lie external to it. The two blades being parallel, therefore locking easily, we must now tie the handles together firmly, and draw down during the pains, or at intervals, by a steady even movement, in the axis successively of the brim, the cavity, and the outlet of the pelvis, as the head is passing through those parts of the genital tube. During our traction two or three fingers of our left hand should cover externally the purchase, and the others grasp the instrument close to it.

As, during these proceedings, the skull is compressed between the walls of the pelvis, more and more cerebral pulp escapes. Sometimes portions of bone break away; if so, by carefully observing the above precautions, we shall feel when the separation is about to take place, and protect the vagina from injury. At the same time, any sharp margin of the skull should be kept well covered with scalp. The bone forceps may, from time to

[1] See a case in the 'Med.-Chir. Transactions,' vol. xii, p. 308.

time be useful, in removing any projecting spiculæ of bone.

The above proceedings are all that will be required in most cases of craniotomy. But should the contraction of the pelvis be so great, as not even to permit of the head passing, the osteotomist must next be used, rather than subject the mother to increased risks and suffering from forcible attempts to bring through the pelvic tube, a child but insufficiently reduced in size.

The dangers of craniotomy deliveries, as they are represented by some writers, are, I am convinced, greatly the result of inattention to this important point, of adequately lessening the bulk of the head, before resorting to extractive efforts. The operations are thus too often prolonged over many hours, to the serious injury—from contusion or even laceration—of the soft parts within the pelvis. It was the practice of Dr. Osborn, after opening the head, to postpone extraction until after the lapse of some thirty hours,[1] so that the child might become softened by putrefaction. But this is a practice, which I cannot recommend, because the patient would thus be exposed to additional evils inseparable from long suspense and endurance, as well as to those more serious hazards from absorption of putrescent matters into her circulating system.

[1] Osborn's 'Essays on Midwifery.'

## CHAPTER V.

### ON FACE PRESENTATIONS.

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In addition to what I have already stated on face presentations in my general remarks (page 7), I may observe, that there are two usual positions of the face.

In the *first* and most frequent, the right cheek is directed forwards to the pubes, and is then the most depending part. The large fontanelle and crown of the head are here turned to left side of the pelvis, with an inclination backwards to the left sacro-iliac joint; the chin obliquely forwards to the right acetabulum.

In the *second*, the face presents with its left cheek to the pubes, and lowermost; in this position the large fontanelle and crown of the head are directed to the right sacro-iliac joint; the chin to the left acetabulum.

The advance of the presentation in these two positions is as follows: the face having descended, until arrested by the pelvic bones, is guided in its rotation by the contiguous surfaces of the ischia, so that the chin is turned to the pubic arch, just as is the occiput in a cranial presentation. The full force of the pains is now brought to bear upon the occiput, which glides over the sacral and perinæal planes, and the parts of the face are

expelled in the following order: the chin, the mouth, nose, eye of the right or left side, according as it was the right or left cheek which was turned to the pubes; the occiput being the last part to make its exit.

Throughout the process, just as in cranial births, the presentation preserves an oblique position, as regards both the transverse diameter and the pelvic axis. Thus the expulsion, which would otherwise be an impossibility, excepting in very spacious pelves, is rendered practicable, without instrumental assistance, in the large majority of cases.

*Two other positions* are frequently described by systematic writers on obstetrics, namely—with the chin directed backwards, the crown of the head forwards. I must confess, that I have very rarely met with an instance of these two positions (see Case CVII); and some observers, who have had large experience, have never witnessed even one example. Smellie records two cases (vol. ii, pp. 509-511), in both of which he delivered by the forceps, one child being saved. He also gives drawings of this position (pl. xxv-vi). Dr. Meigs records one instance; also Mr. Perfect, in his 'Cases,' vol. ii, p. 486, but it was a twin. Where the face has been allowed to advance with the chin backwards, the labour has been described as very difficult; hence here, also, the rotation of the head, so that the chin shall be turned round to the pelvic arch, must be furthered by the assistance of our fingers applied to that side of the chin nearest the sacrum.

Face presentations sometimes require the employment of the tractor, when the occiput will generally

afford the most convenient purchase. The forceps have sometimes been resorted to for the delivery. In a few exceptional instances, where the pelvis has been absolutely small, or the child above the average size, or where the parts, from long pressure and obstructed circulation through them, have become greatly swollen, delivery by perforation has become inevitable.

Under these circumstances the orbit, or the region immediately above it, being the most accessible, is usually the point, at which we make our perforation. The cerebral substance being removed, the extraction is to be effected by the craniotomy forceps.

It is common, on the birth of the child, for the features in face labours to exhibit a livid swelling on that side, which was most dependent and most exposed to pressure. This, however, disappears in the course of a few days.

## CHAPTER VI.

### ON BREECH AND FOOTLING PRESENTATIONS.

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The breech comes next to the cranium in order of frequency among presentations. It is not so favorable for the child as a head presentation, on account of the pressure made upon the cord during the head's transit through the pelvic canal.

It may offer itself at the brim, with its transverse measurement disposed in either of the oblique diameters of the pelvis; thus the front surfaces of the child may be turned obliquely backwards to the right or left sacro-iliac synchondrosis, or forwards to the right or left cotyloid regions. Of these, the two former are the most common positions.

Moreover, in observance of the oblique disposition—as in head presentations we have found to be the case—the breech does not present over the uterine orifice by its middle line or cleft, but by one of the nates or ischia; and the presenting nates is the more anterior, as also the more depending one of the two.

These labours, if left to themselves, will generally do

well. As the transverse measurement of the breech is descending in one oblique diameter, the long axis of the head passes in due course in the opposite oblique diameter; these long measurements of the breech and head, and the oblique diameters of the mother's pelvis, being respectively adapted to each other.

In the *first*, or most frequent position, the breech descends through the brim, with the left ischium anteriorly towards the right acetabulum, and depending. The right ischium lies higher up, and is turned to the left sacro-iliac joint; the shoulders next pass in the same direction; and lastly, the head of the child, if allowed to proceed uninterfered with, will descend with the chin pressed on the sternum, and its face towards the right sacro-iliac joint. At the outlet, one hip turns to the pubic arch, the other to the perinæum, and so they make their exit. The shoulders next pass out in the same way, the left under the pubic arch, the right upon the perinæum. Lastly, the head makes a turn, the occiput coming to the symphysis pubis, or nearly so; while the chin and other parts of the face sweep over the perinæal plane, the head, in the meanwhile, rotating on its transverse axis.

In the *second* position, it is the right ischium, which is anterior and depending. It is turned to the left acetabulum, and the front surfaces of the child look to the left synchondrosis. Here the right hip, and right shoulder come in succession to the pubes from the left acetabulum, the left hip and left shoulder sweep the perinæal plane. The head descends in the left oblique diameter, the chin pressed to the breast, its face to the

left sacro-iliac synchondrosis, till it reaches the flooring of the pelvis, when the occiput turns forward to the pubes from the right acetabulum, the face is directed to the hollow of the sacrum, over which, and the plane of the perinæum, its chin, mouth, nose, eyes, and forehead now sweep in succession.

In the *third* position, the front surfaces of the child look to the left acetabulum. The right hip depending, and the shoulder, as they descend, are to the right acetabulum, the left hip and shoulder to the left synchondrosis; the long axis of the head in the right oblique diameter, the chin depressed on the sternum. As the labour advances, similar changes take place, as in the corresponding cranial positions, if we leave nature to her own efforts. The front surfaces of the child being gradually rotated round the left side of the pelvis, till they turn to the left sacro-iliac joint, and so the child is expelled, as in the second position.

In the *fourth* position, the front surfaces of the child are directed to the right acetabulum, and the other parts of the child to corresponding opposite points to those specified in the third position: here the left hip, being anterior, presents. As the case advances, the front surfaces of the child are turned round the right side of the pelvis, and become directed at last to the right sacro-iliac joint, and then the breech, shoulder, and head pass out in succession, as in the first position.

Such is generally the process, which nature follows, if we do not interrupt her in her operations; and such changes we must induce, at the proper time, where she fails to accomplish them, as the safety of the child is

endangered, when it makes its descent with its front surfaces directed to the pubes.

But, in giving this assistance, we must be careful not to separate the chin from the breast; and if, after rotating the face to the nearest synchondrosis, the descent is not completed by the natural efforts fully tried; we are then to keep the chin depressed on the chest, with two fingers of the left hand in the mouth, bear on the occiput with the finger of our right hand, dispose our other fingers upon the shoulders and in the axillæ, the palm of our hands on the chest and back. We now must draw down, in the direction of the oblique diameter, causing the chin, as it descends, to sweep over the perinæum, as it does under natural circumstances. But, let us be especially mindful to bring the head down, with its long axis in the oblique diameter of the pelvis, in the direction of the greatest space; otherwise it must become fatally arrested.

In the most favorable cases, the arms come down crossed upon the breast; but where, without interference, the descent is too rapid, or, in other circumstances, where the birth has been officiously hurried, they have been displaced from the chest, and carried upwards above the head, the latter with the arms by its side, then becomes locked in the brim of the pelvis, and the cord in consequence dangerously pressed. Where the arms have slipped up, they must be gently hooked down, with our index finger passed over the shoulder, and to the front surface of the upper arm. They are thus lowered, in the direction of their natural flexions, sweepingly over the side of the child's face.

Let it be remembered, that the more slowly the trunk descends, the more favorably will the passages be developed for the subsequent quick and safe descent of the head; thus, the funis is less likely to be exposed to injurious pressure. To guard the cord from this accident as much as possible, we should place it against one of the sacro-iliac joints, where there is most room. The opposite one, to that in which the long axis of the head descends, should be chosen.

The practice, pursued in some countries, of applying the forceps to the head or breech, in breech labours, I do not recommend; in the latter instance, especially, it is a most dangerous proceeding for the child, as the abdomen must become seriously compressed. As to the former, I believe the excellent purchase, which we can obtain, by the dexterous use of the fingers, is quite equal in efficiency to that of the forceps, as well as more safe.

In footling presentations, even more gradual should be the advance, than that already described in breech cases, and the same interference is needed in the parallel instances of difficulty.

In knee presentations, which are very rare,[1] the labour must be allowed to proceed. Since, in bulk, the knee approaches that of the breech, and exceeds that of the foot, it is more favorable than the last presentation, better preparing the passages for the subsequent transit of the larger parts, than would the foot. Moreover, fractures of the leg have been occasioned, by unfolding the limb.

[1] See chapter on Statistics.

The more slowly footling and knee presentations descend, the better the chance for the child, the less the suffering to the mother; under the opposite circumstances, great difficulty attends the passage of the head. With the best management, indeed, these cases are more fatal to the child than breech labours, because, where the head makes its descent, the genital passage has not been so well prepared by dilatation, as it would have been by the more suitably dilating medium of a breech presentation; and the vessels of the cord, therefore, are longer exposed to pressure.

### *Difficulties from disproportion in breech and footling births.*

As in head presentations, so here, labour may be obstructed by a contracted pelvis; or by rigidities of the os uteri, vagina, or perinæum; or by a large or hydrocephalic child, or where its head is unusually ossified, its chest or abdomen distended by gas, or by serous effusions.

The pelvis being small, or the head large or much ossified, we have to perform craniotomy. The perforator in this form of the operation must be passed in behind the ear. If the head is enlarged by dropsical effusion, draining this off will suffice for the delivery, in nearly every case. If the head is otherwise large or much ossified, or the pelvis small, the escape of the cerebral matter must be promoted through an adequate opening. In two instances, fearing to injure the mother, I found it necessary to bisect the neck. This I effected with Smellie's scissors, carefully sur-

rounding the neck with my fingers; the process was thus shortened, and so I delivered the body, and subsequently extracted the head.

The chest may require perforation, and also the abdomen; and sometimes I have been called to cases, where the parts have been so large, that a purchase on the trunk of the child, and its compression by a pair of embryotomy forceps, have been necessary. In cases of rigidity, the remedies before advised for such conditions are to be employed, as mentioned under head presentations; and here, is it more especially important, that the early descent of the child should take place very gradually.

## CHAPTER VII.

### ON TRANSVERSE PRESENTATIONS.

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In transverse or cross presentations, of which the shoulder and the arm are the most frequent forms, ample experience has shown, that at the full term of pregnancy, and through a pelvis not unusually capacious, a single birth child cannot be born living by its presentation. Where the patient has been unrelieved by art, the issue has been fatal from rupture of the uterus, contusion, or exhaustion.

It becomes our duty, therefore, in the interests of the mother, and not less for the safety of the child, to change the presentation, so that delivery may be possible without injury to the latter. This we are enabled to effect by the operation of turning as introduced by Ambroise Paré.

In this proceeding, the patient being placed in a secure position, on her left side, at the edge of the bed; the hand is passed up cautiously by the side of the presentation, shoulder, arm, &c., into the uterus, outside the membranes, if the waters are yet present; directly over the surfaces of the child, should the liquor amnii

already have escaped. We next grasp a foot, if very accessible; otherwise, to save the patient as much pain as possible, a knee may be hooked down with our index finger, and so the cross presentation is converted into one of the lower extremity.

The operation will be much less painful to the patient, and, *cæteris paribus*, much easier of performance, if we employ the *left* hand, where we can decide, that the feet are towards the back of the mother; the *right* hand, where they are turned towards her abdomen. Thus, a twisting of the right hand will be avoided, where the left should be employed, and *vice versâ*.

Some practitioners make a point of bringing down both feet; but, for obvious reasons first explained by Dr. Radford, of Manchester,[1] I prefer extraction by one extremity in these cases. One limb thus remains folded upon the abdomen of the child; the passage of the nates, then, nearly resembles that of a breech case, and the subsequent easy transit of the head is better prepared for. In addition to which, the vessels in the cord are less likely to be fatally compressed. Now, as the foot or knee is brought down, the shoulder generally recedes into the cavity of the uterus, and so an evolution of the child takes place; but, when this does not so easily happen, we have to apply counter pressure to the shoulder. As, however, there is not room in the vagina for the hand which grasps the extremity, and for the one employed to raise the presenting part, we make a purchase on the ankle, by means of a tape noose thrown around it; the opposite end being held external to the

[1] 'Edinb. Med. Surg. Journ.,' vol. xiv.

vulva; the other hand is now introduced, and upward pressure is applied to the presenting part.

It has been proposed by Professor Simpson, with a view to rotate the child on its transverse axis, and so to raise up the presenting part, to grasp the opposite leg, instead of the nearest one; this is to be done, after passing the hand across the abdominal surface to the limb in question. I have myself often adopted this plan with success; and, when that extremity can be reached, it would be right to make the endeavour, before we relinquish our attempts to deliver by version.

It must be borne in mind, that the facility, difficulty, or impossibility of turning in cross presentations, will depend on the fact of the waters having, or not having come away, and upon the time, which has elapsed since their escape; consequently also, on the degree of force, with which the uterus has acted on the body of the child.

If its contractions are such as to render the introduction of the hand into the uterus extremely difficult —nay, impossible—we must, for the safety of the mother, either postpone any further effort till, by various means, the muscular resistance has been diminished, or resort to delivery by embryotomy. If we continue our attempts to turn, we shall but increase the difficulty, cause severe suffering to the patient, and expose her life to imminent risk.

The operation of turning, I need scarcely remind my readers, cannot be performed too cautiously, for any sudden and forcible movements of the hand employed, are calculated to contuse, lacerate the mother's tissues,

and thereby imperil her life. When the waters have not yet escaped, the hand is to be passed up creepingly, as it were, between the membranes and the internal surface of the uterus; careful must we be, that we do not prematurely rupture them. We next grasp the foot or knee, the waters gush away, and the turning is at once performed with perfect ease. The child is now to be brought into the world slowly, as in a footling or breech birth.

Where the waters have long escaped, and the uterus is strongly contracted, turning will be difficult; yet, with perseverance and gentleness, it may sometimes be possible. But we must bear in mind to be altogether passive, as the action of the uterus returns from time to time, and advance our hand only during the intervals. Thus, at length, success may crown our efforts.

Where the difficulty is greater, the patient's sufferings much aggravated, and her life endangered, various relaxing means are resorted to, before the operation is undertaken; such as bleeding, where the condition of the patient may indicate that measure, or at least does not forbid it; opium, tartar emetic, chloroform.

As regards the last agent, it certainly removes all suffering, and, in most cases, produces the necessary relaxation. I have known it fail, however, more than once, in effecting that object, although the patient was reduced to perfect unconsciousness. Moreover, there are constitutions, and conditions of the thoracic organs, in which it cannot be safely administered; and in some instances, it has appeared to me to have predisposed to hæmorrhage after delivery. The uterus has been left

in a state of inertia, considerable trouble and anxiety have been occasioned, although the patients in the end did well. Where the constitutional powers are so prostrate, that they will not admit of any of the above preparatory measures, or where, having been applied, they have not had the desired effect, the only mode of saving the patient, is by the operation of embryotomy. But let us not postpone this operation, till serious prostration has supervened, till the parts have become contused, or lacerations of the uterus or vagina have taken place.

Embryotomy,—thus become imperative,—consists generally, in perforating the chest in the axilla, eviscerating, and discharging gaseous or liquid contents. The child is then brought into the world, by drawing upon the arm. Sometimes, we have to make a purchase on the body, by a pair of forceps suitable for this purpose.

In some cases, it is necessary to puncture the abdomen, to discharge ascitic fluid.

In others, before we can bring down any part of the *trunk,* we are obliged to separate the head from the body. For this purpose, the decapitating hook designed, after that of Celsus, by the late Dr. John Ramsbotham, is generally used. My father's decapitating knife, with guard blade, will also effect the division of the neck very safely. Either of these is passed around the neck, which is then severed by traction, with a slight to-and-fro movement of the handle, in the direction of the cutting edge. I have sometimes used, for this purpose, a special pair of blunt-ended scissors, gradually dividing the parts, from below upwards, while

surrounded by the fingers of my left hand. Indeed, whatever be the instrument used, the neck of the child, and the instrument must be surrounded by the fingers of the left hand, while making the division. Thus is the mother secured from injury.

The head being thus disconnected from the body, the latter is easily extracted, and the head is subsequently delivered by craniotomy, being fixed at the brim by the hand of an assistant, during our proceedings. In two cases, one with Dr. F. G. Broxholme, where the loins and back, and not the neck, were accessible, I effected the delivery by dividing the spine in that region. In both instances, the patients had good recoveries.

In cross presentations, much was at one time expected, especially by Dr. Denman, from an occasional effort of nature, "spontaneous evolution," as he designated it, by which artificial delivery is superseded. Here the child presents by an arm, and is, as Dr. Douglas more fully explained (1811), expelled in a doubled state. The shoulder and side of the body descend low into the cavity of the pelvis; and, finally, the clavicle and acromion are firmly pressed under the pubes, becoming the fixed point, around which the rest of the body revolves; the breech being the first part expelled. But this "spontaneous expulsion," in a cross birth, has been found to be a very rare occurrence, and only to be met with, in the case of small or premature children, and in large pelves. It is an established fact, that the danger to the mother incurred by delay, under these presentations, is such as to forbid our waiting

for this contingency, except, indeed, where we may discover the process to be actually advancing. Here, of course, we should allow it to proceed without interruption. It may be added, that the child, in nearly every instance, has been expelled dead.

# PART II.

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## CASES

OF

## DIFFICULT LABOUR.

# CHAPTER I.

## LABOURS TERMINATED WITHOUT INSTRUMENTAL ASSISTANCE.

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CASE I.—*Labour rendered difficult by a frænum surrounding the vagina. Bloodletting. Child born living by natural efforts.*

May, 1842, at 3 a.m., I was called by a young surgeon to a second labour. The liquor amnii had escaped three hours, the os uteri two thirds dilated. Half way between the os uteri and the os externum, was a constriction of the vaginal mucous membrane, which was supposed to be the uterine orifice itself. The presentation, that of the head, had not been reached.

As there were no pyrexia, nor any other untoward symptoms, I simply advised patience.

At 2½ p.m., I was again sent for. The head had then passed into the cavity of the pelvis; the narrowed portion of the vagina formed a cap tightly embracing the presenting head; the skin had become hot and dry, also the mucous membrane; the patient was restless, the pulse hard. For these symptoms, sixteen ounces of blood were removed with partial benefit. A smaller quantity was taken a little later in the day; upon which, the constriction of the vagina elded, and at 5½ p.m., a living child was born without

any further interference. The placenta came away spontaneously, and the patient had a perfectly good recovery.

CASE II.—*Unusual suffering; too early discharge of liquor amnii; inordinate uterine action: Forceps contemplated, but a living birth ensued naturally.*

September, 1854, at 9½ a.m., I was requested by a professional friend to visit a patient, æt. 30, in her first labour.

She had been in pain all night, and the waters had escaped at four a.m. The head had been at the outlet six hours under violent action, and it was feared, that a rupture of the uterus might be the consequence of non-interference.

*Present state.*—The head is pressing on the bony outlet, the face turned obliquely backwards; no impaction, no retention of urine, no pyrexia; ample mucous secretion; the os uteri not fully dilated.

I advised more time, believing that the natural efforts were sufficient; that as the os uteri was not obliterated, and the soft parts had to be dilated, there was no alternative, but to wait.

Two hours later, I was again hastily summoned, on account of recurring fears, that the uterus would give way under the violence of its contractions, and that delivery by the forceps would be inevitable. I now found the os uteri fully dilated; no heat of parts; the head had advanced.

I therefore, counselled a further reliance on nature, to admit of full dilatation of the soft outlet. By request of my friend, who could not get rid of his fears, I remained, to share with him the responsibility of the case, and thus had the satisfaction of witnessing its safe termination in a living birth, without instrumental interference.

It is possible, that chloroform would have accelerated this labour, by favouring dilatation, and it certainly would have

annulled the patient's sufferings; but we had good reasons for not resorting to this agent, in this case.

### Case III.—*Labour retarded by mental depression.*

One morning, early in October, 1843, I was called to a patient of the Royal Maternity Charity at a full term, non primiparous labour.

The liquor amnii had been discharged twelve hours; the labour lingering. The patient was convinced, that her case was dangerous, therefore, I was requested to see her.

I found the head presenting, moveable; the parts moist and lax; the pains not bearing; orifice of uterus one third dilated. The patient had had living children already, without difficulty. As I found no obstacle, I simply encouraged her, by telling her that she would do well. At the same time, I left orders for ergot to be given should action not soon come on.

Within an hour, and without the ergot, a healthy living child was born: the midwife attributing the change in the case, to my cheering assurances.

### Case IV.—*Labour retarded by mental depression.*

The patient, æt. 40, habit stout, health good, second labour; under the care of Mr. Woodthorpe, of Kingsland.

*Previous history.*—At her first labour, I had also been called to her by Mr. Woodthorpe, on account of impacted arm presentation. After all justifiable attempts to turn had failed, I delivered her, on that occasion, by embryotomy, and she recovered well.

She was seriously impressed by the experience of her former labour, and also by the fact, that her husband's first wife had died in difficult childbirth. She had made up her

mind, that on this occasion, she would not recover, and the labour had in consequence been very lingering.

I was previously prepared as to her despondency, so on entering the room said everything to cheer her, and quickly left, telling her I felt sure she would do well. The os uteri and vagina were relaxed, the head presented favorably; in fact, nothing but good action was wanted in the case.

Mr. Woodthorpe afterwards wrote to me as follows: "The assurances you gave her had an immediate good effect, relieving her mind from anxiety; the pains, from being feeble, came on in good strength, and after three hours, she was delivered of a fine living boy by the natural efforts. She had a perfectly good recovery."

CASE V.—*Lingering labour from inertia uteri, no obvious cause appearing. Ergot of rye given with good effect.*

A sixth labour, patient æt. 26, previous births easy and living. Head presentation. The waters reported to have come away fifteen days before. However, my friend, Dr. Forbes, of Madras,[1] who had charge of this patient for me, reported that he found the bag of waters presenting; the os uteri half dilated and soft; the pains had lingered on feebly for forty-eight hours, and were now at half-hour intervals.

Four doses of ergot were given, one every half-hour from 1 a.m., and in two hours later a healthy living child was born.

CASE VI.—*Inertia of the uterus; ergot. Living birth.*

November, 1843, at 6 p.m., I was called to a patient of the Royal Maternity Charity; her third labour; head pre-

[1] Then on leave of absence from that Presidency.

sentation. The waters had escaped at 7 the same morning, the os uteri being at the time fully dilated. The case then became lingering, and no progress occurred from 9 a.m. till my visit at 6 p.m.

I found the large fontanelle against the right cotyloid region of the pelvis; the sagittal suture in left oblique diameter; the small fontanelle could not be reached. The pelvis ample; vagina moist and lax; in short, nothing wanting, but uterine action, to complete the birth. I ordered half-drachm doses of ergot in infusion; after the third dose the child was born living and vigorous, with the face to the sacrum, having undergone the postero-rotation.

The placenta followed quickly.

CASE VII.—*Inertia of uterus. Ergot. Living birth.*

November, 1843, 1 a.m., I was called to a fourth labour. The three previous confinements had been easy. The pains on this occasion had been very lingering. The head had partly advanced into the pelvic cavity, with the face directed obliquely forwards. There appeared ample room; os uteri fully open; vagina soft and well dilated.

The ergot was given, and after the third dose, the child was expelled with the face forwards to the pubic arch. The placenta came away quickly. No after pains followed this labour, though they had succeeded the two previous confinements.

CASE VIII.—*Lingering labour from previous want of nourishment. Stimulants. Living birth. Recovery.*

A primiparous labour. Patient æt. 23; previous health low, from scanty nourishment. She was thin and pallid, her hands cold. Her surgeon requested my opinion on the

general indications of the case, as her labour had been protracted over many hours.

I found the head presenting; pelvis of ample capacity; the waters had escaped some hours. I sanctioned the patient's taking a glass of beer, which she had craved for, and ordered it to be given spiced and hot. After this, a warm moisture was diffused over the skin, the patient was much revived, and a living birth followed, within an hour after, without any further interference.

The placenta soon followed, without hæmorrhage, and the patient had a good recovery.

CASE IX.—*A primiparous labour; head presentation; face to right ilium. Congestion of uterus and general plethora. V.S. Living birth, without further interference.*

April 25, 1838, 3 a.m., Mrs. —, æt. 28, of previous robust health, in primiparous labour, was submitted for my opinion. The liquor amnii had come away twenty-four hours previously; pains had commenced ten hours before, but soon became feeble; and the os uteri put on a rigid and swollen condition.

I find the head at pelvic brim; face to the right ilium; the orifice of the uterus two thirds dilated; the pulse full and labouring; the general aspect of the patient plethoric. Fœtal pulse heard on auscultation.

The inefficiency of the pains, and swelling of the os uteri appeared to be the result of an overcharged state of the blood-vessels of the uterus, with a general plethoric condition of the patient. My friend, therefore, on my suggestion, took some blood from the arm, after which the os uteri dilated fully, the pains became strongly propellent, and the case steadily advanced.

At 7 a.m. the os uteri had reached its full dilatation, the head had descended a little, the forehead still to right ilium.

At 8 a.m. the head had reached the perinæum; and at 9 a.m. the child was expelled, with the face to the sacrum.

The child required treatment, on account of lividity and dyspnœa. The appropriate means were employed, after which it did well. The mother had a good recovery.

CASE X.—*General plethora, with drowsiness and cephalalgia. Convulsions feared. V.S. Living birth. Recovery.*

July 22d, 1844, E. E., æt. 23, was taken in labour at 9 a.m. yesterday. The pains continued strongly bearing till 11 last night, when they ceased, and drowsiness, with a dry, hot skin, hard, full pulse, severe headache at intervals supervened. The patient's previous health had been good; she had been bled at midnight, before my arrival, to twenty-eight ounces, upon which the skin became moist, the headache left, but the drowsiness persisted.

I was called to the case at 2 a.m. I found the pupils very sluggish to light; pulse strong and full; a deep sopor, from which she could only be slightly roused, by speaking loudly in her ear; the os uteri dilated to the size of a five-shilling piece; uterine action very feeble. I advised a repetition of the depletion. Twelve ounces were taken away rapidly, after which the pains became strongly propellent, and a healthy living child was born at 7 a.m.

The placenta was thrown off within three quarters of an hour, and removed from the vagina. At my visit on the following day, the patient was doing well, and had no recollection of my having been consulted. Her recovery was perfect.

CASE XI.—*Feeble and irregular uterine action from over-repletion. Stimulant emetic. Living birth. Remarks.*

A patient of the Royal Maternity Charity was taken in labour at full term. She was suffering from nausea, which

did not appear to be merely sympathetic; for on inquiry, I found that the woman had eaten largely at supper of bacon and cabbage. I gave her a stimulant emetic; the abundant contents of the stomach were thus discharged; the labour, which before was lingering, became active, and speedily ended in a living birth.

*Remarks.*—Not long afterwards, I was consulted by a surgeon for a private patient, who had entered on her labour in puerperal convulsions, following soon upon a very large meal of goose. It was judged advisable, in her case, to adopt bloodletting, in addition to other necessary treatment. It is not improbable, that in the case above detailed a similar event would have followed, but for the timely removal of the indigesta from the stomach.

### Case XII.—*Small collection of urine in the bladder, a cause of delay in labour.*

April 24th, 1838, at 6 a.m., I was called to a third confinement. Labour had commenced at 1 p.m. the previous day, and the waters had escaped ten hours later.

I found the orifice of the uterus fully dilated; an ample pelvis; the head at outlet, face directed obliquely backwards to right sacro-iliac joint. Ergot of rye had been given to improve the pains, with but little effect.

On inquiry, I found the patient had not passed water for some time, and that she was uneasy on that account; no intumescence of a distended bladder was, however, to be felt above the pubes, nor per vaginam. I thought it best, nevertheless, to pass the catheter, and drew off rather less than half a pint of urine. Immediately upon this, vigorous action set in, and a living child was expelled in less than ten minutes.

*Remarks.*—I might add many other instances, where an equally small collection of urine seemed to be the only

cause of lingering labour, by acting as an irritant on the nervous system, and disturbing, in a reflex manner, the due exertion of the parturient efforts.

### Case XIII.—*Retention of urine retarding labour.*

In the year 1834, my assistance was requested by a student of University College, in a case of protracted labour. The pains had become irregular and feeble.

Placing my hand on the abdomen, I found a large fluctuating swelling lying upon the gravid uterus, reaching midway between the navel and the ensiform cartilage. The retention of urine had been detected, but attempts to relieve the bladder had failed, owing to the pressure of the head on the neck of that organ.

By using a long elastic catheter, and making pressure on the head upwards and backwards, I succeeded in removing from the bladder, a chamber-vessel full of urine, much to the relief of the patient, who had been greatly distressed, and to the joy of my young friend, who was, soon after, set at liberty, by the birth of a living child.

### Case XIV.—*Retention of urine the cause of protracted labour.*

On a Thursday, in December 1856, at 10 p.m., I was called to a patient, æt. 30, a primipara. Feeble labour pains had existed since the previous Monday. I found the head half-way descended into the pelvis, the os uteri three fourths dilated, mucous membrane not hot, but dry.

I was informed, that the patient had passed sufficient urine; but always judging for myself on this point, I laid my hand on the abdomen, and found two considerable swellings, separated by a depression, an upper one being the

hard gravid uterus, so far as it was not covered by the lower one, which was elastic, fluctuating, viz., the distended bladder.

I at once introduced the catheter, and removed four pints of urine, much to the patient's relief. To relax the parts and promote mucous secretion, I ordered, at intervals, doses of tartar emetic. The pains quickly after improved in efficiency, mucus was abundantly poured out, the parts became relaxed, and a fine living child was safely delivered in three hours after.

The patient recovered well.

CASE XV.—*Protracted labour from retention of urine, three quarts removed after delivery. Subsequent atony of bladder for five weeks. Remarks.*

A patient, about the year 1840, came under my care. After protracted labour, under retention of urine, which a constant dribbling of water had caused to be overlooked, she had been at length delivered by the natural efforts, the bladder unrelieved by the catheter.

I was subsequently called in, on account of her suffering severe abdominal pains, which had harassed her both during, and after the labour. I was informed, that her water had dribbled away from her. Suspecting retention, I passed my hand over the abdomen, and found the bladder greatly distended, its fundus reaching above the navel. I now passed the catheter, and removed three quarts of highly offensive urine, greatly to the ease of the patient.

So much was the tone of the organ impaired by this retention, that five weeks elapsed, ere the entire use of the catheter could be dispensed with.

*Remarks.*—Had timely attention been paid to the bladder, a severe labour, and much subsequent suffering would have been spared the patient. The case is instructive, as showing

that we must place no reliance in the reports of others, in this matter, but always be watchful, and ascertain the truth for ourselves by a satisfactory inquiry.

### Case XVI.—*Rigidity of os uteri removed by bleeding. A living birth and good recovery.*

May 25th, 1844, a primipara, æt. 26, of robust habit, came under my care. The liquor amnii escaped several hours; head presented in good position. The orifice of uterus of half-crown diameter, its boundary tissue rigid, and closely encapping the head; pulse hard, full, 130. Venesection had been contemplated by the surgeon, I also suggested that treatment. Eighteen ounces of blood were withdrawn. After this, an abundant secretion of mucus covered the genital surfaces, and all rigidity was removed. Delivery of a living child followed within an hour after.

### Case XVII.—*Rigidity of os uteri, removed by chloroform inhalation. A living birth and good recovery.*

In the month of December, 1847, I was requested by Mr. Mc. Nab, to meet him in a primiparous labour of 24 hours' duration, patient's age 34. The liquor amnii had come away six hours before my visit, and at the same time, the head had engaged in the pelvic brim, in the first oblique position.

*Present stage.*—The os uteri rigid, half dilated, anterior lip low down and swollen, vagina hot and dry, skin also; pulse 90, not hard; the pains feeble. It occurred to me, that chloroform, which had, but recently, been introduced by Professor Simpson into midwifery practice, might be usefully selected as the remedy, to soften the os uteri and vagina, and to lull the patient's sufferings, which were very severe.

I administered it to her on a handkerchief, folded cup shape, holding it near her mouth and nose. In less than a minute, the patient was fully unconscious of pain, and apparently asleep. Three and a half drachms of chloroform were consumed in the course of two hours, when I discontinued it, the object of its exhibition having been fully attained.

The os uteri had now become soft and fully dilated, the genital canal abundantly supplied with mucus throughout, and of a natural temperature; the skin moist and not heated, the pains strongly propellent. Within an hour after, a fine living child was born. There was no subsequent hæmorrhage. The uterus contracted well, expelling the placenta, and the patient had a good recovery.

CASE XVIII.—*Rigidity of os uteri removed by chloroform inhalation. Child premature and still-born. Good recovery.*

In the month of December, 1855, I was consulted by Mr. Langley, of Albany Street, in a fourth labour; the pains were remarkably acute, the os uteri very rigid, and but little dilated, there was no pyrexia, but the patient was very excitable, and importunate for relief.

I suggested the inhalation of chloroform. It was exhibited on a handkerchief, and quickly produced anæsthesia. The os uteri soon became relaxed, fully dilated, and the birth of a still-born premature child followed within an hour after.

The placenta was thrown off quickly, after which, the uterus relaxed, and some hæmorrhage followed, which however was subdued, with little difficulty, by pressure and cold.

CASE XIX.—*Protracted labour from scybalæ in the rectum.*

March 18th, 1838, at 6 a.m., I was requested by Mr. Percival Price, then a student of University College, to visit a patient, æt. 32, in labour of her fifth child. Her previous labours had been natural and easy. The liquor amnii had escaped early, when the os uteri was little dilated; the head presented. The pains had continued frequent and strong for nearly six hours, but the head had not advanced.

The face directed to the right ilium. No morbid heat locally, nor generally. There was considerable accumulation of hardened fæces; these I removed, and a living child was almost immediately afterwards expelled, with the occiput to the pubic arch.

*Remarks.*—As the pains had been frequent, and strongly bearing, I must conclude, that the fæcal collection acted directly, as an impediment in front of the presenting head. But in other instances, I have seen, as in the cases also of collections of urine in the bladder, the pains, through reflex influence, rendered irregular, and though exhausting the patient, of no avail in advancing the labour, because more of a spasmodic, than of a properly bearing character.

CASE XX.—*A globular protrusion of vaginal walling anteriorly, simulating somewhat a vesical hernia.*

A patient of R. M. C., æt. 26, who had had two children at full term, and one miscarriage, was brought under my notice, on account of a globular protrusion occupying the front of the vaginal passage. Being somewhat elastic, it appeared at first like a hernia of the bladder. But finding, that she had passed water readily, and that I could easily introduce the catheter, I decided it to be a fold of the vagina with its subjacent tissue and blood-vessels; its

elastic character being due to a varicose state of the vessels, from pregnancy. The diameter of this protrusion was about four inches. The waters had escaped half an hour before.

The midwife had feared it would cause difficulty in the labour. My opinion was that it would give way to the pressure of the head. Indeed, before I left the house, the head descended much lower, was pressing on the flooring of the pelvis, and had entirely displaced outwards the swelling in question. The child was born shortly afterwards, without interference. The placenta followed quickly. Two days later, the swelling had quite disappeared.

CASE XXI.—*Protracted labour from congestion of the uterus. Puerperal convulsions feared. V. S. Child expelled by the natural efforts, semi-asphyxiated. Good recovery.*

September 22, 1840, at 8¼ p.m., I was called to a patient of previous good health, æt. 24, a primipara, by Mr. Bloomfield one of my pupils.

The pains began on the morning of the 21st, slight in degree; towards evening they were stronger. At 8 p.m. the os uteri was fully dilated, the pains returned at short intervals, and so continued during the night. At 8 the following morning two or three very expulsive pains caused a rupture of the membranes, and a little liquor amnii escaped. The head presented. The pains continued at intervals of ten minutes, without any progress; so the case stood at my visit in the evening.

*Present state.*—Headache; a full, hard pulse, features congested. Head presents in the most usual position; os uteri fully dilated. Pains inefficient.

*Treatment.*—As a measure of precaution, the catheter was passed and some retained urine removed. Being apprehensive of puerperal convulsions, I advised bleeding. This was accomplished in the sitting posture; about eighteen

ounces came away in a full stream, without fainting, and then the orifice was closed.

The pains now became properly bearing, the labour progressed steadily, and the delivery was completed at $10\frac{1}{2}$ p.m., the head was compressed into a conical shape, and the child born in a state of asphyxia, from which, however, it was readily restored by the appropriate means.

*Remarks.*—The sluggish action of the parturient powers was here, the effect of a congested state of the muscles. This, and a condition of the patient denoting a tendency to puerperal convulsions, indicated the same treatment, blood-letting.

We must conclude that, but for the timely adoption of depletion in this case, the child would have been detained much longer in the pelvis; considerable swelling of the scalp, and maternal tissues would have ensued, and it is fair to presume, that a still birth would have been the consequence.

CASE XXII.—*Labour complicated by "cutting pains" in the pubic region. Uterine rupture apprehended. Slow dilatation of os uteri. Tartar emetic and opium. Child living. Good recovery. Remarks.*

A primipara, æt. 28, a patient of the Royal Maternity Charity, came under my care, on account of a severe "cutting pain" in the pubic region, accessional to the pains of parturition. Labour had commenced at 8 p.m. I saw her at $9\frac{1}{2}$ the following morning, and found the os uteri dilated to the diameter of a shilling. The midwife had feared a rupture of the uterus, so great was the patient's suffering from the above pain.

I found the parts moist, cool, not rigid; the skin not heated; micturition free, bowels open, pulse soft. I ordered, as in previous cases of slow dilatation of the os uteri, tartar

emetic in quarter-grain doses. I also exhibited, for the relief of pain, fifty drops of laudanum. It appeared that she had had more or less of this pain, probably neuralgic, ever since an attack of cholera two years ago; but it is now much aggravated.

At 4 p.m. the dilatation had gradually advanced, and the cutting pain was entirely gone; the liquor amnii then escaped, and considerable pressure was being exerted on the head. The labour was satisfactorily terminated by the birth of a living child, at a quarter before nine.

The patient had a good recovery.

*Remarks.*—The tartar emetic had a good effect, in relaxing the tissues, and in favouring dilatation. The opium soothed, and finally removed the pain, which had been so severe.

CASE XXIII.—*Retarded labour from congestion of uterus, consequent inertia, accompanied by a rigid and swollen condition of os tincæ.*

Saturday, May 25, 1844, at 9½ p.m., I was requested by Mr. Charles Robinson, surgeon, of Dorset Place, Dorset Square, to see a patient in labour of her first child. The liquor amnii had escaped in the morning; the head presented at the pelvic brim; the orifice of the uterus had gradually dilated to the diameter of half-a-crown; the boundary tissue of the opening had, in the course of the afternoon, become swollen and rigid; and at the same time, the pains were weak, the pulse full and hard, the skin hot and dry.

I advised depletion; eighteen ounces of blood were taken from the arm, after which the skin became moist and cool, the pains efficient, the os tincæ soft. Within an hour, a healthy living child was born. The placenta gave no trouble, and the patient's convalescence was speedy and complete.

CASE XXIV.—*Face presentation. Natural delivery. Child born living.*

March 23d, 1846, I was requested by Mr. Eyre to visit a patient in a third confinement. I found the orifice of the uterus fully dilated; the parts soft, moist and cool; the face presenting, with the chin in the neighbourhood of the pubes; the child living; the head had been in the pelvis about two hours.

After examination, my opinion was that the child would be born without the assistance of art.

The case, as I was subsequently informed by my friend, terminated in a living birth, under the natural efforts.

CASE XXV.—*Face presentation. Congestion of the uterus. V.S. Delivery completed naturally. Child stillborn.*

November 29th, 1843, 5 a.m., I was requested by a professional friend, to meet him in a face-labour. The patient, æt. 41, of firm fibre, and healthy, had had two children before, without difficulty. The liquor amnii had come away at 11 a.m. the previous day, but in very small quantity. The orifice of the uterus was fully dilated at eleven last night; no progress whatever had taken place for the last four hours, pains being weak.

I found the chin directed to the right side of the pelvis, one half of it only accessible, with the corresponding right half of the face. The parts heated, the pulse full and firm.

I directed eighteen ounces of blood to be taken; after which the presentation rapidly progressed under strongly bearing pains, and the child, stillborn, was expelled in one hour afterwards, with the chin to the front.

*Remarks.*—A part of the difficulty, no doubt, was due to

the face presentation, but the immediate change in the aspect of the case, upon the abstraction of blood, pointed to the existence of congestion, as a source of impediment to a due exertion of the parturient powers; and possibly, had the relief been afforded earlier, the child would have been born living.

CASE XXVI.—*Brow presentation, converted by the natural efforts into one of the vertex. Child born living. Good recovery.*

February, 1844.—A patient under my care, æt. 33, was taken in labour of her fourth child, at 5 p.m., when the waters also escaped. I was sent for immediately upon that event, and found the genital passage well dilated, the orifice of the uterus almost obliterated; the pains efficient. I could touch the brow, the left eye, and side of the bridge of the nose. As the labour advanced the brow ascended, and the child was expelled by a vertex presentation; face to the sacrum. The funis was once round the neck. The mother and child did well.

*Remarks.*—This is the only instance of the kind which I have met with; but Dr. Merriman, at p. 48 of his 'Synopsis,' observes that he has *twice* known the presentation of the face to be converted by the pains alone, into a natural presentation.

CASE XXVII.—*Face presentation. Natural delivery. Child living.*

December 29th, 1853, at 9½ p.m., I was sent for by Mr. Langley, to a patient in labour of her tenth child. I found the face presenting, with the chin to the left side of the pelvis; parts soft, moist, and cool; uterine action moderate. There was no impaction; the presentation rested on, but

did not engage in the pelvic brim ; os uteri not fully dilated; the bladder had responded freely. Skin moist and cool, pulse normal, no headache. I advised further reliance on the natural powers.

The labour proceeded steadily through the night. At half-past nine the following morning, I was sent for again, but finding decided advance, I gave the opinion that the case would soon be over, without instrumental aid. In a quarter of an hour the expulsion of the head took place. Soon after, a living male child was born, chin to the front. Both mother and child did well.

This patient had had a face labour thirteen years before.

CASE XXVIII.—*Retroversion of uterus at full term, obstructing parturition. After many hours' severe labour, the cervix uteri, under violent propulsive efforts, at length descended from behind the pubes, and the child was expelled dead under breech presentation. Treatment: Tartar emetic with hyosciamus, and patience. Good recovery. Living birth, without difficulty, in subsequent confinement.*

October 18, 1844, 3½ p.m., I was called by the late Mr. Samuel Bacon to a primipara, æt. 35, in labour at full term ; of tall stature, spare habit.

She had suffered much, during the latter part of gestation, from a sense of bearing down of the uterus ; the function of the bladder had not been disturbed.

Mr. Bacon found a hardish, smooth, immoveable, rounded prominence, deeply depressed into the pelvic cavity, pressing strongly on the rectum, and occupying the pelvic space. No cervix uteri could be detected in, or anywhere about the usual situation, nor by any ordinary examination towards the pubes.

Through the walling of the swelling, which proved to be the gravid uterus retroverted, my friend could trace the

outline of the child's head. The urine had passed at due intervals. On account of sleeplessness and great irritability, Mr. Bacon had, with good effect, exhibited acetate of morphia, three quarters of a grain, the night before.

*Present state and subsequent history.*—I discovered the swelling, formed by the fundus and body of the uterus, descended two thirds into the pelvic cavity, and fully occupying the space. With some difficulty, extending my finger behind the pubes, I could just touch the posterior lip of the uterus, but not the orifice. The extreme sensitiveness of the surfaces, and impacted state of the parts, prevented my reaching the front aspect of that lip. No febrile action fortunately. The parts moist, of natural temperature.

It was determined, in the absence of pyrexia, &c., to rely on the natural efforts, in the hope that the bearing action of the auxiliary powers of parturition, returning, as they were, every two or three minutes, would have the effect of urging the cervix downwards.

At 8½ p.m. the posterior lip was found descended a little, and with some difficulty, I could reach beyond the anterior lip. As yet, there was no dilatation of the mouth of the womb; the patient was restless, her sufferings severe; no heat of skin, nor of vaginal mucous membrane. Headache. Pulse 120, regular, not hard.

*Treatment.*—Tinct. of henbane, one drachm: Ant. Pot. Tart., half a grain; in camphor julep, every four hours.

October 19th, 10 a.m. The patient has had some refreshing sleep; the pains less intolerable, though fully propellent. Pulse 140, regular, sharp. Continue same medicine.

1½ p.m. Posterior lip still behind the pubes, and anterior lip, yet difficult to reach. The fundus and body of the uterus still located in the hollow of the sacrum. The bladder duly responds. Continue the medicine.

2½ p.m. The cervix uteri is now beginning to descend, and its orifice is a little open.

3½ p.m. The uterus has at length become reduced into

its normal position. The breech now occupies the pelvic cavity; and no part of the uterus can be felt, excepting the posterior lip, which now protrudes at the os externum.

6 p.m. The child, a full-grown male, is just born, and appears to have been dead about two days; its length measures twenty-three inches, its weight nine pounds.

The placenta was expelled without hæmorrhage; the uterus contracted well.

The patient subsequently had a mild attack of peritonitis, which readily yielded, and she had a good recovery.

By request of Mr. Bacon, who, on account of ill health, was relinquishing practice, and who apprehended another anxious attendance, I took charge of this patient in her next confinement. The child, of average size, was born living without any difficulty, and the patient had an excellent recovery.

*Remarks.*—We might have well expected here, an interference with the function of the bladder, as retention of urine is almost invariably the result of retroversion of the gravid uterus; but, fortunately for the patient, the urethra remaining pervious, her sufferings were not aggravated by that complication. Usually, there is much vascular disturbance, and great heat of parts. Had the patient been of a full, sanguineous habit, most probably inflammatory action would have been set up; whereas her health had been much lowered by frequent bilious vomiting, before, as well as during her pregnancy.

The tartar emetic had a useful effect, in furthering relaxation of the maternal tissues, probably also, in preventing pyrexia.

What had determined the retroversion, we could not say, the patient had had no fall, and could not help us to a cause in any way. The pelvis was above the standard dimensions, which is believed by some, to be a predisposing cause. A distended bladder had not produced it, as appears in some instances to have been the case.

I may here refer to another case of retroversion of the uterus at full term, which probably had existed from quickening, which I saw with my father, in the year 1833, at the dispensary then attached to University College. There was no interference with the bladder there; the patient applied on account of distressing feelings, from pressure posteriorly. I regret to say that the patient, an Irish-woman, escaped our observation, and we never succeeded in tracing her.

I may also point to two interesting cases of retroversion of the uterus at full time, seen by the late Dr. Merriman; one of them with Drs. Bland, Croft, Denman, Sequin Jackson, and Thynne. In one, the child, still-born, was expelled by the natural efforts; in the other, after bleeding for fever and delirium, craniotomy was resorted to. Both mothers did well.

## CHAPTER II.

### FORCEPS DELIVERIES.

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CASE XXIX.—*Arrest of the head at the pelvic outlet in a primipara. Child delivered by forceps, living. Inflammatory fever during, and following labour. Depletion, &c. Recovery.*

April 11th, 1844, at 6 p.m., I was requested by Mr. Pascall, of Torrington Square, to visit a patient, in labour of her first child. Age 34; previous health, up to labour, good.

The liquor amnii escaped soon after 2, the mouth of the womb being fully dilated. The head then gradually descended into the cavity of the pelvis, so that in an hour from the discharge of the waters, it occupied that space. The pains had been strongly propellent, at intervals of three minutes, from that period up to my visit.

I found the head near the perinæum, the right ear against the symphisis pubis, with some inclination to the left side; the head had progressed thus far, between three and four hours before I saw the patient. In consequence of the violent pains, the extreme restlessness of his patient, a dry hot skin, and firm pulse, Mr. Pascall had bled her to eighteen ounces, and subsequently given a full dose

of opium, which had had the desired effect; she had become calm, and I found her skin of natural temperature, and suffused with moisture. The pains were of moderate strength, recurring at intervals of two or three minutes. The bladder contained only a few drachms of urine. I suggested a further trial of the natural powers.

About two hours later, I called again by agreement, and finding no progress, the patient again restless, I applied the oblique forceps over the fronto-lateral and occipito-lateral regions of the child's head, directing the face, little by little, backwards to the sacrum. Applying traction, and resting at intervals, a fine living child was brought into the world, in about four minutes from the first locking of the blades. The placenta came away without difficulty.

April 12th.—Our patient had had a good night's rest; she had passed urine in ample quantity without pain; pulse hard. She was ordered one sixth of a grain of tartar emetic in solution of acetate of ammonia every four hours. In the afternoon, skin moist, pulse soft; she had been purged, not nauseated.

April 13th.—Slight tenderness in uterine region, aggravated by coughing; pulse hard, skin dry and hot. My friend therefore bled her to sixteen ounces, and the diaphoretic mixture was continued. The blood was buffed and cupped. After this treatment the pain on coughing had ceased; the skin became moist, of natural temperature. Beyond the exhibition of two doses of castor oil, she required no further treatment.

*Remarks.*—The above case illustrates the advantage and expediency of watching a patient carefully, after an obstetric operation, and indeed during the labour itself, to guard her against inflammatory affections, and their serious results. The hot and dry skin, hard pulse, and abdominal pain in the uterine region were warnings, which unheeded, would most probably have had a fatal termination.

CASE XXX.—*A primiparous labour. Arrest of the head at the pelvic outlet for six hours; liquor amnii escaped twelve hours. Child extracted living by the forceps. Good recovery.*

April 1st, 1846, 9 p.m., I was requested by a medical friend, to come to his aid in a first confinement. The subject of it, 33 years of age, had been in labour since 1 a.m. The liquor amnii had come away twelve hours before, in the midst of active pains. The orifice of the uterus became quickly after fully dilated, the head had been in the pelvic cavity six hours.

*Present symptoms.*—The head in the pelvis; much tumor of scalp projecting at the os externum; an *olive coloured* discharge appears on the examining finger. The patient restless, countenance anxious, skin hot yet moist; pulse sharp, 100, compressible; tongue coated with a whitish brown fur; patient of a delicate habit of body. The face directed to the right sacro-iliac synchondrosis.

The head being arrested, and interference strongly called for by the above symptoms, I determined to deliver by the forceps without delay. The catheter, as usual, was first introduced, and some urine, previously felt distending the bladder above the pubes, was drawn off, about ten ounces. The patient was properly adjusted on a mattrass at the edge of the bed, the upper thigh raised by an assistant, and the forceps with the pelvic curve and wide fenestræ were applied without difficulty. Three steady tractions during the pains brought the child, a fine girl, into the world in a state of asphyxia. It was fully restored, however, after employment of the ordinary means. The placenta was thrown off in twenty minutes, by good contraction of the uterus, into the vagina, and thence removed.

Next day, not a single bad symptom; the bladder had

responded without aid; the lochial discharge good; child vigorous. The patient had a perfectly good recovery.

*Remarks.*—The forceps were called for in this case, on account of the fatigued condition of the patient. That slight reduction of the bulk of the head, which the forceps effects, was required to complete the birth. The head having been in the pelvis six hours, with adequate pains, and no progress, the constitutional disturbance thereupon induced, and the possibility of the child being yet living, were the circumstances which authorised the employment of that power.

A further delay, it appeared to me, would have sacrificed the life of the child, and have exposed the mother to danger and fruitless suffering. The state of the patient contra-indicated previous depletion; and her subsequent progress in the puerperal state—the appropriate treatment having been timely appealed to—was entirely satisfactory.

CASE XXXI.—*A primiparous labour; head arrested in cavity of pelvis eight hours; retention of urine relieved by elastic catheter. Inflammatory fever, depletion, forceps delivery. Child living. Mother did well.*

On Monday, December 9th, 1845, at 6 p.m., I was requested by Mr. Jarvis, of Hart Street, Bloomsbury, to visit a patient, æt. 28, in labour of her first child.

*Previous history.*—My friend had been sent for on Sunday, at 5 in the morning. The liquor amnii had escaped the night before. The orifice of the uterus, on his first arrival, presented the diameter of a shilling; the action of the womb and dilatation of the os uteri proceeded slowly. About 6 this morning, the uterine orifice had become obliterated, the head had gradually entered the cavity of the pelvis, and had been there wedged, not receding at all as the pains retired, for at least eight hours.

On account of febrile disturbance, a hot, dry vaginal mucous membrane, twenty ounces of blood had been taken from the arm, before my arrival. For the relief of the distended bladder, very perceptible above the pubes, attempts to pass the catheter had been made, but owing to the pressure of the head on the neck of that organ, without success. By firm pressure on the head, upwards and backwards, I managed to get a small-sized catheter into the bladder, and drew off a pint of urine, whereupon the above swelling subsided.

*Present state.*—The fœtal pulsation distinctly audible over the left side of the uterus, between the navel and anterior superior spine of the ilium. It had been feared, from the cessation of the child's movements, that it was no longer living. The vaginal mucous membrane dry, and closely embracing the presenting head.

*Treatment.*—I judged it imprudent at present to apply the forceps, though the patient was fatigued and importunate for delivery. I suggested the administration of tartar emetic, at fifteen or twenty minutes' interval. Nausea and vomiting followed, and the vaginal mucous membrane now became relaxed and moist. Two hours later, delivery had not taken place, but the parts were in a favorable state; and having decided by the stethoscope that the child was still living, I resolved to apply the forceps. Having first introduced the catheter, and removed the urine, which had collected since my last visit, I applied the blades of the instrument along the sides of the pelvis, and locked them easily. I then made traction, unlocking them and resting in the absence of pains, and thus safely accomplished, in twenty minutes, the delivery of a female child, in full vigour of life, face to sacrum. The placenta followed in five minutes, and no untoward symptom of any kind occurred during the puerperium.

*Remarks.*—The above case presented, at first, symptoms which required, for the patient's safety, under her severe

labour, the adoption of depletive measures. They were had recourse to with benefit; but the dry and rigid state of the vagina continuing, I ordered the tartar emetic. It had the desired effect of softening the vagina, and preparing it for the forceps, which were now applied with a happy result.

CASE XXXII.—*A primiparous labour. Arrest of the head at the brim of the pelvis for ten hours; waters had escaped twelve hours; face to right ilium; long forceps applied, and head brought to outlet, there arrested; labour eventually completed by the short forceps. Child large, living. Inflammatory fever after delivery. Depletive treatment. Recovery.*

October 11th, 1843, at 2 p.m., I was requested by Mr. L'Estrange to meet him in a difficult primiparous labour. The patient, 21 years of age, of previous good health. The liquor amnii had escaped twelve hours. Pains of moderate strength and frequency for the first five hours; latterly weaker, and at longer intervals. Os uteri fully dilated soon after the discharge of the waters.

*Present state.*—A puffy protrusion of scalp; cranium itself has not descended in any degree into the pelvic cavity; the pains, though occasionally stronger, did not affect the presentation. The examining finger can be passed up by the side of the head with no great difficulty. I found the right ear behind the symphisis pubis; face to right ilium. The patient is fatigued, but there is no extraordinary excitement of the vascular system, no inordinate heat of the genitals. The case one of arrest, rather than of impaction of head.

*Treatment.*—Considering the difficulty in the case, to depend partly upon the position of the head not being the most favorable, and possibly also upon some slight dispro-

portion between the size of the head and the capacity of the pelvis, I determined on the use of the long forceps, as the preferable mode of treatment.

The bladder and rectum being found empty, I carefully introduced and applied the long forceps, with blades of an equal length,[1] along the sides of the pelvis, over the face and occiput respectively. Applying traction, and resting alternately, I gradually brought the head down past the point of difficulty, into the cavity of the pelvis, and at the same time directed the face to the right sacro-iliac joint. I now removed the instruments, in order that nature (the more especially as it was a first labour) might effect the dilatation of the perinæum, in her own safe time. The pains, however, were not sufficiently propellent, and eventually, the child proving larger than usual, I had to finish the delivery by the common forceps, and this object was safely effected at 6 in the evening.

The child weighed nine and a half pounds; was born in an apoplectic condition. A table-spoonful of blood was allowed to flow from the divided vessels of the cord before tying it, upon which the child was fully restored to active life. There was a firm, hour-glass contraction of the uterus; the placenta was, however, removed without much difficulty. There was no hæmorrhage.

October 12th, 8 a.m.—Our patient had slept four or five hours, from the effect of a morphia draught. She had passed water without difficulty, was free from pain, yet the skin was dry and hot; there were thirst, restlessness, a white furred tongue; pulse 90 and hard; scanty lochial discharge. We therefore agreed in the propriety of depletion. The patient was placed sitting, and bled from the arm; twenty ounces flowed in a full stream without her fainting. The skin, however, having become moist, and less heated, the

[1] Davis's 'Obstetric Medicine,' plate xxxvi B; 'Operative Midwifery,' plates x, xi, xii.

pulse soft, the arm was tied up. The bowels were opened by castor oil; a saline diaphoretic given, an antiphlogistic regimen enjoined.

October 13th.—The blood taken exhibited a strongly buffed and cupped surface. The pulse soft, 80; the skin of natural temperature, and moist. The discharge of lochia had increased.

On the fourth day from delivery, Mr. L'Estrange, finding his patient again feverish, the pulse hard, above 90, a throbbing pain in the hypogastrium, a sense of heat in the vaginal passage, and a suddenly diminished lochial discharge, bled her again to faintishness at a loss of eighteen ounces, upon which the pain left her; the skin became moist, of natural temperature; the pulse soft. The blood was buffed and cupped as before, but to a greater degree. The bowels were opened by castor oil.

From this time forward the recovery of the patient was uninterrupted, accomplished in the usual period, and she satisfactorily performed the duty of lactation.

*Remarks.*—The above difficulty depended partly on malposition of the head, but also upon *relative* deficiency of space at the pelvic brim and outlet—the dimensions of the pelvis not being absolutely small, but the child large. The mouth of the uterus being fully dilated before I saw the patient—no vascular disturbance, no heat nor rigidity of the genital passage existing—I was enabled at once, without preparatory treatment, to apply the forceps. I adopted that treatment, preferably to the use of the ergot, believing that there existed some obstruction to the efficiency of the pains. They seemed to be abruptly terminated upon each occasion, as if by an obstacle, as I have frequently observed, where the pelvis has been relatively or absolutely of small dimensions, not throwing out their full vigour of action—a providential security, it seems to be, in such cases, against uterine rupture, or contusion of the soft parts.

The long forceps which I employed here were my father's, consisting of a long and a short blade. (See his *Elements of Operative Midwifery*, 1825, plates x, xi, xii.) I adjusted them according to their design, the long and short blade respectively over the fore part of the head, and over the occiput, —at the sides of the pelvis.

Having brought the head down into the cavity of the pelvis and changed the position, I now removed the blades, hoping that nature would complete the delivery, by a more gradual dilatation of the genital passage, and, therefore, more safely than art. Disappointed in this expectation, I finished the delivery by the common forceps.

The subsequent symptoms of a commencing pelvic inflammation having been judiciously and promptly treated by my friend, the patient was ensured a good recovery.

CASE XXXIII.—*A primiparous labour; arrest of head at brim of pelvis for five hours; face to right ilium; forceps delivery; child, a male, living. Good recovery.*

February 11th, 1853, at 6 a.m., I was requested by Mr. Pascall to see Mrs. ———, æt. 28, in labour of her first child. The liquor amnii had come away at 9 o'clock the previous evening, full dilatation of the uterine orifice having taken place. Not till 1 o'clock this morning did the head engage in brim of pelvis. There had been strong pains at short intervals, but no progress since 1 this morning.

*Present state.*—Face to right ilium, head at pelvic brim, no pyrexia, no heat of vagina, nor swelling. I was desirous of anticipating these events, rather than of waiting for them, as indications for interference; the head had been already in one position under strong pains for five hours.

I passed the right-hand blade of my forceps behind the right acetabulum, and the left-hand blade in front of the left sacro-iliac junction; they locked easily. I now grasped

the handles and applied traction, separating the lock, thus taking off the compression from the child's head, at intervals. After about eight applications of traction, the head was brought into the cavity of the pelvis, and into bearing upon the perinæum, with the face directed to the sacrum. I then removed the blades, that the development of the perinæum, with the final expulsion of the child, might be accomplished, with safety to that structure, by the natural efforts.

Mr. Pascall informed me, that the child, a male, was born living, in one hour and three quarters after I left, that the placenta followed in half an hour, and that the puerperal period passed without a single bad symptom.

The propriety, on account of the perinæum, of removing the blades as soon as the head was brought to bear upon it, was obvious.

CASE XXXIV.—*A primiparous labour; arrest of the head in the pelvic cavity for eight hours; liquor amnii had escaped a longer period; retention of urine; delivery by the forceps, child living. Pelvic inflammation; depletion, recovery.*

Mrs. —, æt. 24, in labour of *first* child, was seen by me, by request of her medical attendant, May 28th, 1853, 6 p.m. The liquor amnii had escaped the night before, the head had occupied the pelvic cavity for eight hours.

*Present state.*—No pyrexia, no morbid heat of vagina, nor swelling. Head in pelvic cavity; face looks obliquely backwards to left synchondrosis. Above the pubes a considerable prominence of the abdomen, from a distended bladder; introducing the elastic catheter, I drew off a quart of urine, and, hoping this relief would suffice, I left with instructions, that if delivery should not have taken place in three hours later, I would see her again.

I was sent for at 8½ p.m. No advance had taken place, and fearing that mischief might result from further delay,

I applied the forceps. I introduced the blades easily at the sides of the pelvis, and accomplished the delivery of a healthy living child without difficulty, and with the usual precautions. The placenta was expelled half an hour later, without hæmorrhage.

All went on well till the *fourth* day, when her attendant was called up at 4 a.m., on account of pain referred to the vagina, vulva, sacral, and hypogastric regions; there was also a sense of stiffness and throbbing in the pelvic organs, with pyrexia. I had forewarned my friend of the possibility of such an event. The patient was twice bled from the arm, leeched, and blistered, before she could be considered out of danger. The bowels were relieved by castor oil, she also took calomel, with Dover's powder, every four hours, for two or three days. The patient after this had a good recovery.

*Remarks.*—Would an earlier employment of the forceps have obviated the above inflammation? That is not improbable, yet I did not feel myself justified in their earlier application. On the other hand, it might reasonably be urged, that the instruments, necessary as they were, might, although employed with every caution and gentleness, have contributed, with the previous pressure of the head, to the result. It did not appear, that the patient had been exposed to any exciting cause after her delivery, every care in that respect having been taken.

The prompt means adopted speedily placed the patient in a state of safety, where the previous symptoms had made us justly apprehensive.

CASE XXXV.—*Arrest of head in cavity of pelvis for six hours before delivery. Delivery by forceps, under chloroform, of a living child. Mother and child did well.*

March 2d, 1854, 10 p.m., I visited Mrs. —, æt. 30, with Mr. George Bird, of Osnaburgh Street, Regent's

Park. The patient had been in labour from the morning of previous day. The head had occupied the cavity of the pelvis, without advance for five hours, notwithstanding strongly bearing-down pains.

*Present state.*—No pyrexia; the patient is fatigued with her efforts; the head in the pelvic cavity does not recede between the pains, which return at intervals of three or four minutes; the face is directed obliquely backwards to right synchondrosis.

The catheter is introduced, and the bladder found empty. I now watched the case for an hour, but finding no advance, I introduced the forceps at the sides of the pelvis, and after a few tractions delivered the patient of a living child. At her earnest request, she was first placed under the influence of chloroform, the vapour being inhaled from a handkerchief, and skilfully administered by Mr. Bird. The placenta was thrown off by the natural efforts, in five minutes after the child's birth, and without hæmorrhage.

The child was asphyxiated at its birth, but readily restored by ordinary means.

The patient's progress to recovery was most satisfactory.

*Remarks.*—This case may be favorably contrasted with the previous one, where the time permitted to elapse, before interference, was considerably longer.

CASE XXXVI.—*A primiparous labour. Head half-way descended into the pelvic cavity, arrested for six hours. Forceps delivery. Child asphyxiated; restored by depletion of the cord. Mother and child did well.*

October 5th, 1854.—I was called by Mr. Kirkwood to a primipara, æt. 22, who had been in active labour for *thirty-six* hours, and in the second stage of the process with perfect dilatation of the os uteri for upwards of *six* hours; but

without any advance whatever, notwithstanding strongly bearing action. My friend was properly apprehensive of mischief, from the continued pressure of the head on the maternal structures; nor did he feel quite easy, on account of the violence of the pains, as to the safety of the uterus from risk of laceration.

*Present state.*—No pyrexia. Os uteri obliterated; vagina amply dilated; perinæum not rigid; head half-way descended into the cavity of the pelvis, with face to right sacro-iliac joint.

The bladder being first relieved by the catheter of a few ounces of urine, I introduced the forceps at the sides of the pelvis, locked them easily; by repeated tractions during the pains only, I brought the head into bearing on the perinæum, when, for the safety of that structure, I removed the blades, and left the rest to nature.

In less than ten minutes, the child was expelled; it exhibited lividity of the features, and could not respire, evidently from congestion of the vital organs, the result of pressure. Half an ounce of blood was allowed to flow after dividing and before ligating the cord, and the usual resuscitating means were had recourse to with success, though it was necessary to persevere in them for twenty minutes.

This case also presents a contrast with Case XXXIX, the patient suffering no check whatever to a rapid convalescence.

CASE XXXVII.—*A primiparous labour; inflammatory fever during and after labour. Transverse position; eight hours' arrest; delivery by the forceps. Child, a male, living. Mother did well.*

March 22d, 1855, at 8 a.m., I was sent for by a surgeon to a patient, æt. 25, in primiparous labour; the os uteri was fully dilated at 5 a.m.; the liquor amnii had then escaped.

*Present state.*—The head presents with face to right ilium. A small portion of the head engaged in the brim of the pelvis, the great bulk above it. The vagina and skin hot and dry, the pulse hard; sufficient uterine action, but the head not affected by it in the least. The pelvis seems of at least standard capacity. I suggested some relief being given to the vascular system by bloodletting; fourteen ounces were withdrawn. I also advised tartar emetic, in quarter-grain doses, in order still further to relax the vagina and soft parts at the outlet.

At 2 p.m., I saw the patient again; the genital tissues were now abundantly covered with mucus, and not unduly heated. The pains were strong, but no alteration had taken place in the position of the head; it was still engaged transversely in the pelvic brim.

I now determined to apply the forceps, with the view of bringing the head down to the perinæum, and to assist the rotation of the face to the right sacro-iliac joint. I first emptied the bladder, and then applied one blade of my ordinary forceps over the face, the short blade over the occiput; and with this purchase brought the head down to the perinæum, placing the face backwards; the instruments were then removed. Nature was left to her own resources, and a fine living boy was born in an hour afterwards. The placenta occasioned no trouble.

On the following day the patient was apparently doing well, but on the third day, symptoms of uterine inflammation appeared, which, however, were removed by the application of ten leeches to the hypogastrium, and hot linseed-meal poultices. The leeches bled freely. Nothing further beyond mild aperient medicine was required; and the patient performed well the duty of suckling her infant.

*Remarks.*—The febrile disturbance and the excessive heat and dryness of the vagina in labour rendered the preparatory depletive treatment indispensable, ere the forceps were applied, for had it not been adopted an increase of these states

was to be expected; swelling and impaction would most probably have followed, with the death of the child, and serious consequences to the mother.

Owing to the precautionary measure had recourse to, the subsequent inflammatory action was comparatively slight, and therefore easily subdued.

CASE XXXVIII.—*Brow presentation, left eye behind pubes; arrest of head at brim for seven hours. Forceps delivery. Child born living, face to pubes. Good recovery.*

Sunday, April 20th, 1856, at 11½ a.m., I was called to see Mrs. —, æt. 40, pregnant of her third child. Liquor amnii escaped on Friday morning, and at the same time she was taken in labour.

This morning early, she first sent for Mr. Pascall, at whose request I saw the patient, as there had been no progress for four hours.

*Present state.*—The os uteri fully dilated; the vagina soft, and well covered with mucus, not heated; good pains. I felt the left brow and eye behind the pubes, and could easily reach the adjacent side of the nose; no distension of the bladder. The patient has an umbilical hernia, which occasions no inconvenience. There is no impaction.

I tried counterpressure by my index and middle fingers, on the outer side of the brow, applied in the absence of pains, to raise that part of the head, but without success. I then made pressure during the pains, in the hope that the vertex, now receiving the full force of the parturient efforts, might be urged by them lower into the pelvis, but without avail.

As there was no pyrexia, and a favorable state of the genital tissues, no violent or spasmodic action, no urine in the bladder, I was induced to advise simply a further re-

liance on nature. At a little before 3, I was again summoned; found a considerable protrusion of scalp, but no advance of the head itself. The patient had struggled hard with her pains, and was exhausted. I now passed the catheter, relieved the bladder of its contents, and introduced the blades of my ordinary forceps along the sides of the pelvis, using for the occiput the short blade, locked them easily, made traction during each pain, at the same time I gave a rotatory movement to the head, so as to raise the brow and depress the vertex. In this object I was successful, after which the child was speedily born, and emerged with the face to the pubes. It was asphyxiated, but readily and perfectly restored to vigorous life, on exposure of its surface to the air for a few moments, and removing the mucus from its nose and mouth. It exhibited for a short time after birth, a purple discoloration of the surface, coextensive with the parts which had presented; this gradually disappeared, and the child did well. The patient required nothing more than the ordinary treatment after a natural labour, except the reapplication of her former hernia truss.

*Remarks.*—I decided in favour of the forceps in this case, rather than the tractor (vectis), thinking they would give me more control over the head; and my object of depressing the vertex and changing the presentation was by them fully attained. The compressing power of the forceps was of service in facilitating the required change.

In giving more time before instrumental assistance, I thought it possible, that the case might terminate naturally by a face presentation; however, the patient having become greatly fatigued with her severe but fruitless pains, and as serious consequences were to be feared from further delay, I finished the labour.

CASE XXXIX.—*A fourth labour; contraction of pelvic arch; two of the previous labours had been instrumental, and the children lost; delivery by the forceps under chloroform; child, a male, living. Mother did well.*

December 15th, 1856, at 5¼ a.m., I was requested to see Mrs. B—, æt. 38, the wife of a professional friend, in labour with her fourth child. Health delicate. Pains had existed more or less for two days. The liquor amnii, however, did not escape till 4 this morning; the os uteri was at that time fully dilated.

*Present state.*—The head at the outlet; face to right synchondrosis; contracted pubic arch; severe pains present; no swelling, nor heat of the genital passage. The patient very importunate for chloroform.

*History of previous labours.*—Her *first* labour, which I did not attend, was completed by craniotomy by another physician. The *second* child, proving smaller, was born without instrumental interference. The *third* labour I was summoned to, after the second stage had been protracted many hours, and I delivered her by the forceps; but the child had, it appeared, been dead some little time, though not decomposed. It was believed by the husband, and I thought it probable also, that earlier aid would have resulted in a living birth, on that occasion.

*Treatment in the present labour.*—Under the above circumstances, I determined again to deliver by the forceps. I first placed my patient under chloroform, to annul her severe sufferings. The bladder was also emptied of a little urine. The forceps were introduced, and I succeeded, by their means, in extracting a male child in full vigour of life. The patient had, for some weeks afterwards, an attack of pain in the leg and thigh, which appeared to me of a neuralgic character, unattended by fever, swelling, or redness, but accompanied by great debility. Except for this affec-

tion, which she had had before, and which yielded to tonics, suitable local applications, and country air, this patient did very well.

*Remarks.*—But for the patient's debility, present sufferings, and the history of former labours, I should certainly not have applied the forceps till after the lapse of more time.

CASE XL.—*A primiparous labour; arrest of head at outlet for eight hours; exhaustion; delivery by the forceps of a living child. Good recovery.*

In the month of June, 1857, at 4 a.m., I was consulted by Mr. Samuel Gardner, of New Church Street, Edgeware Road. The patient, æt. 24, in her first labour.

The liquor amnii had been discharged several hours; the os uteri fully dilated; the head had been at the pelvic outlet, under strongly bearing pains for eight hours. The bladder had required relief by the catheter.

*Present state.*—Pulse 130, and weak; patient greatly fatigued. Head at outlet, not wedged, face to right synchondrosis; no sign of the child's death; evident disproportion between the size of the head and the lower pelvic aperture.

Seeing no prospect of a living birth under the natural efforts, the bladder was now again relieved of its contents by an elastic catheter, and delivery by the forceps of a living child was accomplished, after careful and intermitted traction of a few minutes. The patient progressed so favorably, that she was able to sit up a little, at the end of a week, and had a quick recovery.

*Remarks.*—Further delay would have rendered useless any application of the forceps, and would soon, in so weak a subject, have induced serious consequences to the mother.

CASE XLI.—*A primiparous labour; arrest of head at outlet for four hours; delivery by the forceps of a living child. Mother did well.*

June, 1847.—The patient's age 21; her *first* labour; the head had been at the pelvic outlet for four hours, under violent parturient action, with a fully dilated os uteri.

*Present state.*—No pyrexia; head at outlet; the face in the first or right posterior oblique position; os uteri obliterated; vagina of ample width and relaxation; perinæum not rigid; evident want of room at the pelvic outlet for the passage of the head.

Though there was no pyrexia nor heat of parts, I thought it better to resort to delivery now, when the prospect of a happy result was so good, than to delay till swelling, heat of the genital tissues, and inflammatory fever had declared themselves.

*Treatment.*—After relieving the bladder, I passed the blades of the forceps at the sides of the pelvis, easily locked them, and thus delivered the patient of a large child living.

Mr. Pascall, who consulted me in this case, informed me, that the patient recovered without a single bad symptom.

CASE XLII.—*A primiparous labour; arrest of head at outlet for five hours; forceps delivery, child living. Mother did well.*

August, 1847. Patient's age 24. First pregnancy. The liquor amnii had escaped twenty-four hours; the head had

been at the outlet, under violent bearing pains for five hours, producing much turgescence of the features.

*Present state.*—Head at outlet in the second oblique position. Vagina and perinæum well relaxed. The bladder was relieved of its contents, the fœtal pulsation was distinct on auscultation, and so the life of the child was evident.

To save the child, to relieve the patient from her sufferings, to guard against results of too long-continued pressure by the head on the maternal tissues, I determined on immediate delivery by the forceps. I introduced the blades along the sides of the pelvis, locked them easily, and with a few tractions brought the child into the world, living and healthy. The patient had an uninterrupted and quick recovery.

CASE XLIII.—*A second labour; arrest of the head in a transverse position for four hours; delivery by forceps of a living child. Mother did well. First labour unavoidably completed by craniotomy.*

October 20th, 1856, at 1 a.m., I was called by Mr. Wilkinson, of the Caledonian Road, to a patient under 30 years of age, in labour of her second child.

In her first labour I was also consulted. There was then impaction of the head, swelling and heat of parts, and I was under the necessity of delivering her by craniotomy.

In the present case the waters had escaped at 9 last night (19th). The head had occupied its present position four hours, but labour had set in on the previous evening (18th).

*Present state.*—No pyrexia, os uteri obliterated, vagina and perinæum not rigid, the head descended half-way into the pelvic cavity, no impaction; the face to right ilium.

The bladder was relieved by the elastic catheter, by Mr. Wilkinson, before the operation was commenced. The patient was now placed in the proper position, at the edge

of the bed. I now introduced the forceps, passed the upper or right pelvic blade behind the right cotyloid cavity, the lower blade in front of the left sacro-iliac joint, so as to apply them, as in all transverse positions is desirable, over the fronto-lateral and occipito-lateral regions of the child's head respectively.

They were passed easily to their destination, and locked without difficulty. Traction was made only during the pains, the locks loosened as usual during their absence; thus a continuous pressure on the child's head was avoided. After twenty minutes from the introduction of the instruments, the face having been rotated to the sacrum, the head was brought through. The perinæum received every care, and was not injured. The child's life was saved.

In a quarter of an hour afterwards the placenta passed into the vagina, and was thence removed by my friend, who has since reported to me that the patient had a perfectly good recovery.

*Remarks.*—The second stage and arrest of the head had continued four hours. The transverse position, which nature seemed unable to alter, was apparently the source of difficulty. There was no advantage, but the contrary, to be expected from delay, swelling of the soft parts and impaction was to be anticipated therefrom. Beyond the use of the catheter, no preparatory treatment was required. The forceps were therefore at once applied, and the case having been relieved in ample time to prevent mischief from the head's pressure, the patient's progress after delivery was entirely satisfactory.

CASE XLIV.—*A primiparous labour: arrest of head at outlet for six hours; forceps delivery, a male child born living. Mother did well.*

February 11th, 1850. A primipara, patient's age 29.

The labour had lasted thirty-six hours, the os uteri had been fully dilated *eight* hours; the head had been fixed in the pelvis fully *six* hours, when I was called.

*Present state.*—Parts unduly heated, face to left synchondrosis. Such being the state of the case, I applied the forceps, after having passed the catheter and removed some retained urine; a fine living male child was thus delivered. The placenta followed naturally, and the patient had a good recovery.

*Remarks.*—I apprehended, that longer delay would result in swelling of the vagina and scalp, consequent impaction, and a necessity for craniotomy. The forceps were therefore applied without delay.

CASE XLV.—*A ninth labour; arrest of head at outlet for five hours and a half; forceps delivery; child still-born. Mother did well.*

October 11th, 1851, at 8 a.m., I was called by the late Mr. Jones, of Portland Town, to a patient, æt. 35, in her ninth labour. The liquor amnii had escaped seven hours, the os uteri was fully dilated at their discharge. The head had been in the pelvic cavity for five hours and a half, under strong pains.

*Present state.*—Os uteri obliterated; the head in the pelvic cavity, face obliquely backwards to right synchondrosis; good pains; fœtal pulsation distinct; vagina moist; no heat of skin nor of vagina; perinæum not rigid; considerable tumidity of scalp.

I watched the case for an hour, to see if instruments could be dispensed with; the patient then getting restless, and the pains weaker, I applied the forceps, and with three tractions, during three successive pains, I brought the child through the outlet, the funis without pulsation; attempts

to resuscitate the child were of no avail: the placenta followed naturally, and the patient had a good recovery.

I may add, that this patient has had two living children since at single births, of good size, born without instrumental aid.

*Remarks.*—Would an earlier application of the forceps have saved the child's life? It is not improbable, but the result could not be anticipated. The death of the child could not be explained by the pressure of the forceps, which was of so short duration. This case may be contrasted with preceding ones, where the second stage under full action had continued longer; for instance, in one case as long as 6, in another as long as 8 hours, in another as long as 10, and in a fourth case longer still, and yet the children had been extracted alive by the forceps, and the patients did well.

CASE XLVI.—*A primiparous labour; head arrested at outlet for ten hours; forceps delivery, child living. Mother recovered.*

In the Spring of 1852, one Sunday morning early, between 12 and 1, I was called to a parochial patient in labour of her first child, her age about 25.

The liquor amnii had escaped at the commencement of labour, on Friday, at 6 a.m., the pains and dilatation of the os uteri subsequently proceeded slowly; the head had been in the pelvic cavity about ten hours.

*Present state.*—No pyrexia; patient feeble from insufficient food before her admission; the head descended almost to outlet. Considerable swelling of the soft parts there situated; retention of urine. The pains did not influence the presentation in the least.

Fearing an increase of swelling of the maternal structures, and consequent impaction of the head; after emptying the

bladder by the catheter, I delivered by the forceps, and the child was living and vigorous.

*Remarks.*—I did not think it necessary to adopt any previous constitutional treatment, as there was no febrile disturbance; and had there been any, the patient's reduced strength from poor living would not have borne any depressing measures. With the aid of good sustenance, her recovery was completed in the period usual after the most natural labour. I judged it advisable to complete the delivery by the forceps as the perinæum offered no impediment, and the patient was too feeble for further exertion.

CASE XLVII.—*A primiparous labour; arrest of head for ten hours at outlet. Forceps delivery. Living birth. Mother did well.*

November 23d, 1852. I was called by my friend, Mr. Davey, to a patient, æt. 29, in labour of her first child. The liquor amnii escaped twelve hours ago, the os uteri at that time being fully dilated. The head then underwent a gradual progress into the pelvic cavity during the next two hours; but during the *last ten* no progress had taken place, notwithstanding there had been a sufficiency of action.

*Present state.*—No febrile disturbance; head in pelvic cavity; face directed obliquely backwards to right half of sacrum; fœtal pulsation distinct; vagina and perinæum favorable for completing the case by the forceps. As mischief was to be apprehended from the continued pressure on the maternal structures without advance of the head, I delivered by the forceps. The child was asphyxiated at its birth, but was restored to vigorous life by the ordinary means. The placenta came away in ten minutes without assistance, and the patient did well.

*Remarks.*—In this exceptional case of arrest of the head in one position during ten hours without ill effects, we might have expected the accession of febrile disturbance,

and swelling of the maternal tissues; we might have anticipated a still-birth more reasonably, than in Case XVII of five and a half hours of arrest. It affords an instance of nature's providential moderation in her efforts, when obstacles oppose. Such exceptional cases cannot, however, disturb the general and safe rule already laid down as to time.

CASE XLVIII.—*A second labour; arrest of the head at brim for six hours and a half; transverse position, delivery by the forceps of a living child. Mother recovered.*

December 12th, 1857, at 9½ a.m., I was sent for by a professional friend to see Mrs. —, æt. 24; previous health moderately good, not robust; she had given birth to a living child, without instrumental interference, between two and three years ago.

The patient had reached the full term of this her second pregnancy, and the labour had begun, with the discharge of the waters, at 5 p.m. on the previous evening (Dec. 11th). At 3 a.m. the os uteri became fully dilated, and the head engaged in the pelvic brim. The pains had been weak and spasmodic, for which opium had been given with benefit.

*Present state.*—I found the patient fatigued; pulse above 100; no morbid heat, nor swelling of the skin, nor of the genitals; no distension of bladder to be felt above the pubes, nor in the vagina. The head is high up, engaged in the brim; the right ear behind the pubes, its helix to left ilium; the face therefore to right ilium. The head has been arrested for six hours and a half.

The catheter being first passed, and what urine remained in the bladder drawn off, the patient was brought to the edge of the bed, and the forceps (the oblique) applied respectively behind the right acetabulum, and in front of the left sacro-iliac joint.

The blades were easily locked, and I now drew down upon the head, resting at intervals, adopting the precautions specified in former cases. As the head advanced to the perinæum I inclined the face backwards, and so a living girl of full size was born.

*Remarks.*—There seemed no prospect here of nature being equal to the difficulty, which arose from the head not presenting at the brim in an oblique direction. It will be observed that I here used the oblique forceps, which consist of a long blade for application behind the acetabulum of that side to which the face is directed, adjusted over the fronto-lateral part of the head; the opposite being a short blade introduced in front of the sacro-iliac joint, applied to the opposite occipito-lateral part of the head. I was not satisfied of there being safe room for the ordinary forceps, and the oblique forceps I found most efficient.

This patient, I am happy to add, recovered without any puerperal illness whatever.

CASE XLIX.—*A twin labour; arrest of head of first child at the brim for four hours; delivery by forceps; second child born naturally. Mother recovered.*

November, 1857, I was consulted by a professional friend in a third labour; patient's age 33.

*Previous history.*—The patient had had two still-births after protracted labour; in the last I had been called in, and delivered her by craniotomy, the head having been impacted in the pelvic brim for several hours.

In the present labour the head had been arrested *four* hours, and, knowing what had happened before, my friend suspected a similar treatment might now be required. About fourteen ounces of blood had been taken from the arm before I was consulted, on account of much pyrexia, and morbid heat, with dryness of vaginal mucous membrane.

*Present state.*—The head had slightly entered the pelvic brim, with the face to the right sacro-iliac junction. Having removed what urine was in the bladder, only a small quantity, I applied the forceps along the sides of the pelvis, and delivered a female child living, and nearly of the average size of a single birth.

Therefore I was surprised on examining immediately afterwards to find the head of a second child presenting, its amniotic bag unruptured. I thought it very probable that, the passage having just been dilated by the first child, the second would come spontaneously. After a short interval the membranes were broken by the finger, and a male child of full size for a single birth was born living fifteen minutes later, by the natural efforts.

The two placentæ were connected together by membrane, but not by any intercommunicating vessels.

The patient recovered as quickly as after a natural labour.

CASE L.—*Difficult labour in a primipara, æt.* 33. *Head arrested in one position five hours; pyrexia; dry heat of vagina. Depletion. Delivery by the forceps of a male child, living.*

December 28th, 1857, mid-day, I saw, with a professional friend, a patient, æt. 33, in labour of her first child at full term.

*Previous history.*—Health good; liquor amnii escaped between eleven and twelve last night. The os uteri was fully dilated at twenty minutes before 7 this morning. The head then had descended half way into the pelvic cavity; no progress since, notwithstanding strong pains. In the course of the morning, the skin and mucous membrane of vagina having become hot and dry, the pulse hard; and injurious effects from pressure being apprehended, she had been bled to eighteen ounces.

*Present state.* Mid-day.—An abundance of olive brown coloured discharge is coming away from the genital surfaces; the os uteri obliterated; the vagina and soft outlet relaxed, not unduly heated; a puffy swelling on the head at the distance of about two inches from the outlet. The head itself had not further descended at 7 this morning. The small fontanelle now behind the right ramus of the pubes; the sagittal suture felt in the left oblique diameter.

The pains were now strong, yet they did not affect the presentation in the least. Passing my finger along the sides of the pelvis, I found sufficient room for my ordinary forceps, and, as there was no proof of the child's death, I determined to apply them. The patient's bladder was first relieved by the catheter, and being restless, so as to make the application of the forceps unsafe, she was placed under the influence of chloroform. This was easily accomplished, and in about fifteen minutes, including the intervals of rest, a male child, living, was born. The forceps were removed when the head bore upon the perinæum, that that structure might escape laceration.

The placenta was removed in due time, from a firm attachment to the uterus, and the patient was left doing well, strongly expressing her gratitude.

The following day—pulse 88; patient had had a perfect night's rest; urine had been passed in ample quantity, and with ease.

The recovery was uninterruptedly good.

CASE LI.—*Head arrested in lower portion of pelvic tube; patient in strong labour for seventeen hours; the waters escaped two days before labour. Delivery by the forceps of a fine male child, living.*

April 31st, 1855, 9 p.m., I was called to a patient in the Caledonian Road. It was her ninth labour; her age, 42.

The liquor amnii escaped on the morning of the 19th instant. Pains set in at 4 this morning, and from that hour till the present time, she has been in strong labour, and has become greatly fatigued.

The head had been in the pelvis four hours. On examining for the sagittal suture, I found it and the large fontanelle directed towards the right half of the sacrum; the head had not, however, yet reached the perinæum, and the pains, though strong, did not influence the presentation at all. To prevent the evils of too long delay, I determined, as there had been no progress for the above period, notwithstanding that the pains had been strong, to deliver by the forceps.

The catheter was as usual first introduced, the patien lying in the ordinary labour position. The patient was placed at the edge of the bed; the left-hand blade of the forceps was now passed in in front of the left sacro-iliac joint, then shifted to the side of the pelvis; secondly, the opposite or right-hand blade was similarly adjusted on the right side of the pelvis, and the blades locked easily.

I now applied traction and compression, and one effort brought the child into the world.

This patient had a perfectly good recovery.

# CHAPTER III.

## INDUCTION OF PREMATURE LABOUR.

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CASE LII.—*Induction of premature labour on account, of a relatively small pelvis, the children having always been too large to be born living.*

August 6th, 1840, Mrs. G., æt. 40, pregnant of her fourth child, was placed under my care by my late father, in consultation with whom it was determined, that I should induce premature labour, as he had been compelled on the last two occasions, on account of the large size of the children, to deliver her by embryotomy. Her first child was born without interference, being smaller. The patient is a healthy looking woman, with a pelvis of standard dimensions, and has advanced to the seventh month.

Ten days later I perforated the membranes with the blunt-ended stilet, passing it up along the palmar surface of my left hand and along the groove between my index and middle fingers, thus guided its point through the orifice of the uterus to the membranes.

She expressed great relief from the diminished tension after the dischage of the liquor amnii. The labour ensued sixteen hours after, and proceeded steadily; and on the 8th, at 5 a.m., a living child, of the ordinary full-term size, was

born. A rather free flow of blood following upon the child's birth, rendered the removal of the placenta necessary, after which the uterus contracted well, and there was no flooding. The patient had not a single bad symptom afterwards, and the child, a healthy boy, was living several years after, and, I believe, is so still.

This patient came to me in two subsequent pregnancies, and the same operation, the stilet alone being used, was repeated by me each time, healthy living children being born on each occasion. Upon the first operation, as I have stated, the labour supervened in sixteen hours; on the second in twenty hours; on the *third* occasion I endeavoured to induce labour by the ergot of rye, in conjunction with the removal of the mucus-plug by the finger. I gave half a drachm of a good specimen of the drug in powder in a little water, every twenty minutes, till ʒiij had been taken, but without the slightest effect. On the following day, therefore, I stiletted the membranes, and in twenty hours and a half the pains of parturition commenced.

### Case LIII.—*Deformity of the pelvis by rickets.*

In the spring of the year 1834, I was requested by my late father to take charge, in her approaching confinement, of a patient advanced in the ninth month of pregnancy. She was of small stature, and deformed by rickets. Her last two labours were terminated by the crochets, in consequence of contraction at the brim of the pelvis, the one by my father, the other by my friend Mr. William Bagster. She had been fully cautioned to apply in time for competent advice at the seventh month of any succeeding pregnancy, with a view to the induction of premature labour, but she had neglected to do so.

When she was taken in labour, the brim of the pelvis was found to exhibit a very short conjugate diameter, and it

soon became apparent, that delivery by embryulcia was the only practicable plan. I therefore adopted that method; considerable reduction of the skull was required prior to extraction.

In a few months later, the above patient again conceived, and having been seriously lectured on her conduct on the last two occasions, in causing, after full warning of consequences, the sacrifice of her child, she called upon me at the seventh month, and at an appointed time I visited her, and stiletted the membranes. Labour supervened on the seventh day, and the birth of a healthy living boy was the result. I saw this boy fourteen years later, when he was well grown and healthy.

In the year 1835 and 1836 I was on the continent, so a friend attended her for me and delivered her of another child by premature labour, but the child did not survive.

In due time she was again pregnant, but unfortunately, through an error of a homœopathic practitioner, she was treated for dropsy, till labour set in, when he took his departure, and I was sent for; I was obliged, in this her last confinement, to deliver her by craniotomy. She did well, being up and about within the month.

## Case LIV.

May 26th, 1850, Mrs. S., æt. 28, third pregnancy, advanced between seven and eight months, was seen by me pursuant to appointment, for the purpose of having labour induced. Her health good.

*Previous history.*—Twelve months before I had been summoned by the surgeon in attendance to see this patient. The head having been impacted in the brim of the pelvis for several hours; the parts dry and heated; the patient exhausted, I was obliged to deliver her by craniotomy. At her first labour she was delivered by the forceps, but such

was the prolongation of the pressure by the blades on the child's head, that it survived its birth only a few hours.

I find a nipply projection of the cervix uteri into the vagina, and the orifice, as occasionally happens, after previous pregnancies, readily admitted the finger into contact with the child's head. I calculated that she was six weeks short of the full term of her gestation.

I passed a piece of soft sponge of a globular form of three inches diameter to the top of the vagina, insinuating a small piece of it into the cavity of the cervix; I then passed up another to support it, and ordered ergot of rye. At the end of two days there had been no labour pains, I now removed the sponge and stiletted the membranes, and left her with the liquor amnii dribbling away. One ounce of castor oil to be taken in the morning. On the following day, after a few doses of ergot, labour pains commenced, upon which the ergot was at once withdrawn; in four hours after the os uteri had dilated to the diameter of a five-shilling piece, but was rigid; to remove that state I prescribed tartar emetic in small doses. Nausea and vomiting followed, and after the lapse of two hours, the os uteri was softened. Labour now steadily progressed, and a healthy living child was born in the course of the evening. It was not strong enough to relieve its mother's breasts, till they had been drawn, but after that it took to the nipple vigorously, and did well. This patient became twice subsequently pregnant; I advised non-interference on each occasion, and she has each time given birth to a living child.

### Case LV.—*Induction of premature labour for distortion of the pelvis.*

September, 1851, I was consulted by Mr. Stewart, surgeon of St. John's Wood, about a patient advanced in pregnancy, having distortion of the limbs, and of the brim

of the pelvis. She had previously been delivered by craniotomy.

I found a conjugate diameter of only $2\frac{3}{4}$ inches. I advised the induction of labour in a fortnight hence; her present advancement in pregnancy is seven months. The process was induced at the period agreed upon, and an ethereal essence of ergot produced the desired expulsive action. The child was however still-born.

## Case LVI.

March 10th, 1852, I performed the operation for the induction of premature labour for Mrs. —, æt. 28, at seven and a half months, by stiletting the membranes, after other measures had failed. During the previous week I had dislodged the mucus-plug by my index finger; I effected also the separation of the membranes for a short distance. Ample doses of good freshly powdered ergot were also given at first every four, afterwards every two hours, and a sponge plug was passed up; some trivial pains and slight increase of dilatation were the only results.

After the discharge of the waters, at 10 a.m., an enema was exhibited, and to favour relaxation of the os uteri one eighth of a grain of tartar emetic was given every hour.

At $1\frac{1}{2}$ p.m. I found the head partly descended into the pelvic cavity, and the os uteri three fourths dilated; mucus abundant.

In an hour later the os uteri was fully dilated, the case progressed favorably and ended in the birth of a living child at 3 a.m. The child thrived well for a few days on a good wet-nurse, but was then attacked by jaundice, which proved fatal.

The patient's first labour, which I also attended, was an exceedingly difficult and protracted one, and considerable reduction of the skull was required to effect delivery;

therefore I had counselled the induction of premature birth in the subsequent confinement.

She became again pregnant, and I was encouraged by the result of the last labour, to suggest her going to the full time. After anxious fears expressed, lest the child should be again lost, as at the first labour, by allowing it to proceed to full term, my advice was taken, and the result was such as the parents fondly wished. That child is now living and healthy.

# CHAPTER IV.

## CRANIOTOMY.

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CASE LVII.—*A labour obstructed by large size of the child; inflammatory fever before and after delivery; depletion; craniotomy. Good recovery. Remarks.*

Friday, February 3d, 1837, at 4 p.m., I was requested by Mr. T. Vawdrey, now of St. Austell, Cornwall, to see a patient of the Northern Dispensary, a robust Irishwoman, in labour of her *third* child.

Her two previous confinements had been instrumental, and still-births. The "waters" had escaped five hours before my visit; the os uteri at the time fully dilated; strong bearing pains had returned at short intervals ever since.

*Present state.*—The pelvis appears of standard dimensions; head rests on the brim, moveable between the pains, with the small fontanelle to left acetabulum; no headache, no pyrexia, expression good; fœtal pulsation audible over the uterus, most distinctly between the anterior superior spine of the ilium and the umbilicus.

I advised a further reliance on the natural efforts.

Visit at 7 in the evening. The pains had been strongly bearing, but now are flagging. The skin dry, vaginal

mucous membrane dry and hot, pulse hard; fœtal pulsation still audible. To guard against subsequent mischief our patient was bled to faintishness, sitting. After this, the skin was moist, vagina also, and of natural heat; pulse soft. I hoped by thus relaxing the genitals, instrumental delivery would not be required, and that at all events, the patient would in this way be saved from inflammation.

Two hours later, no progress; the head impacted in brim. The fœtal pulsation had ceased. This consoled me in performing craniotomy, which was now inevitable.

The bladder being first relieved by the catheter, I passed up Smellie's perforator, as improved, and by a boring pressure pierced the skull in the centre of the presentation. The instrument was now pushed in up to the stops, and a bearing being made on the sides of the opening, the handles were separated, first in one direction, and after giving the instrument a quarter turn, then in the opposite; thus two fissures were made, to cross each other at right angles, also an ample aperture. I then divided the membranous partitions of the dura mater, and broke down the cerebral substance.

The internal guarded crotchets were now taken up, the armed blade guided along the palmar surface of the left hand and fingers into the skull; the points of the teeth being applied against a posterior and lateral part of it. The outer or guard blade was then conducted carefully by the fingers of the left hand, in parallelism with the first blade, on the corresponding outer surface of the head. The instruments were now locked, the handles tied together, and traction made, during which the cerebral pulp escaped. The head collapsed and advanced, but the child proving large, as in the case of her two previous children, the delivery, with the requisite care, occupied half an hour.

Till the third day, the patient progressed satisfactorily. Then she was seized with a severe rigor; pulse 100, hard; pain in right iliac, and suprapubic regions; skin hot and

dry; coughing and inspiration aggravated the pain; lochia scanty; breasts not charged with milk.

*Treatment.*—Bloodletting to fainting, after which the pulse was 60, and soft; the skin moist and less heated.

Some tenderness yet remaining, a blister was applied.

On the following day, the blister had vesicated well, and the pain had ceased.

The case, henceforth, went on favorably under the care of Mr. Vawdrey, who attended strictly to the requisite cautions as to diet, &c. Before the puerperal month had elapsed, the patient reported herself quite well.

*Remarks.*—I felt justified, in this case, so long as there was proof of the child's vitality, and no local nor general symptoms pressed for delivery, to give nature full opportunity to complete the birth. I did not try the long forceps: the history of the former labours, and the absence of those favorable circumstances which should justify the trial, decided me against them.

The large size of the patient's children was the cause of her difficult labours, and as there was every reason to expect a repetition of the same, I advised her in future to have premature labour induced at seven and a half months.

CASE LVIII.—*A difficult labour, from contracted pelvic outlet; a tentative employment of the forceps; craniotomy delivery; a threatening of pelvic inflammation; depletive treatment. Good recovery.*

September, 1837, I was called by Mr. Plomley, then a student of University College, to a difficult labour, from contracted *outlet* of the pelvis.

Labour had existed for several hours; the head at an early period had descended to the pelvic outlet; but although the soft parts were lax, and the pains strong, no

further advance took place, in consequence of the inferior aperture of the pelvis being small. There had been much vascular action excited by the strong, but unavailing struggles.

To save the patient from ensuing mischief, bloodletting to a judicious extent had been adopted. I passed the catheter, according to the safe rule. Finding, from the fœtal pulsation, that the child was yet living, I was induced, ere resorting to craniotomy—for delivery was urgent—to employ the forceps tentatively. They locked easily; but after a full trial, as no advance was effected by them, I withdrew them.

I then perforated, and delivered by the guarded crotchets, as detailed in the last case. The placenta followed entire without difficulty.

The next day, I found this patient very feverish, with a full bounding pulse 120, tongue coated with a white fur. There was every reason to fear pelvic inflammation. Mr. Plomley bled the patient at my suggestion in the sitting posture, and to fainting. The febrile state was thus subdued, and the patient's subsequent convalescence, from that time, was uninterrupted and complete.

*Remarks.*—Had the forceps, though they locked perfectly, and were applied only for a short time, any share in the production of the above constitutional disturbance? It is probable; but my anxiety to save the child tempted me to their use, as a last resource, and that object justified me in trying them. The previous pressure of the head on the soft parts, most likely also contributed to the subsequent symptoms. These having been promptly met by the appropriate remedy, a dangerous form of inflammation was most probably prevented.

CASE LIX.—*A difficult primiparous labour, contracted pelvic brim. Ovarian disease. Craniotomy; the forceps in previous application. Death from vaginitis, and hysteritis ending in gangrene. P.M. inquiry. Remarks.*

Tuesday, February 19th, 1839, at 11 p.m., I was requested by a surgeon, now some years deceased, to see a patient, æt. 22, in her first labour.

Pains commenced on Sunday at 4 a.m., continued brisk through that day and night and succeeding Monday; the waters did not escape till 6 this morning (Tuesday). At 2 this afternoon the head nearly reached its present position, half-way descended into the pelvic cavity, with considerable protrusion of scalp. Ergot of rye had been given, as the pains had greatly decreased in strength.

Sacral promontory projects abnormally; pulse hard, 110; skin hot and dry. The forceps had been in application a quarter of an hour, but no progress had been effected by them. They were at once withdrawn at my suggestion; some blood appeared on the blades on their removal. As there was a dry, hot skin, a hard, full, bounding pulse, intense heat of the vagina, I was apprehensive of the consequences of this labour to the patient, and privately communicated to my friend to that effect.

On account of the inflammatory fever in the case, and, if possible, to save the parts from subsequent injury, I advised bloodletting. This was done, after which the skin was moist, and the patient expressed marked relief. As there had evidently been an insuperable obstacle in the case, and further delay could be productive only of increased risks, I decided on craniotomy without delay, perforated the presentation at its centre, emptied the cranial contents, and delivered by the crotchets. The operation was thus easily, but without haste, completed in ten minutes. The

uterus contracted well, and the placenta was thrown off without difficulty,

Wednesday.—No urine passed; pulse 120, small. The catheter was introduced and a few ounces of urine removed. Considerable tenderness of abdomen and in left iliac region.

Later, agonising pain in the sacral region, sense of stiffness, intense heat and throbbing in the pelvic region generally; vaginitis had indeed set in, which, notwithstanding every effort to subdue it, ended in gangrene, proving fatal on the sixth day after delivery.

*P. M. inspection.*—We found the body in good condition. Lying loose, unadherent, in the hollow of the sacrum, where the cul de sac of peritoneum dips down behind uterus and upper part of the vagina, was the right ovary, enlarged to the size of a human kidney, filled with a soft pultaceous matter; it could be raised above the brim, not being adherent. Conjugate diameter less than standard by half an inch. The ovary, which had probably increased the difficulty, was of a grey colour on its surface; it appeared to have been exposed to pressure. The left ovary presented a pea-sized prominence on its surface, but was not enlarged. The left Fallopian tube slightly distended with gas, and red with vascularity. At upper part of cervix uteri posteriorly, a purplish discoloration. The mucous membrane lining uterus and vagina of a brownish-grey colour, of pulpy consistence, putrescent odour. At one point of vagina an appearance of laceration at one side, which would seem to have been occasioned by the point of the forceps. The parts were presented to the late Sir Robert Carswell, for the museum of University College.

*Remarks.*—As the above case is practically instructive, and the mention of it now, for the first time, can hurt no one's reputation, I have added it to these illustrations. The points of the case are sufficiently clear. It may be inferred, that the long continued pressure of the head, and

a rash employment of the forceps, by one not acquainted with their proper use, had produced the fatal inflammation in this young woman, who probably, however, would sooner or later have sunk from her ovarian disease. The ergot of rye, it should also be observed, was not rightfully indicated in this case of obstructed labour.

CASE LX.—*Contraction of pelvic brim by rickets. A twelfth labour, induced at eight months; nevertheless, after many hours' violent action, craniotomy became unavoidable. Recovery good.*

June 13th, 1839, 7 p.m., I attended, by request of Mr. Langley, a *twelfth* labour. Patient of short stature, æt. 37, pelvis deformed by rickets. The previous children had been delivered either by cephalotomy, or otherwise, with great difficulty, at periods a little short of full term.

This labour had been induced by the stilet at the *eighth* month, after advice given at her previous confinement; she had now suffered strong bearing pains for several hours.

*Present state.*—Face purple from congestion, through violent parturient efforts; skin hot and profusely perspiring; pulse 130, full, but soft; the orifice of the uterus nearly fully dilated; a small slip in front, and another behind the head, swollen; no protrusion of scalp nor overlapping of the cranial bones; head high up and fixed, even between the pains. This had been the case several hours.

Uterine rupture was dreaded, delivery therefore urgent, and as no other mode could be adopted, it was accomplished at once by craniotomy, as detailed in preceding cases.

The patient's subsequent recovery was uninterrupted by a single unfavorable symptom. I suggested to her, that if again pregnant, labour must be induced at seven months.

CASE LXI.—*Difficult labour from arrest of head, with face to left ilium; inflammatory action subdued by treatment; forceps tried; delivery by craniotomy; uterine inflammation; depletion. Perfect recovery.*

Friday, July 5th, 1839, at 7 p.m., I was requested by Mr. Nance, an intelligent student of University College, to visit M. M., æt. 26, in her first confinement. Labour pains set in at 12 preceding night; at 6 in the morning the os uteri had attained to a shilling diameter; at 10 the waters came away; the case steadily progressed up to midday, then the anterior lip became swollen, rigid, embracing the head. At 4 p.m. a protrusion of scalp took place. At a quarter-past 6, the anterior section of os uteri was still rigid, embracing the head, which seemed to Mr. Nance to be impacted. The parts also getting heated, the patient was bled, upon which the os uteri became relaxed and fully dilated.

*Present state.*—The pains recur every two or three minutes, the left ear behind symphisis pubis; the occiput to right side of pelvis; much protrusion of scalp; scarcely any overlapping of the cranial bones; the greater mass of the head as yet above the brim; no part of os uteri to be felt. The bladder empty, having been attended to.

Judging, that space sufficient existed for them, I now applied the *oblique forceps* diagonally on the head; they locked easily. My object was, after compressing the head with them, to bring it lower down, and then to rotate the face to the sacrum. No advance was obtained by the forceps; I therefore did not persist in my endeavours, lest mischief should arise. I now determined, as the vascular system had been relieved, to give more time, hoping that the head might even yet, be moulded into suitable dimensions for its passage through the pelvic canal.

At my visit two hours later, I found that no progress whatever had been made; I therefore delivered the patient by craniotomy, to prevent the mischiefs of further delay. The perinæum required some caution, during the passage of the child through the soft outlet. The placenta was expelled without difficulty.

July 6th.—The bladder had responded freely, lochia moderate; skin dry, not heated; slight pain in back and hypogastrium. At 7 p.m. the skin had become hot and dry, urine scanty and high coloured; the patient complained of shooting pain in the back, and tenderness over the uterine region; pulse 100, hard; lochia much diminished.

It was evident from these symptoms, that there was inflammation commencing within the pelvis. Bloodletting was therefore adopted to faintness, upon which the skin became moist and of natural temperature. After this, as there was yet some pain left, I had ten leeches applied to the neck of the uterus; a part of these did their duty well, thus a plentiful discharge of blood was obtained directly from the inflamed part. A dose of calomel and morphia was given at bedtime, to be followed by castor oil in the morning.

July 7th.—Some tenderness still in the hypogastrium; more leeches were applied above the pubes, and the pill was repeated at night, the oil in the morning.

July 8th.—The pill was omitted. Lochia abundant; firm pressure can now be borne at hypogastrium.

She now went on well for some days, when, from catching cold, an attack of cystitis appeared. This was readily reduced, and her recovery, though gradual, was perfect in every respect.

*Remarks.*—In the above case, I am disposed to the opinion, that had delivery been accomplished a few hours sooner, had there been less anxiety felt to save the child, the inflammatory action which ensued, would not have happened, or at least would have been less severe. The

maternal tissues, however, were saved from injury by watchfulness and appropriate treatment, and there was no reason to suppose, but that, if again pregnant, the patient's labour, with a good presentation, would have a favorable issue.

CASE LXII.—*A difficult primiparous labour; head arrested nine hours, face to the left ilium; green bilious vomiting; delivery by the perforator and crotchets. Good recovery.*

November 6th, 1839, at midnight, I was called by Dr. H. B. C. Hillier to a patient about 30 years of age, of middle stature, delicate constitution; her first labour. She had vomited a large quantity of green bile in her labour. The pains of parturition set in twenty-four hours ago, the waters have been discharged *nine* hours; the head has been pressing strongly on the soft parts lining the pelvis, ever since that event, with no change, excepting increased tumidity of scalp.

The bulk of the head is still above the brim, left ear behind symphisis pubis, face to left ilium; a small portion of anterior lip of uterus undeveloped in front; the pulse hard and quick.

She was bled to ten ounces; the bladder relieved; and the forceps being contra-indicated by the complete impaction, I completed the delivery by craniotomy.

There was hour-glass contraction, but no great difficulty in removing the placenta.

The recovery was uninterrupted and perfect. The patient had often, before pregnancy, had similar vomiting, but not, I understood, in such large quantity. Whether the head had originally been in the above position, or was a transition from the third position, was not known.

CASE LXIII.—*A second labour; head impacted; inflammatory fever; V.S.; delivery by perforation, &c. Good recovery. Remarks.*

Saturday, December 7th, 1839, at 1 p.m., I was requested to visit M. R—, æt. 23, in labour of her second child. Her first had been stillborn, without instrumental aid.

*Previous history.*—Very trifling pains had commenced on Thursday evening. She was first seen by her medical attendant, Friday, at 6 a.m.; the pains were then stronger and more frequent. At 6 in the evening, the membranes broke, head presenting; pains occurred at short intervals, and were strongly bearing during Friday night. This morning at 6, the pains had abated, and a considerable tumour of scalp projected within a short distance of outlet; the os uteri anteriorly tightly encaps the head; skin hot, dry. Thirst.

Sixteen ounces of blood were taken from the arm; a temporary increase of pains followed, but the os uteri remained as before.

*Present state.*—Head impacted in the pelvic brim, much protrusion of scalp; anterior segment of os uteri tightly embraces the head; genitals hot and dry; pulse 110; great turgescence of the face; the bladder empty, having been relieved.

I ordered venesection, which was carried to eighteen ounces; shortly after this the os uteri became obliterated; the patient felt cooler and more comfortable; the vaginal mucous membrane, as well as the skin, were now of natural temperature, soft and moist.

Half-past three, p.m.—No progress; the impacted state of the head, which has existed now for twelve hours, is unaltered; the pains as feeble as before. Further delay being unsafe, the delivery was now completed by the perforator

and guarded crotchets. The placenta was expelled naturally, and the uterus contracted well; the pulse, an hour after delivery, was 80. The child was above the average size, and a male.

8th. Ten a.m.—No pain; the patient had slept well without an opiate; had passed water; pulse 78. Castor oil, six drachms, to-morrow morning. The ordinary management after a natural labour was pursued; no bad symptom occurred. I told the patient, that she would next time most probably have a living child; and here I may state that she has, in this respect, had her wish gratified.

*Remarks.*—The depletive treatment adopted during the labour, no doubt ensured a prosperous convalescence. The entire duration of this labour was thirty-six hours; of this period, fifteen hours had elapsed before the rupture of the membranes took place; of the remaining twenty-one hours, the head occupied a fixed position during the last *twelve*. In most cases, it would not be safe to allow of the head's pressure upon the same tracts of tissue for that time, but experience, founded on an accurate observation of the points of each case, and supported by correct principles, will guide us, as to the extent, to which we may safely trust in nature. The difficulty arose from the large size of the child, and the abatement of the pains was providential, seeing that the obstacle was not to be surmounted.

Under the general and local circumstances of this case, with the timely treatment to which it was submitted, the delay incurred was justifiable, and the more especially, when it is borne in mind, that our patient's first child, although stillborn, was expelled at the full time without artificial aid. That there was room for the passage of a child of average size, was apparent on careful examination of the pelvis, after the birth of the child. The result, as I have stated, has confirmed my opinion, a full-term living child having been born since, without instrumental aid.

CASE LXIV.—*A primiparous labour; head arrested nine hours and a half; face to left ilium; delivery by craniotomy; a previous unsuccessful attempt to apply the forceps had been made; inflammatory action afterwards subdued by depletion. Perfect recovery.*

Monday, October 11th, 1841, at 2 a.m., I was called by Mr. Baker, then of Grosvenor Street, Grosvenor Square, to Mrs. —, æt. 33, a healthy subject, in primiparous labour.

The liquor amnii had escaped on Thursday. On Saturday evening, there was no dilatation of the os uteri, though there had been labour pains and abundant secretion of mucus; but very soon, this process commenced, and the uterine orifice was obliterated at six last evening (Sunday). Latterly the pains had flagged, and ergot of rye had been given with temporary increase of action, but with no other result. The forceps had also been applied before my visit, but as their locking could not be effected, they were withdrawn.

*Present state.*—The head half descended into the pelvic cavity; left ear with a hand beside it, felt behind the symphisis pubis, face to left ilium; uterine orifice fully dilated; mucus abundant; pulse 86, soft.

Attempts to replace the hand had failed; after a further delay of an hour and a half, in the hopes that nature might yet be able to complete the labour, a cautious trial of the forceps was made, but only one blade could be passed.

I therefore, after emptying the bladder, delivered the patient by embryotomy; the placenta followed without difficulty.

This patient had a threatening of pelvic inflammation after delivery, which was treated by venesection, calomel, and opium, &c. The blood taken, eighteen ounces, was strongly buffed and cupped. The patient henceforward progressed favorably, and had a perfectly good recovery.

CASE LXV.—*A third labour; liquor amnii escaped at first; head presents with large fontanelle to right acetabulum; head wedged in brim four hours, strongly pressing on brim five hours previously; pyrexia, &c.; craniotomy; child weighed eleven pounds. Good recovery.*

June 14th, 1842, at 10½ a.m., I was called to E. C., æt. 30, a healthy subject, in her *third* labour. Her two previous children, though living, were born with difficulty. Labour had commenced yesterday at midday, with the discharge of the waters.

*Present state.*—A hot, dry skin; vagina morbidly heated; pulse 130; anterior lip of os uteri much swollen. Head presents, with the anterior fontanelle behind the right acetabulum; much tumidity of scalp.

*Treatment.*—Bleeding to faintishness in the sitting posture. I now suggested a longer trial of the natural powers.

Visit at 4 p.m.—More protrusion of scalp, but the cranium itself is wedged in the brim. I resolved now, as the head had been completely impacted for four hours, and the tissues at the brim, had been under strong pressure altogether for nine hours, to delay no longer, but to resort at once to craniotomy.

The usual proceedings, before detailed, having been gone through, the delivery was accomplished by the perforator and crotchets. The child, was a male, and after lessening, weighed eleven pounds.

On a more particular examination of the conjugate diameter, I found that, as taken obliquely from the apex of the pubic arch to the sacral promontory, the tip of the index finger resting on that projection, it measured 3⅞ inches, and allowing, as we should do, half an inch for the obliquity of the line and intervening soft structures, the sacro-pubic diameter was therefore 3⅜ inches.

The placenta followed easily; the pulse, which before delivery was 130, now fell to 110; the uterus contracted firmly. Hydrochlorate of morphia and calomel in a pill.

June 15th.—The patient had had a good night's rest; no pain; no pyrexia; pulse 90, and jerking; urine passed easily, not high coloured; bowels not open. A dose of castor oil. Visit p.m.—Bowels open three times, no pain, pulse as before.

June 16th.—No pain, tongue clean, no heat of skin nor thirst; lochia free; urine natural; pulse 110, and jerking.

June 17th.—No pain nor heat of surface, tongue clean, urine natural; pulse 130, and jerking.

*Remarks.*—Nothing afterwards occurred worthy of mention, excepting the peculiarity of the patient's pulse, which I found, on inquiry, equally belonged to a brother and sister in good health. With such a pulse and other symptoms, as hot, dry skin, hypogastric tenderness, scanty or suppressed lochia, one might have suspected some inflammatory action in the pelvic organs; those pyrexial symptoms being absent, made me quite easy about the patient. I should observe that there was no morbid sound in the action of the heart, either at base or apex.

CASE LXVI.—*Obstructed labour; child large, arrested eight hours; forceps tried; delivery by craniotomy; inflammation of vagina and uterus; V.S. Good recovery. Remarks.*

July 10th, 1843, at 2 p.m., I was called by a surgeon at the west end of the town, to a case of difficult labour in a lady, æt. 30, of previous good health, Labour had set in the previous afternoon; the liquor amnii had escaped the night before, the os uteri being fully dilated.

*Present state.*—The head, with face obliquely backwards, has partially descended into the pelvic cavity, but has not

advanced for *eight* hours; no pyrexia; pulse soft, 100; no evidence of plethora; parts over-heated, yet moderately moist; no positive proof of the child's death.

*Treatment.*—I introduced the catheter, and then applied the forceps, the respective blades being passed over the head, at the sides of the pelvis; the locking of the instruments was easy. After I had applied cautious traction, for as long a period as I considered safe, without any effect, I removed them and had recourse to craniotomy. The brain was freely evacuated, and the delivery was accomplished by the guarded crotchets. The child proved to be a male of large size; the placenta followed easily without hæmorrhage.

July 11th, half-past 10 a.m.—She had slept well during the night without an opiate; had passed water without inconvenience. No fever, nor pain.

12th, midday.—Throbbing in hypogastric region; severe pain in the sacral region, which had prevented her sleeping; pulse 110, hard and full; skin hot and dry; tongue coated with a whitish-brown fur; much frontal headache; some previous chilliness. On examination, I found the vagina and os tincæ tender and swollen, the parts much heated, the lochia scanty.

*Treatment.*—A vein was opened in the arm, and the patient, being placed in the sitting posture, was bled to fainting; twenty ounces of blood flowed before that event. The pain was removed and did not return; the skin became moist. The patient afterwards took tartar emetic one grain, ipecacuanha one scruple, as an emetic; this acted also freely, with good effect, as a purgative.

13th.—She had had good sleep; pulse 85, soft; no return of pain. She was in fact convalescent. Due caution as to diet, &c., was judiciously observed by my friend, who afterwards informed me, that his patient had no relapse, and was able to leave her room at the usual period.

*Remarks.*—The difficulty in this case was due, not to

want of parturient action, which was quite sufficient, but to resistance occasioned by the large size of the child. Full time having been given to the natural efforts, and a reasonable apprehension of what might be the result of more prolonged pressure on the maternal tissues, determined me at once to interfere. In the absence of proof of the child's death, the forceps were tried, there appearing to be sufficient room for their use. The patient's general condition did not warrant previous depletion. The forceps, as was seen, were of no avail; accordingly cephalotomy was adopted.

If we inquire, whence arose the subsequent inflammation, we may assign a principal part to the pressure of the head; yet we must fully admit the possibility that the forceps, although applied upon clearly legitimate grounds, might, in a predisposed state of parts, have contributed a share. That the pressure of the head, however, *per se*, upon the same points of soft structure, for a period of less than ten hours, may produce serious effects, was remarkably instanced in one of the cases detailed in these pages. (April 25th, 1844.)

In the instance of the above lady, the attack of inflammation of the vagina and uterus, distinctly evident on the second day, with high fever, was speedily met by adequate measures, and therefore readily yielded.

CASE LXVII.—*Difficult labour from rickets. Delivery at full term by craniotomy. The patient had never had a living child at term; the last labour induced prematurely.*

May 9th, 1844, I was called to a patient of short stature, in labour at full term.

In consequence of deformity of the pelvis from rickets, she had been delivered in all her labours but the last, by craniotomy.

On that occasion, I saved her child by the induction

of premature labour, which was to have been repeated in future; but through the error in diagnosis, of a homœopathist, and her own notion that she was not pregnant, her case had now, up to labour, been mistaken and treated for dropsy. The nature of her complaint became *at length* apparent to the above individual, he bade his adieu, and my services were sought.

I found the os uteri fully dilated, the vagina unduly heated; a conjugate diameter of barely two inches and three quarters. On account of this contraction of the pelvis, and the unusual ossification of the child's head, I had to make use of the osteotomist, as even the complete removal of the cerebral substance did not sufficiently reduce the head, for its passage through the pelvis. I then completed the delivery easily, by the guarded crotchets. The placenta gave no trouble.

The patient's recovery was uninterruptedly good.

CASE LXVIII.—*Disproportion at pelvic brim; head impacted; bladder distended, relieved by elastic catheter. Os uteri rigid. Delivery by craniotomy; osteotomist required. Recovery good.*

One Tuesday in October, 1844, at 5½ a.m., I was consulted by Mr. Roper, of Somers Town, in a case of protracted labour, in a patient æt. 38. The process had commenced with the discharge of the waters, on the previous Saturday evening; the os uteri, opening very slowly, had reached its present dilatation, three fourths of full expansion, yesterday (Monday) morning. On account of rigidity of os uteri with pyrexia, Mr. Roper had bled the patient to sixteen ounces. She had passed water in the morning of yesterday, but later in the day, it had become necessary to pass the catheter.

*Present state.*—Anterior lip of os uteri swollen and rigid

tightly encapping the head; bladder felt distended above the pubes. The head is impacted in brim, hence, the silver catheter latterly could not be passed. Strong pains throughout yesterday and last night. Skin hot and dry.

*Treatment.*—I passed an elastic catheter, and drew off thirty ounces of urine. The pyrexia and rigidity of the os uteri were now treated by bloodletting; thus I hoped to secure the patient, from the injurious effects of protracted pressure; a moist skin was produced, but no softening of the rigidity. I now delivered her by craniotomy. The head proved to be much ossified; on this account, as well as to save the rigid os uteri from contusion, I had to diminish the bulk of the cranium by the osteotomist. The placenta occasioned no trouble.

The following day the lochia were free; the bladder did not require the catheter. Pulse 70.

On the third day, the pulse 65. The patient's recovery was uninterruptedly good.

*Remarks.*—The history of the above case contains its own comment; the value of the osteotomist was very marked, in facilitating delivery, under a rigid and undeveloped state of the os uteri, the fœtal head being at the same time unduly ossified.

CASE LXIX.—*A difficult labour. Large child; rigid cervix uteri. Cephalalgia. Laceration of uterus apprehended. V.S. Tartar emetic. Craniotomy. Good recovery.*

Wednesday, October 29th, 1844, 7 a.m.—Patient's age 36; with the late Mr. Lerew. First pregnancy. Labour commenced on Monday, 9 a.m. The waters escaped on Tuesday at 2 p.m.; the os uteri was then of a half-crown diameter, its boundary structure rigid, thick, hot; for which and pain of head, the patient was bled on Wednesday at 4 a.m.

At my first visit at 7 a.m. same morning, the os uteri was

still rigid, but the pain of head had been much relieved after the bleeding. I found strong labour action present, and there being much reason to fear the consequence of such violent uterine efforts, with the above unyielding condition of the mouth of the womb, a second bloodletting was adopted and tartar emetic exhibited.

When three grains of the antimony had been taken, decided relaxation of the os tincæ ensued, and the pains were moderated, yet sufficient for the birth, had no great impediment been in the way. After waiting till midday, in the hope that nature would complete the case, I found the head had not in the least advanced.

I decided, therefore, to deliver at once, and as there was ascertained to be no room for the forceps, I completed the labour by craniotomy. The bladder was first relieved of twenty ounces of urine, and the rectum by an enema.

The child, a male, was very large and proved to have been the principal, if not the only cause of difficulty.

Beyond the necessity for the catheter, during the first forty-eight hours, nothing further occurred, to delay this patient's recovery, which was effected in the ordinary period after a natural labour.

CASE LXX.—*A primipara, æt.* 37. *Contraction of pelvic brim. Child large, a male. Powers exhausted. Osteotomist required. Uninterrupted recovery.*

December 7th, 1844.—At midnight my assistance was requested by a surgeon in Camden Town. The patient, æt. 37, in labour at full term; *first* child.

Pains had commenced about 6 a.m. of the previous day, with discharge of the waters, and had continued strongly bearing until the last eight hours, during which they had much abated. I found the boundary of the uterine orifice thick and rigid. There was much protrusion of scalp, and

the head was impacted in the pelvic brim. No interruption to the function of the bladder. The pulse quick. The patient's state indicated exhaustion; she was restless, and the discharge from the vagina was brown and offensive.

The catheter was first passed, and the operation of craniotomy then performed. The child, a male, proved above average size; the pelvis below the normal measurements, so that reduction of the head by the osteotomist was indispensable. The perinæum was rigid, therefore required care, in bringing the child safely through.

The head being born, I allowed the unassisted efforts of the uterus, which now returned at intervals, to expel the shoulders and the rest of the child's body, which occupied five or ten minutes. By this non-interference, the uterus was less likely to be left relaxed, after the child's birth. It contracted efficiently, and the placenta was thrown off spontaneously, within ten minutes of the birth of the child, without hæmorrhage. The contraction of the organ was still further secured, by a broad bandage, which had been loosely applied before the birth of the child, and gradually tightened as the parts of the child, in succession, were expelled. This practice, I have before referred to, as a useful safeguard against fainting and uterine inertia, after protracted labours.

The patient recovered without any treatment being required, but that pursued after a natural labour.

CASE LXXI.—*Difficult labour; face to pubes. Retention of urine; pyrexia. V.S. Forceps applied. Delivery by craniotomy. Collapse with profuse internal hæmorrhage. Compress; firm bandage. Brandy; cold; nourishment, &c. Recovered.*

At 12½ in the day, Friday, February 14th, 1845, I was

requested by a surgeon to visit a patient, æt. 45, in her first labour.

The liquor amnii had escaped on the previous Tuesday; her medical attendant had seen her on the Thursday, and remained with her during that night. The pains were of moderate strength; the head had descended partly into the pelvic cavity; the uterine orifice was fully dilated at 8 a.m. At 9 a.m., the patient not having passed water for several hours, the catheter was introduced, but no urine was withdrawn.

*Present state.*—On my arrival, I felt above the pubes, the swelling of a distended bladder. By directing a long female-catheter upwards behind the pubes, and almost up to the hilt, the urine was drawn off, to the extent of three pints. An enema was also exhibited. The genital passage was intensely hot and dry; the head presented. The large fontanelle was directed to the pubes, to one side of the symphisis.

Depletion was adopted at my suggestion, and more time allowed, in the hope that nature thus assisted would accomplish the birth. Sixteen ounces of blood were removed, after which the parts were less heated.

At 6 in the evening, there had been no lack of pain, yet no advance. There was now present, an urgent indication for relief, in a brownish fetid discharge from the vagina. There was, however, no proof of the child's death, therefore, having previously passed the catheter, I applied the forceps. They were locked without difficulty, but no advantage following a fair trial of them, and fearing mischief from further efforts or delay, I perforated and delivered by craniotomy.

More time and caution, and a free evacuation of cerebral matter, was required, on account of the unyielding state of the soft passage, due to the patient's age.

The placenta came away without any further aid, than removing it from the vagina. Pressure was applied over the uterus; but immediately the patient was seized with

symptoms of collapse; laborious breathing; dilated nostrils; cold and clammy extremities; no pulse at the wrist; perfect pallor; no hæmorrhage externally.

I passed my hand into the vagina, and removed a large clot of blood; then a quantity of fluid blood escaped; in all, there was not less than thirty ounces. The hand was introduced into the uterine cavity, very firm pressure was applied over the hypogastric region, which was not intermitted for a moment, as the life of the patient depended upon it. Cold brandy and water was immediately given, and repeated from time to time as appeared necessary. We relieved one another during an hour, in compressing the uterus, and then applied a firm T band, with a graduated pad to the hypogastrium.

The uterus now remained contracted. The pulse had returned at the wrist, 130, and small; the patient had recovered her speech, but was restless. To quiet her, half a grain of acetate of morphia was given; strict directions were enjoined that she should not be disturbed, nor raised for a moment, until the visit in the morning. Beef tea to be exhibited at intervals during the night.

February 15th.—Our patient had been restless during the first part of the night, afterwards she became quiet and slept towards morning. Pulse 86. Three quarters of a pint of strong beef tea taken during the night; skin moist, of natural temperature; sense of throbbing in the head, due to reaction from loss of blood. Nothing further occurred worthy of notice. The patient steadily progressed to convalescence.

*Remarks.*—The difficulty in the labour depended on an unfavorable position of the head, and on the condition of the parts in a primipara *aged forty-five*. The bladder being relieved, and the inflammation of the vagina subdued by general depletion, a further time was given to the natural efforts, as far as was consistent with the safety of the patient. The appearance of fetid brown discharge from the

parts, induced me to delay interference no longer. The treatment of the ensuing hæmorrhage was in conformity with what must be considered the only safe practice in such cases.

Lest the child might still be living, of which however, the stethoscope did not afford me the proof, I first applied the forceps, but they failing of their object, the delivery was effected by craniotomy.

The urgency of the case was not yet at an end, for *collapse* supervened upon *internal hæmorrhage*, probably, as was my impression, from the duty of pressure upon the uterus, during the birth of the child and immediately upon the removal of the placenta, not being duly attended to. The contractions of the womb were re-excited by the stimulus of the hand introduced within its cavity, by the outward application of cold, draughts of cold spring water with brandy, and by the employment of grasping pressure by the hand with the further security of a firm T bandage and compress.

The departure from the ordinary rule of a farinaceous diet was justified by the large loss of blood, and the extreme prostration consequent upon it. On the following day towards evening, the strength had so far rallied, that the ordinary diet for the *puerperium* was judged advisable.

CASE LXXII.—*Contracted pelvic brim; forceps tried without success. Delivery by craniotomy. Good recovery.*

November 4th, 1845.—A primipara, æt. 29.

*Present state.*—Liquor amnii discharged several hours. Os uteri fully dilated ever since. Urine in bladder distending it perceptibly above the pubes. Head in the first position at brim, which I find contracted in the conjugate measurement. Parts heated.

*Treatment.*—A pint and a half of urine removed by the

catheter. The heat of the parts then subsided. I next adjusted the forceps; they easily locked, but no advance was made. I now delivered by craniotomy, first applying a reserve bandage, which I tightened after the birth of the child, and again after the removal of the placenta. The patient appearing fatigued after her labour, and having a feeble pulse, I administered a cordial; she then rallied, and thanked us in strong terms.

The subsequent recovery passed without one bad symptom.

CASE LXXIII.—*A protracted labour in a primipara, æt.* 32, *completed by craniotomy on the fourth day from the commencement of pains; retention of urine; soft passage very narrow at first. Pelvis of normal dimensions; child large. Tartar emetic, hyoscyamus, bleeding to reduce pyrexia, and resistance of soft tissues; craniotomy, head much ossified. Perfect recovery.*

Saturday, October 4th, 1845, at 11 p.m., I visited, at the request of my friend Mr. Drew, of Gower Street, a lady, of previous good health, æt. about 32, in labour of her first child. The liquor amnii had escaped the night before.

*Present state.*—The os externum so contracted, as only to admit one finger, hence a severe labour was anticipated; the mouth of womb two thirds dilated, not hot, nor swollen; mucus of parturition deficient. The head at pelvic brim, with a puffy swelling upon it; the child living, as I ascertained by auscultation; the pelvis of average dimensions; urine passed without difficulty; pains at intervals of ten minutes; no febrile disturbance; tongue clean. We agreed upon further delay, and saw no indications for treatment.

October 5th.—At 3½ p.m. I was again sent for; the pains were not so strong; the head had engaged in the pelvic

brim; no urine had been passed for several hours. The passage of a silver catheter attempted without success. The tumour of a distended bladder distinctly felt above the pubes. An elastic catheter was now passed without difficulty, and thirty ounces of urine were withdrawn, much to the patient's relief. No pyrexia; os tincæ as at last visit. I ordered an enema; and tartar emetic ¼ gr., tincture of henbane ℥xxv, every two hours.

11½ p.m.—No fever; considerable moisture of vagina; soft outlet now so far dilated, that two fingers can be readily introduced; the pains continue in tolerable strength; pulse soft, 90. The tartar emetic to be continued.

October 6th, 10 a.m.—The case not having terminated, and symptoms justifying further anxiety appearing, I was again summoned. Sixteen ounces of urine were drawn off. The head no lower; face flushed; tongue dry, furred; thirst; parts hot and dry; pulse hard, 100; the pains of good strength; the presenting scalp more tumid. Blood was now taken by venesection; twenty-two ounces flowed without any faintishness occurring; but the skin having become moist and cool, and the patient expressing very great relief, the arm was tied up. After this she felt sleepy, the pains abated, and she was left with the room darkened and quiet, that she might if possible obtain rest.

8½ p.m.—Our patient had had some refreshing sleep; the pains had subsided, and had not returned until within the last two hours, since which they have been of good strength again. The parts moist and cool. The head appears to have descended a little. The catheter was again passed, and sixteen ounces of urine drawn off. The case thus proceeded, there being yet no indication for instrumental aid.

On the 7th, at 5 a.m., an offensive brown discharge presented itself; the fœtal pulsation, which I had the day before been able to distinguish, was no longer to be heard;

the parts had again become heated, dry, and tender. Delivery was now urgent, and as the forceps were found inapplicable, it became necessary to resort to cephalotomy. The contents of bladder were first removed by the catheter. The soft outlet being contracted by rigidity of the perinæum and labia, the child proving large, and its head much ossified, considerable time—about an hour—was spent on the delivery, to effect it safely. A firm and uniform pressure was kept up upon the abdomen, by my friend, during the birth of the child, and subsequently to the removal of the placenta, which was effected artificially, at the end of three quarters of an hour. The child was of the male sex.

Our patient was left with the security of a bandage and pad, and the uterus contracted well. A draught containing one drachm of laudanum was exhibited; and tartar emetic, one eighth of a grain, every three hours as a diaphoretic, in camphor mixture, was ordered.

Visit midday.—Progressing favorably without pain; skin moist; pulse soft, 104. Has not passed water; does not feel distress from that circumstance. Has had a little sleep, and feels perfectly free from restlessness. Lochia good; no nausea. Continue the diaphoretic mixture.

Visit at 8 p.m.—Patient has passed a comfortable day. Skin moist, and free from heat. Pulse 90, but soft. Twenty ounces of high-coloured urine were drawn off, after which the pulse sank to 84. Continue as before; no opiate; a draught of compound infusion of senna in the morning.

8th, 10 a.m.—A tolerably quiet night's rest, without pain; a sense of stiffness about the arms, hips, and legs, from the action of the muscles during labour. No heat, nor swelling of the genitals; lochia free, and of good quality; bowels opened sufficiently once; twenty-four ounces of urine, not so high coloured as before, drawn off by catheter. Pulse 100 and firm. Tongue nearly clean; no tenderness of abdomen; no headache. Continue the mixture. The urine to be drawn off at midday, if necessary.

8 p.m.—Catheter passed; about same quantity of urine withdrawn; lochia healthy; pulse soft, 100; skin moist, and free from heat.

9th, 10 a.m.—Has slept well during the night. Pulse 100, but fell to 90 after use of catheter; lochial discharge good; no heat of vagina; the genital surfaces a little tender.

8½ p.m.—Urine drawn off; bowels opened during the day by senna; pulse 85; the diaphoretic mixture to be continued.

10th, 10 a.m.—The catheter is required thrice daily; pulse 90, and rather firm; lochial discharge good; skin inclined to dryness; tongue furred, but moist. We ordered at bedtime four grains of calomel, and a draught of compound infusion of senna in the morning. Free action of the bowels followed.

The bladder recovered its power on the sixth day after delivery; and from that time forward, the improvement was steady and progressive. The breasts becoming painful, and filled with their natural secretion, were judiciously treated by Mr. Drew, and without any unpleasant events.

On the tenth day after delivery, my daily attendance having, up to that time, been desired by my friend, I took my leave, our patient being then past all risk of pelvic or peritoneal inflammation—in fact, convalescent.

This lady's recovery was completed in the usual period after a natural labour. Her disappointment, and that of her husband, was very great, at the loss of the child; but I have the pleasure of adding that this lady, three years later (December 21st, 1848), required Mr. Drew's services again; and gave birth without difficulty to a healthy female child. The young lady is now (1858) living, and in good health.

*Remarks.*—A part of the difficulty in this interesting case was attributable to the patient's age not being perfectly favorable for a first confinement, *quoad* the disposition of the soft parts to yield; moreover, the vagina was narrow. Had these been the only obstacles, I believe the

delivery, though it might have been protracted, would have been accomplished without instrumental aid, probably without recourse to depletion. The relaxing influence of tartar emetic on the tissues would most likely have sufficed.

But there was another difficulty; the child proved large, its head unduly ossified. The constitutional treatment, although of no avail in promoting delivery, did, it must be admitted, an essential good in averting pelvic or peritoneal inflammation likely to have appeared in the course of, or to have supervened upon, so protracted and severe a labour.

CASE LXXIV.—*A first labour; patient æt.* 42. *Head impacted in brim of pelvis twelve hours; delivery by the crotchets. Rigidity of perinæum, and contraction of os externum required the osteotomist. Importance of the bandage during and after instrumental delivery. Pyrexia; atony of bladder for eight days. Good recovery.*

Thursday, December 18th, 1845, at 4 p.m., I was requested by a surgeon in Camden Town, to visit a patient, aged 42, of stout habit, firm fibre, previous good health, in labour of her first child. True pains had set in at three on Wednesday morning; the membranes broke three hours later. At 2 p.m., same day, the os uteri was obliterated. The pains ceased at 1 p.m. on Thursday, but not suddenly, having gradually lessened in force and frequency.

*Present state.*—Expression of countenance good; face congested from efforts; skin moist, hot; pulse 100, soft; the head impacted, the bones slightly overlapping. The sagittal suture extends from the left acetabulum backwards, obliquely to the right sacro-iliac joint, to which the large fontanelle is directed.

I was informed, that the bladder had responded regularly; but finding the tumour of a distended bladder above the

pubes, I passed a male elastic catheter, and drew off a pint of urine, the patient expressing much relief. The rectum was empty. I then undertook delivery by embryulcia.

Considering the pressure which the parts had already sustained, I was indisposed to add any risks by a trial of the forceps. Moreover, impaction of the head, rigid perinæum, and contracted os externum forbade their employment.

The centre of the presentation was perforated by Smellie's scissors, the brain freely evacuated; a purchase upon the head near the sacro-iliac junction was then made by the guarded crotchets. Traction was now made at intervals, no pains present; the head was thus gradually brought down upon the perinæum. The head, diminished as it was by the removal of the cerebral substance, could not be drawn through the contracted os externum, even now, without exposing the perinæum to risk of laceration; that structure being tensely on the stretch at each traction. To shorten the delivery, and avoid all injury, a few sections were removed from the cranium by the osteotomist. The extraction of a male child of large size was then easily and safely completed.

A broad bandage, previously applied round the abdomen, was gradually tightened, as the successive parts of the child passed out.

Within an hour after the birth of the child, the placenta not being thrown off, and hæmorrhage occurring, the hand was passed into the uterus. The placenta was retained by hour-glass contraction, and only partially detached. It was removed carefully, the uterus now contracted, and the hæmorrhage ceased. The bandage was readjusted with a compress, and the patient ordered not to be moved at all, for four or five hours.

Friday, 1 p.m.—The patient had had some refreshing sleep during the night; slight tenderness of abdomen; lochial discharge scanty; pulse 110; face flushed; occasional

chills; no urine passed, some was drawn off. These symptoms, and the patient's habit of body, led me to advise V.S. as a precaution against inflammation, which might fairly be anticipated from the pressure which the parts had sustained. A saline diaphoretic containing tartar emetic was ordered every four hours; and at night calomel four grains, Dover's powder ten grains; a black draught in the morning.

I was afterwards informed that the patient had fainted, rather from the sight of blood, than from the quantity obtained. Nevertheless, it had not been necessary to repeat the measure; the circulation had afterwards remained at its natural standard; there had been no recurrence of heat or tenderness. The antimony had nauseated, the lochia had become free.

December 24th.—No pain; tongue slightly coated with a white fur; pulse soft, 85; urine drawn off daily. The progress of the patient from this date was satisfactory. Beyond an occasional aperient, and daily catheterism, up to the morning of the ninth day, no further attention was required.

On the 16th of January, my friend reported that his patient was rapidly recovering strength, and had been able to leave her room, in pursuit of most of her duties, for the last week.

*Remarks.*—The large size of the child was a cause of difficulty. The age of the patient for a first labour was unfavorable; hence a rigid perinæum with contraction of the os externum operated as obstacles, requiring the osteotomist to ensure safety to the mother's tissues.

A previous trial of the forceps would, owing to the impaction, have been obviously injurious. The reply to my inquiry after the state of the bladder contrasted with the fact, shows the importance of always introducing the catheter before instrumental delivery. The male elastic catheter is always to be preferred when the head is impacted; the longer instrument is required, since the neck of the bladder

and urethra are alongated, and the elastic catheter will pass when the silver instrument will not. The bandage applied loosely around the abdomen, and tightened gradually as the parts of the child pass into the world, is a precautionary measure of importance, more especially in obstructed labour, where the resistance to the parturient efforts has been great, and of many hours' duration. Firstly, it restores, in some degree, that pressure which the vascular trunks of the abdomen and the organs within the chest have been sustaining, and the loss of which, on the birth of the child, has been known to be followed by fainting and collapse, even independently of hæmorrhage; indeed, the sudden escape of a large quantity of liquor amnii has, on the same principle, sufficed to induce fatal syncope. The bandage so applied also ensures a more uniform contraction of the uterus after delivery, for the prevention of hæmorrhage.

In consequence of the pressure of the head on the tissues lining the pelvis, the bladder did not resume its power till the ninth day.

The intended effect of the bleeding, on the day after delivery, was secured at a moderate loss, four or five ounces, so that we must infer that the syncope arose from fear; the fainting, however, seemed not the less beneficial. In all probability the tartar emetic contributed in obviating the necessity for any further treatment.

CASE LXXV.—*A first labour; head arrested at pelvic outlet for twelve hours; retention of urine. Delivery by the perforator and crotchets. Recovery.*

Tuesday, December 23d, 1845, at 9 p.m., I was called by a medical friend to a healthy young person, æt. 22, a native of Berkshire, recently arrived in London, in labour of her first child.

*Previous history.*—The pains of labour had commenced on the previous Sunday, between 3 and 4 a.m., from which period, to the time of my visit, the pains had occurred with varying intervals and strength. The liquor amnii had come away spontaneously at 6 p.m. the day before (Monday). The mouth of the womb was at that time completely dilated. The head was then very gradually propelled into the pelvic cavity, and reached the outlet at 9 this morning (Tuesday).

*Present state.*—I found the parts not heated; skin moist; the pulse quiet and soft; no headache; a considerable protrusion of scalp; very firm impaction of the head. The sagittal suture extends obliquely backwards towards the left sacro-iliac junction; the small fontanelle is felt behind the right foramen ovale. The pains frequent and strong, they had been so the entire day. The patient had not been able to pass water for several hours, which circumstance, with the impaction of the head for ten hours, led to my being sent for. The bladder was felt considerably distended. My friend had endeavoured by the ordinary silver female catheter to relieve his patient. Employing the male elastic catheter, which had never yet failed me, I was equally unsuccessful; the catheter passed in a certain distance, but owing to the pressure of the head on the urethra, it was there stopped. An expedient in difficult cases, which I had always found succeed, viz., a bearing made upon the head by the fingers upwards and backwards, did not enable me to pass the catheter along the canal. The impaction of the head precluded any other mode of delivery than that by the crotchets, and the head being already at the outlet, I was nevertheless able to relieve the patient with little delay. The head was lessened by a free evacuation of the contents of the cranium; the bones fully collapsed, and the delivery was easily accomplished. The catheter was then passed with facility, and the bladder emptied of two pints of urine of high colour and odour.

Had the head, after lessening in the way I have explained, not come readily, or had there been the least difficulty in delivering the trunk of the child, I should have passed the catheter immediately after discharging the contents of the skull.

A band previously thrown loosely round the abdomen was now tightened, and firm pressure made upon the fundus of the uterus, but the placenta not being yet thrown off, and no hæmorrhage occurring, the patient was allowed to rest quiet for an hour. That time having elapsed, my friend undertook the removal of the placenta, which operation he accomplished dexterously, under circumstances of considerable difficulty, there being extensive adhesion of the mass to the uterus, and hour-glass contraction of the latter. The womb contracted well afterwards. The patient was left comfortable, but she was disposed to be talkative, through her excess of joy at her delivery. Quietness and silence were enjoined, and no opiate was to be given unless indicated by restlessness.

December 24th.—Our patient had had good sleep; there was no pain; the lochial discharge was ample and healthy; the bowels had acted from castor oil exhibited during the labour. Pulse soft, 100; skin moist; tongue slightly furred; no headache, no tenderness of abdomen, urine retained. The catheter was introduced; a saline diaphoretic already commenced to be continued.

No symptom requiring any active treatment occurred. The passing of the catheter was necessary until the sixth day. The patient's recovery was perfect.

*Remarks.*—This patient's age was favorable for a first parturition; her health was also in her favour. The difficulty was confined to the bony outlet of the pelvis; the perinæum, soft and lax, offered no obstacle. The head had been at outlet and impacted for ten hours. It was surprising, under the circumstances, that no heat of parts nor

fever had been set up. The free performance of the function of perspiration probably afforded to the patient the necessary safeguard against such a result, and against any ulterior consequences.

This instance of failure in the introduction of the catheter during parturition is the only one which has occurred to me in my experience in difficult labours, extending over a period of twenty-five years. I see in the report of 1845, of the Parochial Lying-in Charity of St. Giles's, that the physician-accoucheur, the late Dr. James Reid, met with a similar impossibility of relieving the bladder prior to delivery. In the circumstances of our two cases, there was this difference[1]—that in the parochial case (see the report, 'Medical Gazette'), the head was simply arrested; there was room for the application of the forceps, and by them was delivery accomplished. In the instance above detailed in my own practice, the head had been *completely impacted, wedged* in the outlet of the pelvis, during several hours; the head and scalp accurately filling up the space behind the pubes, and at the apex of the pubic arch. The atony of the bladder, after delivery, was sufficiently accounted for, by the previous pressure and distension sustained by it. The sound rustic health of the patient probably led to an earlier restoration of the tone of the organ, than might under other circumstances have been expected.

CASE LXXVI.—*Impaction of head; considerable œdema of labia; disproportionate size of child. Elastic catheter passed; delivery by craniotomy; the rigid state of perinæum, and contracted os externum, required the osteotomist. Recovery without any bad symptoms.*

On Wednesday, March 25th, 1846, at 9 a.m., an Irish-

[1] My report of the above case was published in the 'Lancet' the same year, and I then referred to Dr. Reid's interesting case.

woman, æt. 34, in labour of her first child, was visited by me, at the request of a surgeon of the Royal Maternity Charity.

*Present state.*—The labia majora much swollen by œdema. The scalp protruded, forming a puffy tumour at the vulva; the great bulk of the head, however, was impacted in the brim of the pelvis. I could with the tip of my finger, reach the ear with difficulty behind the pubes; the head, in all directions, was found strongly wedged in its position. The patient had been able to pass water up to two hours before. The skin hot, but moist; the pulse 90, soft; no headache.

*Previous history.*—Previous health good; the pregnancy had reached full term; pains commenced on Saturday evening (21st), but the midwife was not required until 9 p.m. following Tuesday (March 24th). The os uteri was then fully dilated, the membranes protruded at outlet. The waters escaped a few minutes later. The head gradually descended into the pelvic brim, until it became wedged, and the puffy tumour of the scalp afterwards formed upon it, during the night. The œdema of the labia was a result of the head's pressure, and impaction.

*Treatment.*—The case was obviously not one for the forceps; I, therefore, delivered by craniotomy; first introduced the catheter, and drew off the contents of the bladder. I freely emptied the cranium, and the head descended readily, under traction by the guarded crotchets. Firm pressure was made upon the abdomen, as the parts of the child were brought through in succession; the uterus contracted well, and the placenta was thrown off within half an hour from the delivery.

No inflammatory symptoms occurred subsequently to delivery. The labia quickly lessened to their natural bulk; the bladder did not respond till the thirteenth day; the catheter was therefore regularly introduced up to that period; and the patient's cure was completed by tonics.

*Remarks.*—The disproportionate size of the child was

the chief obstacle in this case; the age for a first labour was not favorable. The pelvis was ascertained, after delivery, to be of average dimensions, and would, therefore, doubtless, have given passage to a child of ordinary size, coming with its head in an oblique position. Considerable care was necessary in bringing the child through the vulva; the perinæum had not had the opportunity of undergoing the requisite development. By gradual proceedings no injury was sustained. The atony of the bladder for thirteen days after delivery resulted from the pressure which the parts had sustained from the impacted head.

CASE LXXVII.—*Contracted pelvic brim. Delivery by craniotomy.*

December 26th, 1846.—I was called by Mr. Bird, of Osnaburgh Street, Regent's Park, to a patient of robust habit; her age about twenty; it was her first labour. The liquor amnii had escaped twelve hours. Pains had been strongly bearing for many hours.

*Present state.*—The upper aperture of the pelvis much contracted in the sacro-pubic diameter; head impacted in the brim; os uteri not fully dilated; the patient's face purple from her violent but fruitless efforts; tongue furred.

*Treatment.*—Introduction of the catheter, according to rule. Perforation and delivery by the crotchets. The only partially dilated os uteri, and rigid state of the perinæum, rendered slow proceedings necessary, in bringing the child safely through the genital passages.

CASE LXXVIII.—*Second labour; exhaustion, entire cessation of labour pains; the second stage had continued nine hours. Delivery by craniotomy. Ephemeral fever on the eighth day; subdued by an emetic, a purgative, followed by quinine. Good recovery.*

Monday, June 30th, 1846, at 3 p.m., I was called by a midwife to a patient in labour with her *second* child, since 11 a.m. the previous day.

The liquor amnii had escaped at 3 this morning, the os uteri then hard, thick, and very little dilated. At 7 the pains were stronger, severe sickness set in; later, pains occurred at longer intervals, and between 12 and 1 they ceased altogether.

*Present state*, 3 p.m.—A small pulse; skin cold; a thick whitish-brown fur on tongue; pains absent; os uteri rigid, and two thirds dilated; countenance anxious. I perforated the head, and delivered by the crotchets, having first passed the catheter.

The next day the bladder had acted naturally, the patient felt easy.

On the third day the bowels acted gently from castor oil. The lochia scanty; no pain. Ordered hot fomentations to hypogastrium and vulva, to increase the lochial discharge, with the desired effect.

On the fourth day abundant secretion of milk, which was kept under by a neighbour's child, and finally dispersed by two or three aperient draughts.

On the eighth day there was headache, pain in loins, wakefulness at night, rigors, great febrile heat; pulse quick, 130; tongue white; thirst. Sometimes there was one paroxysm of these symptoms in the twenty-four hours, sometimes two. I recognised here an attack of puerperal ephemera, a disease apt to come on in languid convalescents

after childbirth, and sometimes mistaken for inflammation. I adopted my usual treatment for this malady, an emetic of ipecacuanha with tartrate of potash and antimony, followed after a few hours by calomel and jalap. Quinine was commenced on the following day in two-grain doses, given thrice daily. Under this treatment the disease gradually declined, and at the end of three weeks the patient was convalescent.

*Remarks.*—The exhausted condition of the patient rendered immediate delivery imperative, the condition of os uteri forbade the forceps. The ordinary means for relaxing the cervix uteri were contra-indicated by the patient's prostrate condition. The only legitimate mode of delivery was by craniotomy. The patient's subsequent recovery was rendered slow by puerperal ephemera, which yielded to the means which I have always resorted to for that affection.

CASE LXXIX.—*Arrest of head in pelvic cavity; vectis applied during three hours without advantage; forceps also without effect. Catheterism; V.S.; craniotomy; previous attempts to deliver by the single crotchet, and other ill-adapted instruments, having failed. Good recovery.*

In August, 1847, I was requested to meet a surgeon at Islington, in a case of difficult labour; the vectis had been in application, I was informed, for three hours without effect.

*Present state.*—Pyrexia; vagina much heated; urine in bladder.

*Treatment.*—The contents of the bladder were first removed; the patient was then bled, to secure her, if possible, from injurious results of protracted pressure; a trial of the forceps was then made; they were cautiously applied, locked easily, but no advance followed. Delivery by cranio-

tomy was therefore commenced by a practitioner consulted before my visit. He was not, however, successful; his instruments being ill adapted. He then suggested that I should undertake the delivery, when I completed it with the osteotomist and guarded crotchets, with perfect facility.

This patient's subsequent progress was entirely satisfactory.

*Remarks.*—The subsequent well-doing of the patient might be attributed to the previous depleting treatment, as well as to the caution which had been observed in the use of the vectis and forceps, though the former was much longer in application than could be considered prudent; indeed, I should have preferred the use of the forceps at once in this instance. The superiority of the osteotomist and guarded crotchets was very obvious here, where instruments in ordinary use had entirely failed. I suggested the trial of the forceps after failure of the tractor, as I have found them succeed in effecting delivery in cases where the use of the latter has been unattended by success.

CASE LXXX.—*Impaction of head in pelvic brim; two previous children delivered by craniotomy. Recovery good.*

January 14th, 1848, at 6½ a.m., I visited, by request of Mr. H. P. Davis, of Oakley Square, a patient, æt. 39, in labour of her *third* child.

*Previous history.*—In her two previous labours she had been delivered by craniotomy; in the *first* by Dr. Heming, in the *second* by myself. On the last occasion I had ordered her, if again pregnant, to have her labour brought on prematurely; but she had neglected doing so.

The liquor amnii escaped at 7 the previous morning; the head had been engaged in the brim, slowly pressing on the soft parts there, *seven hours and a half.*

*Present state.*—The head wedged in the brim of the pelvis, the parts heated; there is a lightish brown-coloured slimy discharge on the genital surfaces, which I recollect presented itself on the previous occasion, after the patient had been suffering for several hours. This, in protracted labours, I find a sign of some importance, as an indication for interference.

*Treatment.*—As the symptoms called for immediate delivery, I effected it by the only available mode, craniotomy, and, at the patient's entreaty, under chloroform. After the labour was over the patient recovered her consciousness, and expressed her astonishment and gratitude when told that she was delivered.

The subsequent recovery took place without any hinderance.

*Remarks.*—The patient's pelvis was much contracted in sacro-pubic diameter, but I believe sufficient space existed to allow of the birth of a seven or seven and a half months' child. Ample time had been given to the natural powers to mould and compress the head into suitable shape for its passage, but without success. The case being one of complete impaction the forceps were out of the question. The above discharge, with other points in the case, demanded delivery, and craniotomy was the only available operation. I gave the patient a strong admonition on the impropriety of her conduct, in allowing her pregnancy to go on to full term, and cautioned her against a repetition of the same.

CASE LXXXI.—*Funnel-shaped contraction of pelvis; delivery by perforation, after impaction of head for several hours. Good recovery.*

One evening in November, 1848, at 8½, I was called to a primipara, æt. 20, in difficult labour.

*Previous history.*—Labour pains had commenced at 5 in

the morning, with the discharge of the waters. The os uteri, although there had been no pains, had undergone two thirds of full dilatation. Before midday the mouth of the womb had become fully dilated; the head had descended half-way into the pelvic cavity. In the afternoon, considerable puffy swelling of scalp formed on the head; but no advance of the bony part of the presentation had taken place, notwithstanding strong parturient action.

*Present state.*—Head impacted and situated as above described; pelvic outlet considerably diminished in diameter; the tube is also contracted in the vicinity of the outlet. The pelvis, in fact, affords an instance of the funnel-shaped deformity. The parts heated and tender. The patient much exhausted with her unavailing efforts.

*Treatment.*—The bladder was emptied by the catheter, and delivery accomplished by craniotomy. The placenta came away without difficulty. Nothing in any way untoward occurred in the puerperal state; convalescence took place in the ordinary period.

*Remarks.*—The first point for notice is, that considerable dilatation of the os uteri had taken place without pain; a circumstance which occasionally occurs in subsequent labours, very rarely in first labours. The variety of pelvic contraction in the above case was an apt illustration of the funnel-shaped deformity, apparently a congenital form of distortion, where the brim is well formed, the lower part of the pelvic tube is contracted in its dimensions, and gradually more and more so as it approaches the outlet; here the greatest deficiency of space exists. Delivery by craniotomy not having been too long delayed, the patient was saved from any injurious effects of pressure by the head on the soft tissues within the pelvis.

I advised the induction of premature labour at seven and a half months in the next pregnancy.

CASE LXXXII.—*A third crotchet delivery; head wedged in pelvic brim six hours; retention of urine; cicatrices in vagina rendering delay and relaxing treatment necessary after perforation before delivery. Inflammatory fever followed. Treatment. Good recovery. Remarks.*

At midday, November 16th, 1848, I was called to a third labour.

*Previous history.*—The patient had been already twice delivered by the crotchets, on account of pelvic deformity. The liquor amnii in this labour had escaped at 3 a.m. this day. At $6\frac{1}{2}$ the os uteri was fully dilated; the head at the same time entered the pelvic brim, where it had been wedged for *six* hours. The patient said she had been injured in her previous labour, but such statements often being made without foundation, I discountenanced the idea.

*Present state.*—I found the proofs of a former solution of continuity in a considerable cicatrix, and contraction of the vagina therefrom; the evidence also that the perinæum had once been ruptured. The parts are heated, head impacted in brim of pelvis; the swelling of a distended bladder above the pubes.

*Treatment.*—The catheter first introduced; delivery then effected by the perforator and guarded crotchets. I found the constriction of the vagina a great impediment to delivery, so, after I had reduced the head, I determined, for the mother's safety, on a delay of two or three hours. In the mean time, to compose the patient, and somewhat to relax the parts, I ordered a drachm of tincture of opium, with a quarter of a grain of tartar emetic at short intervals, to produce nausea.

Visit at 4 p.m.—Parts more favorable; the patient much more composed. I now finished the delivery, which even

at the present time required, for its safe completion, the removal of several sections of bone by the osteotomist. The child a male of average size. The placenta followed without difficulty; the uterus contracted well.

Visit next morning.—The patient is reported to have had no sleep; slight pyrexia. The bladder has acted; lochia scanty; ordered bran poultices to abdomen; a pill at bed-time, of calomel 2 grains, muriate of morphia two thirds of a grain; an aperient of sulphate of magnesia, senna, and ginger, as castor oil is repugnant, to be taken in the morning.

November 18th.—Bowels not yet open; violent lancinating and throbbing abdominal pains, extending also through the pelvic region; skin hot and dry; pulse 110, hard; lochia suppressed; respiration painful; inability, from pain in the effort, to turn in bed.

Ordered V.S. to faintishness; twenty-four leeches to abdomen, calomel six grains, croton oil three fourths of a minim; also calomel two grains every three hours.

Visit in afternoon.—The purgative pill, through neglect of the nurse, as I understood, had not been taken, and the bowels had not acted. The bleeding had been carried to fainting, at a loss of sixteen ounces; the leeches subsequently did their duty. Breathing, pressure on the abdomen, are not now painful. Slight return of lochial discharge. Ordered castor oil six drachms, croton oil three quarters of a minim, to be taken at once, and, if necessary, an anodyne at night after the bowels shall have acted.

November 19th.—The bowels acted freely soon after the purgative, and the morphia afterwards produced refreshing sleep. No pain. I withdrew the calomel, and the patient gave us no further anxiety.

*Remarks.*—The pelvic contraction arose here from the rickets of childhood. The extensive cicatrix in the vagina and perinæum added to the difficulty of delivery. The tartar emetic had a good effect in lessening somewhat that

impediment, and the opium soothed the nervous system. The inflammatory affections, hysteritis and peritonitis, might have resulted from obstructed labour; but a strong suspicion was on my mind, and on that of my professional friend, that spirituous liquors had been taken, though strictly forbidden.

The sparing lochial secretion, with pyrexia on the day after delivery, made me feel uneasy about the patient; but I hoped that the means then adopted would have sufficed. On the next day, depletive treatment was indispensable, and success followed its adoption. The soothing of the nervous system after the bloodletting, so important sometimes in preventing relapses of inflammation, was here secured by the sedative.

CASE LXXXIII.—*Disproportion at pelvic outlet; head there arrested six hours. Craniotomy. Good recovery.*

One morning early in December, 1849, I was consulted by my friend Dr. Powell, of Coram Street, Russell Square, in a primipara, æt. 25, who had been in labour the whole of the previous day. The bladder had been duly attended to by my friend, and the bowels had been properly relieved. The os uteri was fully dilated six hours before; at the same time the head descended low in the pelvis. The patient being of a weak constitution had become exhausted with violent and fruitless efforts. In consequence, delivery could no longer be safely postponed.

The forceps were introduced, but even, with the substitution on one side of a short blade, it was not practicable to effect a locking. With my friend's assistance, I therefore delivered the patient by craniotomy.

This patient had a good recovery.

CASE LXXXIV.—*A primipara, æt. 14½ years; genital passage small; retention of urine. Catheter. Tartar emetic. Delivery by cephalotomy after five hours of arrest. Good recovery.*

March 23d, 1850.—A primipara, æt. 14½ years, of previous good health, was placed under my care for a difficult labour. She had been in hard labour for twenty-four hours; the liquor amnii had been discharged twelve hours; the head at outlet strongly pressing on the soft parts there for three hours. From want of adequate development, the outer opening of the genital passage was small. Auscultation discovered no fœtal pulsation. Intumescence of a distended bladder perceptible above the pubes.

*Treatment.*—I passed the catheter, and removed a pint and a half of urine. To relax the genital outlet I ordered a quarter of a grain of tartar emetic to be given every hour, with five drops of Battley's sedative solution.

I saw her again two hours later, when finding positive evidence of the child's death, the soft parts at outlet well relaxed, I perforated, and delivered by the guarded crotchets. There was morbid adhesion of the placenta, which required artificial detachment.

The breasts required but little attention, and the only interruption to a rapid convalescence was debility and an attack of puerperal ephemera, which, however, yielded to quinine, &c.

At the end of the month the patient reported herself, and was quite well.

CASE LXXXV.—*Difficult labour; disproportionate size of the child. Uterine rupture apprehended. Craniotomy after five hours' arrest, and great violence of action. Good recovery.*

June 12th, 1851, at 2 a.m., I was called by a professional friend to a patient, æt. 28, of weak constitution, in first labour. It had commenced at 2 a.m. the previous day, but did not require the attendant till 11 p.m. The exact period of the waters escaping was not remembered; but they had come away before my friend's visit. Since 11 last night the pains have been violent "bursting," as the patient declares.

*Present state.*—Os uteri three fourths dilated; tumidity of scalp; head at brim, face backwards. Urine in the bladder, as ascertained by the catheter. Parts moist, not overheated; no absolute want of pelvic capacity, though relatively there afterwards proved to be. No headache, nor thirst. Skin moist, not hot. Pulse quick, somewhat firm.

*Treatment.*—I ordered a full opiate, and at intervals small doses of tartar emetic.

Second visit, 4 a.m.—The pains had been very violent, with much suffering. The os uteri unaltered; head still at pelvic brim, appears large; patient tired out. She was delivered by craniotomy, the only treatment available under the above circumstances.

On the birth of the child I had a bandage applied for the reasons stated under former cases.

The patient had a good recovery.

*Remarks.*—The difficulty here arose from the disproportionate size of the child's head. Could this have been positively ascertained, it would have been better to have perforated at once; the sense of "bursting" made me apprehensive of uterine rupture; had the patient's strength allowed, bloodletting with the opiate would have been proper. However, the opiate was given with antimony, and no improvement following, craniotomy was timely had recourse to.

CASE LXXXVI.—*Contracted pelvic brim; child large; violent pains for ten hours after escape of "waters." Craniotomy. Good recovery.*

August 26th, 1851, at 7 a.m., I was called to a patient 30 years of age, in her third labour.

*History of previous labours.*—Her first pregnancy ended in a miscarriage, June, 1849. Her second labour, last April twelvemonth, was at full time, and was completed by craniotomy, on account of contracted pelvis.

The present labour is at full term. The liquor amnii came away at 9 last night; strong pains have continued ever since.

*Present state.*—Pains violent; head at brim of pelvis, fixed; sacral promontory very projecting; genital mucous membrane hot, mordantly so, *i. e.*, leaving an impression of heat upon the finger. A portion of os uteri, swollen, lies in front of the presentation.

*Treatment.*—As there was obviously no other resource, I delivered by craniotomy a large male child. The placenta followed quickly.

The patient had a good recovery.

CASE LXXXVII.—*Contracted pelvic brim; puerperal convulsions; head already perforated; ill-adapted instruments had slipped many times; delivery easily affected by internal guarded crotchets. Good delivery.*

In November, 1851, I visited a primipara, æt. 20.—There was obvious want of pelvic space; there had been several paroxysms of puerperal convulsions, for which the patient had been freely bled. The head had been opened with the perforator, by a surgeon not unskilful; and its extraction attempted by a pair of craniotomy forceps, of modern

construction, with transverse ridges and grooves, badly designed for a purchase. The instrument, indeed, had slipped from its hold many times.

I applied the internal guarded crotchets, made traction, with rests between, to save the perinæum from risk. The child was safely delivered in five minutes from applying the instruments, much to the satisfaction of the practitioner, who had sought my assistance, and had been a good deal vexed by the failure of his attempts to deliver.

Her recovery was as after a natural labour, which was creditable to the caution observed by the gentleman who had operated in the first instance, under so great a disadvantage.

CASE LXXXVIII.—*Disproportion in lower half of pelvic tube; impaction of head; inflammatory fever; V.S.; further delay; delivery by craniotomy; inflammatory symptoms. Perfect recovery.*

April 14th, 1852, at 10 p.m., a primipara, æt. 29, of previous good health. She had been married six years.

She had been twenty-three hours in labour. The liquor amnii had escaped before eight in the morning; the os uteri was *fully dilated* at 3 p.m.; and the head had engaged in brim of pelvis some hours before the latter event.

*Present state.*—Head partly descended into pelvic cavity; os uteri obliterated; hard pulse; thirst; dry hot skin; furred tongue.

*Treatment.*—The catheter introduced, and some urine drawn off. The patient was bled to faintishness, in the sitting posture. Three more hours were now given to the natural efforts, but with no advance. The forceps being found inapplicable, by reason of complete impaction, delivery was effected by the perforator and guarded crotchets. The placenta caused no trouble.

April 15th.—Has had good sleep, and passed water naturally. Pressure on abdomen well borne; skin and tongue moist; lochia free.

On the same afternoon the patient had a gnawing pain in the uterine region; lochia scanty; skin hot and dry; pulse firm, 110. As mischief was feared, a vein was opened in the arm, and bloodletting carried to faintishness, in the sitting posture. The tenderness after this was much less. A blister removed all remaining pain.

From this time forward nothing worthy of mention occurred: the patient rapidly recovering after the inflammatory symptoms had been subdued.

CASE LXXXIX.—*Contraction of pelvic brim, deep pelvis; perforation, and extensive reduction of head; delivery completed by turning. The patient recovered without any interruption.*

I was consulted May 3d, 1852, at half-past 10 a.m., by the late Mr. Cocke, of Ulster Place, Regent's Park, for a patient in her second labour. Her first labour ended naturally at the seventh month; the child living.

*Previous history.*—This labour, at full term, had commenced overnight, at about eight o'clock. The waters escaped at four this morning. The uterine tumour had not subsided in the usual degree on the approach of labour, which was afterwards explained by the contraction of the pelvic brim.

*Present state.*—Head presents high up, with a considerable puffy swelling upon it; the pelvic cavity appears deeper than usual; the promontory of sacrum projects much, and the head is tilted forwards upon the pubes.

*Treatment.*—The catheter was introduced. The perforator was then passed up, but so high was the head situated, that I was obliged to pass my entire hand into the

pelvis, in order to guard satisfactorily the mother's tissues during the operation of reducing the head. I lessened the skull as much as practicable, and made a firm purchase with the guarded crotchets, but no advance was made. Fearing contusion from further attempts, and desiring to relieve the patient from her suspense and suffering, I passed my hand carefully up by the side of the presentation, and grasped a foot. I covered the edges of the fractured bones with the scalp, and safely accomplished the operation of turning. I now brought the child gradually through the pelvis without difficulty. The uterus contracted well, throwing off the placenta.

Mr. Cocke subsequently wrote to me, "Your patient has recovered without a single bad symptom."

*Remarks.*—Had this pelvic contraction been known in time, premature labour could have been induced, and the child in all probability have been saved. I have never before had occasion to perform the operation of turning, after craniotomy. The great depth of the pelvis rendering any further attempt at reducing the skull an unsafe proceeding to the mother, required its performance in this case.

This operation having been performed successfully on four occasions at least of a like kind,[1] proves that it may be safely and properly undertaken, and may be considered less dangerous to the mother than further proceeding in very difficult cases to reduce the skull.

At the time of meeting with the above case, I was not aware that version had ever been performed after craniotomy; but I have since found, that Dr. F. H. Ramsbotham had been compelled to adopt it on two occasions, after considerably reducing the skull.[2]

[1] See also Case XCI.

[2] 'Obstet. Med. and Surgery,' 4th edit., note p. 811.

CASE XC.—*Prolapse of funis; child long dead; delivery by craniotomy. An early application of the forceps would probably have saved the child. Good recovery.*

December 7th, 1852, I was called by a surgeon to a labour, in which the liquor amnii had escaped twelve hours. The funis at the same time had prolapsed. The head shortly afterwards engaged in the pelvic brim, and the cord soon became pulseless. Ergot had been given without effect.

*Present state.*—The cord without pulsation, os uteri completely obliterated; head engaged in pelvic brim.

*Treatment.*—The child having been long dead, the forceps were contraindicated; delivery was therefore effected by craniotomy.

I then gave the case over to my friend, who found the placenta morbidly adherent. There was also relaxation of the uterus, and profuse hæmorrhage. I was therefore requested to finish the delivery. Having effected this, some cold brandy and water was administered, as the patient was very faint. The usual bandage was firmly and equally tightened, and strict injunctions were left that the patient should not be moved in the least till next visit.

This patient had a good recovery.

*Remarks.*—As it did not seem that the soft parts would have occasioned any impediment, it is possible that in this case if the forceps, with a short blade on the side of prolapsion, had been applied as soon as the cord descended, a living birth might have been secured.

CASE XCI.—*Patient's age 55; disproportion at pelvic brim; face to right ilium; perforation; reduction of head; subsequent delivery by turning. Recovery without a single bad symptom.*

June 9th, 4 a.m., 1857, I was requested by Mr. J. C. Day,

of Camden Town, to see a patient, æt. 55, in her seventh pregnancy. She had had five miscarriages, after which, viz., two years ago, a full-term child, living, which was with difficulty delivered, after a prolonged application of the forceps.

She had now been several hours in labour; the waters had escaped four hours before my visit.

*Present state.*—Pulse 120; the patient fatigued; os uteri two thirds dilated, rigid; the body of the uterus and the abdominal parietes are so flaccid, that the limbs of the child are readily traced on placing the hand over the abdomen. Tumidity of scalp. The head lies transversely on the pelvic brim, face to right ilium. The presentation is high up, and does not bear on the os uteri.

*Treatment and Remarks.*—The catheter was first passed, though no urine was perceived in the bladder. The condition of the mother demanded delivery. The forceps were contraindicated by the pelvic contraction, as well as by the rigid state of the os uteri; craniotomy was therefore the only available proceeding.

The distance of the head from the outlet rendered it necessary to pass my entire hand into the pelvic cavity, ere I could reach the presentation. I then guided the perforator and made the requisite opening into the skull. As complete an evacuation of cerebral substance as possible was effected. I removed also several sections of bone, preserving as much scalp as possible, to cover the rough edges. The guarded crotchets were then adjusted, and traction applied in the axis of the pelvic brim, but no advance was made. Fearing to contuse the mother's soft parts at the brim of the pelvis, the operation having already, with an anxious care for the safety of the maternal structures, occupied nearly an hour, I determined to complete the delivery by *turning*, as in Case LXXXIX. The hand was readily passed up by the side of the reduced head, the exposed edges of the broken skull were carefully covered with scalp, a foot brought down, and the child easily extracted.

Mr. Day subsequently informed me by letter, that his patient had recovered without a single bad symptom.

CASE XCII.—*A difficult primiparous labour; impaction of head in outlet twelve hours; pyrexia, with exhaustion; delivery by craniotomy. Good recovery.*

May 11th, 1853, Mrs. —, æt. 18, first child. Labour commenced on the 8th inst. The liquor amnii had escaped twenty-four hours. The head had been impacted in outlet twelve hours.

*Present state.*—Head fixed in outlet; os uteri fully obliterated; skin dry and heated, mucous membrane also; pulse weak. Patient exhausted.

*Treatment.*—The indication for delivery was urgent; and as there was not room even for a single blade as a tractor, there was no alternative but to deliver by the perforator.

A free removal of cerebral substance and collapse of the bones being effected, the guarded crotchets applied, the child was easily extracted. The catheter was previously introduced, and the contents of the bladder brought away.

This patient had not a bad symptom afterwards.

CASE XCIII.—*Difficult primiparous labour; impaction for many hours; exhaustion; craniotomy. Recovered well.*

May 21st, 1853.—Mrs. —, æt. 19, in primiparous labour. The head had been impacted in a contracted pelvic brim for many hours. Symptoms of exhaustion had shown themselves in a brown tongue, a depraved discharge from the genital passage. On account of these conditions, Mr. J. H. Tucker, late of Berners Street, had consulted me.

The rule of first passing the catheter having been observed, delivery was effected by the only available mode, craniotomy.

I was informed (July 9th) that her recovery had been satisfactory, with the exception of a neuralgic pain of one of her legs, affecting the calf, foot, and toes, extending to the shin, without swelling or redness. For this I was requested to see her again, and prescribed quinine with iron, and change of air.

CASE XCIV.—*A second labour; head strongly pressing on brim ten hours; forceps adjusted, locked, but effected no progress; delivery by craniotomy. Good recovery.*

August 12th, 1853, 8 a.m., I was requested to see a patient with Mr. Stratford Eyre. She had been in this, her *second* labour, since yesterday morning. The waters came away at 10 last night; the head then engaged fully in the pelvic brim, but there had it remained under strong pains from that time till now.

There was no indication for any preparatory treatment, beyond the use of the catheter; I afterwards adjusted the forceps; they locked easily, but although traction was made, with the requisite intermission, for nearly half an hour, no progress whatever took place, so I was compelled unwillingly to resort to craniotomy.

The patient required the use of the catheter once after delivery; but she had a perfectly good recovery.

CASE XCV.—*Impaction of head; delivery by craniotomy, under chloroform; exhaustion on the following day, removed by stimulants and nourishment. Recovery good.*

March 19th, 1854, at 10½ p.m., I was consulted by a professional friend, in the case of a first labour. The liquor amnii had escaped two days before.

*Present state.*—The os uteri nearly fully dilated, the head at brim; a puffy tumour of scalp. The bladder distended,

forming a large fluctuating swelling above the pubes. It had been supposed that urine had been passed in sufficient quantity.

I removed five pints of urine with the elastic catheter, upon which the above swelling completely subsided, and the patient expressed great relief, though she had not felt any desire for micturition.

The patient had, up to my visit, inhaled, in divided quantities, half an ounce of chloroform in the course of the day, and it had probably blunted the sensibility of the bladder.

March 31st, 1½ p.m., I was again consulted; the patient, after a full trial of the natural powers, was still undelivered. A portion of the presenting head had descended to the outlet of the pelvis; the base of the skull, however, is still above the brim.

The bladder was attended to, and as the forceps were contraindicated by impaction of the head, I delivered by craniotomy. During the operation chloroform was administered by the patient's own urgent entreaty, otherwise it was not my intention that it should be continued.

Some exhaustion appeared on the following day, which my friend attributed to the chloroform of the preceding day; but it appears to me that the exhaustion, had it been due to that agent, should have occurred at a much earlier period.

With the exception of the above temporary check, which yielded to suitable treatment, the patient's recovery was uninterruptedly good.

CASE XCVI.—*A difficult primiparous labour, patient's age 32; head arrested at pelvic brim for several hours, subsequently arrested at a lower point; delivery by craniotomy under chloroform, osteotomist required; head much ossified. Good recovery.*

April 16th, 1854, I was called by Mr. Bird, of Osnaburgh

Street, to a patient æt. 32, who after waiting with anxious expectation for seven years from marriage, was now in her *first* labour.

The liquor amnii had come away the previous afternoon; the head had been arrested at the brim for several hours, had then gradually descended half-way into the cavity of the pelvis, and had there become arrested.

The soft parts being well dilated, and the bladder having been first relieved, I applied the forceps. They passed and locked easily; but after a cautious trial of them, during the pains, for upwards of an hour, with some little promise of advantage at first, but not afterwards, I thought it unadvisable to continue their employment.

Two hours' more time were now given to the natural efforts; when, the bladder being first relieved, the forceps were again applied, but without the slightest effect. Chloroform was given on each occasion, at her own urgent entreaty. I was now obliged, much to the disappointment of the patient, to deliver her by craniotomy, the osteotomist being necessary. She was somewhat reassured, when we told her that on the next occasion she would in all probability give birth to a living child.

The operation, by her own desire, was performed under chloroform. The placenta gave no trouble. Not a single bad symptom followed. In all ℥iss of chloroform was used, from first to last, and carefully administered by Mr. Bird.

This patient has since had her wish realised by the birth of a healthy living child.

*Remarks.*—Inordinate ossification of the child's head was the cause of the difficulty, for which reduction by the osteotomist was required to facilitate extraction.

CASE XCVII.—*Obliquely distorted pelvis; rupture of uterus and vagina; delivery by turning and craniotomy; death; P.M. inquiry; measurement of pelvis.*

Thursday, 3½ p.m., November 23d, 1854, I was called by a surgeon to a patient æt. 40; who, he informed me by the messenger, had sustained a rupture of the womb.

*Previous history.*—It was the patient's *sixth* labour.

Her *first* child was delivered by craniotomy; the *second* and *third* naturally, living; the *fourth* by the forceps, child dead; the *fifth* by the forceps—the child lived only a few hours.

The present labour began at 3 a.m., with the escape of the waters. At 10 a.m. the os uteri was fully dilated. The pains were strong till 2½ p.m., when the patient complained of severe pain in the region of the pubes, shortly after, of something having burst within her, and asked the attendant *if she did not hear the noise.*

*Present state.*—Pulse scarcely perceptible; features haggard; skin cold and clammy; vomiting of a fluid resembling coffee-grounds in appearance. The parts of the child distinctly to be felt through the abdominal walls. Head found presenting loosely at the pelvic brim.

*Treatment.*—I passed my hand beside the head, and obtaining a purchase by a foot, as the child lay in the cavity of the abdomen, I readily performed the operation of turning; but it not being possible to bring the head through the contracted brim, I had to lessen it, before the birth could be accomplished.

On the birth of the child, the uterus was found well contracted; the placenta was discovered lying loose among the intestines, and was easily removed. The serious nature of the case, and its probable result, had been communicated to the husband before my arrival. The patient bore the delivery well.

Ordered Morphia gr. $\frac{1}{2}$; turpentine stupe to the abdomen at night.

November 24th.—No pain, pulse very feeble; catheter required; hot linseed poultices to abdomen; beef tea; brandy. The patient gradually sank, and died early on Saturday morning, without any inflammatory symptoms.

*P.M. inquiry.*—Present, my friend Dr. Jenner, and the family attendant.

The laceration was found to extend transversely between the bladder and uterus, leaving the womb uninjured, excepting a small segment of its anterior lip. The uterus was found firmly contracted, and empty. There was a very small quantity of extravasated blood, and no trace of inflammatory effusions.

We found the *diameters of the brim of the pelvis* as follows:

| | | | |
|---|---|---|---|
| Sacro-pubic - - - - - - - | $4\frac{1}{4}$ | inches. | |
| Transverse - - - - - - - | $3\frac{1}{2}$ | „ | instead of $5\frac{1}{4}$. |
| Right oblique, viz., from right sacro-iliac joint | $3\frac{5}{8}$ | „ | instead of 5. |
| Left oblique - - - - - - - | $4\frac{5}{8}$ | „ | |

This pelvis, though not exhibiting the degree of deformity met with in some specimens of obliquely distorted pelvis, figured in Naegele's plates, seems to have been the determining cause of the above laceration.

It is probable, that the head offered in the shorter oblique diameter, and that it would have passed had it fortunately presented in the longer one. There did not appear to us to be any morbid condition of the uterus, which might have predisposed to the rupture.

CASE XCVIII.—*Pelvic outlet much contracted; head arrested five hours; parts hot, tender; delivery by craniotomy; hysteritis; leeches to cervix uteri. Good recovery.*

February 9th, 1855.—I was requested by Mr. Pascall, to visit a primipara, æt. 20; bony outlet and soft parts much contracted. Liquor amnii had escaped five hours; head at same time became engaged half-way descended into pelvic cavity.

*Present state.*—Considerable puffy swelling of scalp; parts very tender and heated, pulse quick.

A cautious trial, without advantage, having been first made with the forceps, I delivered by craniotomy.

February 11th.—The patient is feverish, with great tenderness at hypogastrium and on pressure upon os uteri. Ordered six leeches to the cervix uteri; these were skilfully applied, and did their duty well; upon this the pain was removed. The patient thenceforward had a perfectly good recovery.

CASE XCIX.—*A primiparous labour; head in pelvis twelve hours, vagina dry and hot; pulse weak. Forceps applied, but without advance; delivery by craniotomy. Good recovery.*

A patient, æt. 25, a primipara, with Mr. Wilkinson, of the Caledonian Road. The waters escaped twenty-four hours ago. Head in pelvis *twelve* hours.

*Present state.*—Genital mucous membrane dry; the vagina closely embraces the head; no great heat of skin; pulse did not indicate depletive measures.

*Treatment.*—The catheter was first introduced by Mr. Wilkinson, and the bladder found empty. The forceps were

applied and locked, but effected no progress; craniotomy was then resorted to; the extraction being made by the guarded crotchets, as in previous cases.

Mr. Wilkinson, at the end of three weeks, informed me that the patient had had a perfectly good recovery.

CASE C.—*Pelvic outlet much contracted; primiparous labour; head half-way descended into cavity of pelvis five hours; parts hot, tender. Delivery by craniotomy. Hysteritis, leeches to cervix uteri. Good recovery.*

July 15th, 1855.—A patient, æt. 22, with a professional friend, at 5½ p.m. The liquor amnii had come away at 3 p.m.; the os uteri being then two thirds dilated, but for many previous hours the patient had been in labour, with great rigidity of the os uteri. There had also been severe pain over the uterus, different from, and accessional to, the pains of parturition; on this account the surgeon had been apprehensive of rupture of the uterus, and had therefore bled her; twelve ounces of blood taken away caused fainting, but no softening of the rigidity; the unusual pain was, however, lessened.

*Present state.*—Os uteri still rigid, and only one third dilated; head high up. Slight distension of the bladder perceived above pubes. Fourteen ounces of urine removed by catheter. The pain before complained of still harasses the patient.

*Treatment.*—Any further abstraction of blood I could not recommend, and therefore I suggested, in lieu of it, chloroform by inhalation, to remove the rigidity and accompanying pain. It was given upon a handkerchief, and with such relief that the patient begged for its continuance. It was given from time to time, for three hours, during which three ounces were expended; the rigidity, however, at the end of that time was *undiminished.* Tartar emetic, two grains in

divided doses, had no better effect. The forceps were contra-indicated by the condition of the os uteri, and further delay holding out no promise of a natural delivery, I performed craniotomy. Considerable reduction of the skull by the osteotomist was required to facilitate the extraction of the child through the genital passage. There was extensive morbid adhesion of the placenta, which required gradual detachment.

July 16th, 4 p.m.—Lochia free; pulse soft, 85; urine not passed; ordered spirits of nitric ether, after which, in the evening, the bladder acted properly.

July 17th.—My friend had been summoned to his patient at 3 this morning. Violent abdominal pain and tenderness had supervened. For this she was bled to fainting in the sitting posture, at a loss of seventeen ounces; calomel two grains, and opium half a grain, were given, and repeated before my arrival.

I saw her at 10 a.m.; the tenderness was gone; I ordered, however, hot linseed poultices to the abdomen every two hours, and the calomel and opium to be continued for the present; also a warm gruel clyster, and the injection of warm water into the uterus, on account of the lochia being offensive. Some retained clots were thus washed out.

Nothing further was required, and the patient was convalescent in two days later.

*Remarks.*—The above case exemplified the failure of bleeding, chloroform, and tartar emetic, in resolving a rigidity of the os uteri, one, nevertheless, not of a permanent form, as after delivery it had entirely subsided. It was probably due to some impediment to free circulation through the vessels of the part, occasioned by the pressure of a large child, whose bulk it was necessary to lessen ere delivery could be completed.

The peritoneal inflammation which followed, is one of the events which we have to expect after difficult labours. Such

cases cannot be too closely and anxiously watched, as a few hours of neglect in puerperal inflammatious will turn the balance on the fatal side; while, on the other hand, prompt and efficient treatment will rescue our patient.

CASE CI.—*Child's head hydrocephalic, supposed to be a nates presentation. Labour had lasted four days from escape of "waters." Peritoneal inflammation before delivery; anxious countenance; irregular pulse; laboured respiration; brown dry tongue; copious vomiting of bile. Craniotomy. Death twenty-four hours after delivery. P.M. inquiry. Peritonitis, gangrene, and sloughing of mucous membrane of uterus. Remarks.*

Friday, September 21st, 1855, at 1½ p.m., I was consulted by a surgeon, who had already in his anxiety sought the advice of a friend in his neighbourhood.

Patient æt. 24, her *third* labour; full term. Her former labours had been natural. The liquor amnii had come away on Monday morning; slight pains followed through Monday, Tuesday, and the first half of Wednesday, on the afternoon of which day they ceased, not to return.

Some doubt had been felt as to the presentation, and from its softness it was concluded to be the breech.

*Present state.*—I find a hydrocephalic head presenting, recognisable by its separated sutures, enlarged fontanelles, and fluctuating contents. The patient's countenance anxious, her eyes sunken, surrounded by a dusky ring; cheeks sallow and flushed; extreme exhaustion; there is laboured respiration; pulse irregular and weak, 140; acute abdominal tenderness, green bilious vomiting, and a brown tongue.

In another room I informed the attendant of my suspicion of serious internal mischief having taken place, perhaps rupture of the peritoneal coat of the uterus, and at any

rate peritoneal inflammation. By his request I then communicated to the relatives my opinion that there was very great danger, and that little or no hope existed that delivery would save the life of the patient.

*Treatment.*—I then undertook delivery. First tapping the skull, and giving escape to a large quantity of straw-coloured serum; then, with a good purchase by the guarded crotchets, I delivered the child in two or three minutes without difficulty.

A very putrid fluid now escaped from the uterus. The placenta came away in ten minutes after, entire. The patient expressed herself in strong terms of gratitude. The uterus was washed out with warm water; the patient was ordered beef tea, and hot linseed poultices to the abdomen.

My opinion, fully acquiesced in by the family attendant, was, that the patient would, in all probability, sink within forty-eight hours of her delivery.

She expired at a few minutes after 5 the following morning.

At a *post-mortem* inquiry the following were the appearances:

Abundant proof of peritonitis; great vascularity; extensive and purulent effusion; the intestines widely adherent to one another, and partly to the uterus; the ovaries adherent by their naturally free surface to the uterus; the adhesions were recent and readily torn across. The internal surface of the uterus was found in a gangrenous and sloughing state. The spleen readily broke down under the finger. No trace of rupture of the uterus or vagina. All the other organs of the body were healthy.

*Remarks.*—The above peritoneal and uterine inflammation, which, with exhaustion from protracted suffering, was the cause of death, was the result of long continued pressure on the genital surfaces by the child, rendered bulky as it was by hydrocephalic disease. The patient's previous health had been good. To have prevented the

above mischief, her delivery should have been undertaken on the Wednesday morning instead of on the Friday afternoon. The unfortunate mistake in diagnosis led to the fatal delay.

CASE CII.—*Impaction of head in pelvic brim from small pelvis; soft parts much heated. Delivery by craniotomy with the osteotomist, as in her first labour, after failure of attempts to deliver by the single crotchet.*

February 21st, 1856, at 10 a.m., I visited, with a professional friend, a patient, æt. 25, her *second* labour. I had, on account of small pelvis, delivered her by craniotomy in her previous labour. The liquor amnii had escaped at 7 the previous evening. The patient had been in labour all night.

*Present state.*—The head impacted in the pelvic brim; the parts had become morbidly heated. After perforating and emptying the skull of its cerebral substance, I applied the guarded crotchets; but as no legitimate force of traction succeeded in bringing the child through, I removed three or four sections of bone by the osteotomist, when the head readily passed. My friend had perforated about an hour before my arrival, but had not succeeded with the instruments in ordinary use in effecting delivery. The osteotomist and the use of the guarded crotchets made the operation safe, easy, and expeditious.

The contraction of the pelvic brim in this case was the result of rickets; it had existed at her first labour. She had neglected the advice then given, to have premature labour induced in her subsequent pregnancy.

CASE CIII.—*Disproportionate size of the child, its head unduly ossified. Delivery by craniotomy. Rigidity of os uteri previously removed by tartar emetic. The impaction of the head prevented a previous employment of the forceps.*

May 25th, 1856, at 8 p.m., I was requested by a surgeon in my neighbourhood to see a patient, æt. 25, of corpulent habit, a primipara. The waters had escaped 6 hours, but the patient had been in labour all night.

*Present state.*—Head presents, engaged in brim; the sagittal suture in right oblique diameter; large fontanelle to left acetabulum (third position); os uteri not fully dilated, remaining portion hard and thick; no pyrexia; bowels open.

*Treatment.*—Tartar emetic, in quarter-grain doses, at intervals, to relax the rigidity. Urine drawn off by catheter.

May 26th, at 1 a.m., I was again called. The os uteri was relaxed, nearly obliterated. I hoped now to deliver by the forceps, but finding complete impaction of the head in the brim of the pelvis, I was compelled to deliver by the perforator and crotchets, and had occasion to remove much of the cranium to save the necessity of strong extractive force. The placenta came away easily.

The patient's subsequent recovery was uninterruptedly good.

The cause of difficulty was, that the child was large and its head unduly ossified.

CASE CIV.—*Difficult labour under advanced hip-joint disease. Delivery by the crotchets, after the patient had been greatly neglected. Hysteritis, vaginitis. Death. P.M. inquiry.*

January 3d, 6 p.m., 1837, I was requested by Messrs. Knevett and Lankester, then students in University College, to assist them in a difficult labour in a primipara, æt. 22; a strumous subject.

*Previous history and present state.*—The patient had had hip-joint disease from 5 years of age, when, through an accident, the joint was dislocated.

The right or affected leg is much wasted. On the outer side of the thigh superiorly is an ulcer with inverted edges, from which occasionally portions of bone escape. The right leg is much shortened; for years the use of a crutch has been necessary.

The labour commenced at 5 yesterday morning; the waters came away two hours later. The head is low down, impacted, and a tumid portion of scalp projects between the labia majora, obscuring the sutures and fontanelles. This patient had been for hours under the mismanagement of an old midwife with double cataract, and I may add, mentally blind as well. By this incompetent attendant this poor woman had been kept in hard but fruitless labour from the morning of the previous day.

Immediately on seeing the case, the above gentlemen very properly declined the responsibility of it, and accordingly I saw the patient with them. I found her completely worn out by her protracted sufferings; I therefore, after emptying the bladder, forthwith delivered her by the perforator and guarded crotchets. By removing freely the cerebral substance, the child was extracted without difficulty in about five minutes. The child had been long dead.

As there was flooding, the placenta was immediately re-

moved, upon which, with the employment of a bandage and the exhibition of a full draught of cold water, the uterus was left well contracted, and the hæmorrhage ceased.

Jan. 4th.—Slept well. A large quantity of urine removed by the catheter. Pulse 100, small, soft; tongue furred; skin natural; no headache. Castor oil to-morrow morning. Saline mixture, with ten drops of Battley's Sedative, every four hours.

The patient went on doing apparently well, for a week, when pain of the abdomen appeared, with suppression of the lochia; a dry, hot skin, and a full, bounding pulse.

In my unavoidable absence, she was bled to fainting in the sitting posture, at a moderate loss, upon which the pain left her.

Visit next day.—No abdominal tenderness. Pulse quick, 130; blood strongly buffed and cupped.

On the third day from the attack the patient was worse, yet not complaining of pain. She became weaker and weaker, perspiring profusely, and died at the end of three weeks from delivery.

The *post-mortem* inquiry presented the following appearances:

The right hip-joint diseased. Head of right femur extensively absorbed; acetabulum filled up. A little outside the former situation of the cotyloid cavity, on the ilium, was found a smooth articulating convex surface fitting to a concave synovial surface in the extremity of the neck of the femur. On cutting down on the site of the former cotyloid cavity, a quantity of cheesy cretaceous substance was found. The capacity of the pelvis had suffered a very obvious diminution, but as we were pressed for time, wishing to secure the specimen for the University College Museum, the precise measurements of the pelvis, I regret to say, could not be taken. There were no adhesions nor other traces of peritonitis having existed. The internal sur-

faces of the uterus and vagina were in a gangrenous and sloughing state. The rest of the body was healthy.

*Remarks.*—The long-continued pressure of the child's head on the parts, under strong action for upwards of thirty hours, was obviously the immediate cause of the fatal disease, which doubtless was much predisposed to by the unhealthy state of the constitution. The morbid specimen having a surgical interest attached to it, was shown to Sir Astley Cooper, and subsequently placed in the above museum.

CASE CV.—*Hip joint disease, causing difficult labour; delivery by craniotomy. Good recovery. Remarks on the importance of adequate reduction of the head in cephalotomy operations. Good recovery.*

On Sunday, October 14th, 1855, I was requested by Dr. Siordet to meet him in a *fourth* labour; the patient's age 42.

*Previous history.*—The last confinement occurred three years ago; the child was born living, without instruments, but with difficulty, as also were her two previous children. She had pain in the left hip joint shortly before marriage, eight years ago. After marriage the pain increased. During her three previous labours, at each pain there was a cracking in the left hip joint, loud enough to be heard by her medical attendant. For some months past she has not been able to leave her home in consequence of lameness and pain in the joint in walking. Within the last two years, the pain has increased in the joint, from month to month. The muscles of the left leg are wasted; the knee and toes everted; the hip joint apparently anchylosed; the left leg at least half an inch shorter than the right.

*History.*—Pains began on Friday, 8 p.m. As the patient slept, they went off. The waters escaped on Saturday at noon; head presenting. At half-past 6 p.m., the head had

descended slightly. At 8 p.m. the pains were stronger, after giving ergot. As the head descended lower in consequence, that medicine was repeated.

*Present state*, at half-past 1 p.m.—Head in the right oblique diameter. No bad symptom; I therefore advised more time, hoping that the head might yet be moulded into proper shape for passing through the pelvic tube.

I was called again at 11 p.m., and then found that the head had become impacted, the parts hot and dry. The forceps could not be adjusted, therefore delivery was effected by craniotomy. Considerable reduction by the osteotomist was required before extraction could be safely accomplished.

The delivery, with the requisite care not to injure the mother's tissues, occupied an hour and a quarter. The patient recovered without a single bad symptom.

November 13th.—This patient called upon me to report herself, as regards her late confinement, quite well. Examination of the pelvis exhibits at brim a normal sacro-pubic diameter; the right oblique diameter is less than natural by the projection inwards of the portion of the pelvis adjoining the left acetabulum. A small nodular projection of bone is distinguishable on the posterior surface of the os pubis.

Had the head descended in the left oblique diameter, the child possibly might have been delivered by the forceps, or even by the natural efforts.

An adequate reduction of the head is most necessary for the patient's safety, before extractive efforts are made in such cases. The dangers of craniotomy deliveries, as they are represented by some practical writers, are greatly the results of inattention to that point, the operation being thereby prolonged over many hours, and attended by much contusion of the soft parts within the pelvis.

## ILL EFFECTS OF DELAY.

The following cases are instructive, as showing the evil results of protracted pressure of the child on the maternal tissues, in severe and neglected labours. I have already detailed a case of craniotomy delivery under hydrocephalus, and another under hip-joint disease, equally illustrative in this point of view.

CASE CVI.—*Difficult parturition; laceration of perinæum; inflammation with sloughing of vagina and vulva. Prolonged atony of bladder after delivery. Treatment. Remarks.*

On Thursday, April 25th, 1844, at 1½ p.m., I was requested by a midwife to visit M. C—, æt. 28, of medium stature, good conformation; delivered at 3½ a.m. the previous day of her first child.

*Previous history.*—The health of the patient had been good. The pains commenced at 6 a.m., Tuesday, 23d, and at 12 midday they were trifling and at long intervals; the orifice of the uterus dilated only to the diameter of a shilling. The bowels not opened for two days; a dose of castor oil was ordered, which quickly acted.

The liquor amnii was discharged at 6 p.m.; the mouth of the womb all but fully dilated, its boundaries relaxed. The head presenting by the vertex, with face to right sacro-iliac joint, gradually descended. At 7 p.m. it bore strongly on the soft parts at outlet, and the orifice of the uterus was entirely obliterated. The pains had become forcibly expulsive. Sickness and vomiting, which occurred during the last hour, continued to harass the patient till her delivery; there was much pyrexia, heat and dryness of parts. The perinæum yielded with extreme

slowness, although the pains were strongly and almost uninterruptedly bearing from 7 p.m. (Tuesday) till 3½ a.m. (Wednesday), when the delivery of a stillborn male child, of full size, took place.

The patient had no difficulty in passing her urine during labour. The perinæum was successfully guarded, at the cost of much anxiety and fatigue, up to the birth of the head; with the escape of the shoulders, however, a laceration occurred. The placenta gave no trouble; no hæmorrhage followed, and the uterus contracted well.

At 6 p.m., Wednesday, the patient was distressed by an urgent desire to pass water; none had been voided since delivery. The catheter was at length introduced at 1 a.m. on Thursday, and a large quantity of urine drawn off; the operation had been repeated an hour before my visit, on Thursday, 2 p.m.

*Present condition and subsequent history.*—Skin hot and dry; face flushed; tongue coated with a thick whitish-brown fur; great thirst; occipital headache; bowels constipated; pulse firm, full, bounding, regular, 100; lochia scanty and offensive; no pain nor tenderness of the abdomen; sense of heat and pricking in the genitals; severe pain in sacral region. Labia much swollen, indurated, and exquisitely tender; mucous surfaces vividly red in some places, gray and verging to blackness in others, as far as the eye can reach. The perinæum lacerated to within a few lines of the anus. No line of demarcation to be seen at the circumference of the ash and dark coloured portions of the mucous surfaces.

Calomel three grains, croton oil a quarter of a drop, oil of cassia one drop, to be taken immediately.

8½ p.m.—The patient has passed four or five offensive stools, and feels much relieved. Has an urgent call to empty the bladder, without the ability. About fourteen ounces of high-coloured urine were drawn off. Skin still hot and dry; pulse firm and full. The tenderness and

swelling of the parts not less. To moderate the inflammation, the patient was placed in the sitting posture, and bled to eighteen ounces. She did not faint, but the pulse becoming soft, the skin moist, sickness and vomiting ensuing, the arm was tied up. She was much relieved, and lost the pain in her head. As she had not slept since delivery, the following was given immediately—muriate of morphia three quarters of a grain, blue pill five grains, ipecacuanha two grains.

April 26th, 9 a.m.—Urine drawn off. The sloughing has extended a little, but chiefly on the side of the recto-vaginal septum, and also deeper into the substance of the labia; the patient has had a good night, and expresses herself cooler and more comfortable. Skin moist, yet hot. Pulse soft, regular, 108. Thirst still complained of; no flushing of face. Blood taken, strongly buffed and cupped. A saline diaphoretic draught every four hours.

— p.m.—The discharge from the vagina increased, very offensive. The catheter employed as before. The vagina was syringed out with a lukewarm solution of diluted chloride of soda, to be repeated as often as might seem necessary for the comfort of the patient. A bread and water poultice, mixed with a tablespoonful of brandy, was applied within the labia and vagina, ordered to be changed three or four times daily. The vivid redness and the excessive heat have disappeared. Calomel two grains, acetate of morphia half a grain, at bedtime.

27th, 9½ a.m.—Had some refreshing sleep. Urine drawn off; lotion repeated. The sloughing has ceased to extend; the red line of demarcation apparent. Continue the poultice. Tongue cleaning; pulse 88; skin natural. Strong beef tea or mutton broth.

May 3d.—Abundant suppuration; the sloughs have come away, leaving healthy granulations. A more nutritious diet, with porter, allowed during the last few days. Omit the poultice and lotion. Catheter required daily. Aperients.

4th.—Granulations pale. Zinc lotion. Full diet. Quinine. Catheter.

6th.—All discharge has ceased. Cold water applications to hypogastrium; injections of same per vaginam. Same diet. Quinine.

9th.—Catamenia present. Omit cold applications.

22d.—Menstruation continued for the natural period; after its cessation the cold applications were resumed; the tonic and nutritious regimen continued. The patient was much stronger, yet the retention of urine persisted.

It being conjectured that the perinæal fissure might have some connexion with the retention, it was determined in consultation with Mr. Liston, whom I requested to see the patient with me, to bring the sides of the cleft together; the day was fixed for the operation, but as menstruation appeared, it was postponed. After that, she had an attack of fever, on recovery from which the function of the bladder returned without further interference.

*Remarks.*—The above labour was one of only moderate duration. From the first indication of the process to its completion it came within Dr. Denman's definition of a natural labour, being completed *within twenty-four hours.*

Although not absolutely protracted, relatively it was so; for whereas the *first stage*, of twelve hours' duration at most, was completed with a small amount of pain, the *second stage*, comprising the expulsion of the child, was, considering the character of the pains, and the resistance, inordinately protracted. It occupied nine hours and a half; and during eight hours and a half of this period the perinæum and adjacent soft parts were exposed to strong and almost unintermitting pressure. Moreover, during the greater part of that time the patient was feverish and restless, the vagina dry and heated.

The vomiting was the commencement of constitutional disturbance. The indications of treatment were the timely adoption of measures to allay the fever and remove the

local heat and rigidity. The patient had enjoyed robust health, and would have borne with advantage the abstraction of sixteen or eighteen ounces of blood; after which tartar emetic might have been given, if necessary, to further the relaxation of the rigid tissues. The length of the second stage would thus probably have been shortened, the life of the child secured, and the maternal tissues saved from injury.

The bladder should have received attention earlier; its loss of contractile power was another consequence of pressure, which justified apprehensions for its safety during the sloughing.

I have never, before nor since, met with a case in which the power of the bladder has been, in consequence of protracted labour, impaired for so long a period.

The after treatment of the case was conducted in conformity with general principles, and consisted in—1st, moderating inflammation; 2d, promoting the separation of the sloughs; 3d, securing a healthy granulating process; 4th, relieving the bladder at intervals; 5th, attempting to accelerate the return to that organ of its proper tone, comprehending measures for restoring the strength of the patient.

I have been informed that this woman has since had three living children without difficulty. She has not in any way suffered from the injury sustained on the above occasion, the perinæum having undergone sufficient repair under the natural process.

## Case CVII.

About the year 1832 I accompanied my father to assist him in a case of protracted labour, in the neighbourhood of Westminster Abbey. We found a robust Irishwoman in labour of her first child, her age about 25.

She had been under the care, or rather under the gross negligence, of an unprincipled and ignorant midwife. The waters had escaped early in the case, and the patient had been in hard labour for four days.

We found her seated on a chair, breathing with difficulty; her hands cold and clammy; her pulse so frequent and irregular as scarcely to be counted; her eyes sunken, and the rings around them dark; the tongue brown, almost black.

The atmosphere of the room was very offensive. The poor sufferer was immediately placed on her bed. The vagina and soft outlet were found swollen, gangrenous, emphysematous. The unavoidable prognosis was given; and the friends were prepared to expect that the patient might die during delivery.

The child was now extracted by embryotomy, each cavity requiring to be emptied of its contents. The pelvis was found of standard capacity; the child was not of excessive size, excepting from the effects of putrefaction.

The placenta came away putrid, with and followed by discharges in the same state. The patient, immediately after delivery, lapsed into muttering delirium, and died within two hours afterwards.

*Remarks.*—This case was a distressing one to witness, since it was plain that, under proper attention and management, the young woman's life, and probably also that of her offspring, might have been saved.

There was, as we gathered from our inquiries, an indication in the labour for depletion. The genitals and the skin had at one time been hot and dry. Had a moderate bleeding, with or without tartar emetic, been timely had recourse to, my belief is that this patient's life, and also that of her child, would have been spared, and *that*, in all probability, even without a resort to instrumental aid.

## CHAPTER V.

### FACE PRESENTATION LABOURS COMPLETED BY CEPHALOTOMY.

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CASE CVIII.—*Brow presentation. Impaction of the head. Craniotomy.*

March, 1854.—I was called to a patient who had been in labour many hours; the parts had become hot and dry; the liquor amnii had escaped long before; the brow presented; the head was impacted. It was the patient's third child. I did not consider that bloodletting could be borne. I feared injury might result from further delay; I therefore perforated, fixing the trocar upon the brow, and having effected a free removal of the cerebral substance, delivered by the craniotomy forceps. The placenta followed in ten minutes, and the patient had a good recovery.

CASE CIX.—*Face presentation. Cephalotomy.*

June 17th, 1849.—I was requested by an old professional friend to meet him in the case of a primipara, æt. 28. The liquor amnii came away at 6 in the morning. At 10½ at night, after there had been pains at varying intervals through the day, the face was first detected at the pelvic brim. At 12½ I was called, and found the frontal part of the face towards right ilium, the chin to the opposite side of the pelvis; the intumescence of a distended bladder

above the pubes. The parts were moist, not overheated; os uteri two thirds dilated; child living.

I removed twenty ounces of urine by the catheter; ordered tartar emetic in quarter-of-a-grain doses to be given at intervals to facilitate dilatation, and it was arranged that I should see the patient again, as soon as any useful assistance could be given. At 9 the following morning I was again summoned, and found the head still at the brim; the parts had now become heated; the os uteri was yet not fully dilated; there had been strong pains; the face firmly wedged in the pelvic brim, so that no attempts to advance the head or to rectify the position were possible.

Fearing risk from further pressure on the maternal tissues, I had now recourse to cephalotomy. I perforated the skull just above the left orbit, removed two sections of bone with the osteotomist, and with a firm purchase by the craniotomy forceps I brought the child slowly into the world. About four minutes were allowed to elapse after the birth of the head, before the shoulders passed through the outlet, and about the same time before the breech made its exit. All this slowness being required for the safety of the perinæum, as well as to ensure a better contraction of the uterus subsequently. The placenta was thrown off in half an hour.

The report on the following day was—the patient had passed a good night, and the bladder had duly acted without pain. Lochia ample.

This patient, beyond a little attention to disperse the milk, required no particular care, and she had a good recovery.

### Case CX.—*Face presentation; chin backwards. Cephalotomy.*

September 5th, 1849.—I was called by Mr. Langley to

Mrs. —, æt. 40. Sixth pregnancy, full term. The liquor amnii came away at 6 in the morning, and I saw the patient at 6½ in the evening. Throughout the day there had been strong pains.

I found a face presentation; the large fontanelle applied to the left cotyloid region of the pelvis; the chin directed to the right sacro-iliac joint; the os uteri two thirds dilated; patient's face turgid with efforts; pulse full and strong; the soft tissues around the presentation swollen.

I ordered bleeding, and promised to see her again. Sixteen ounces of blood were removed by Mr. Langley; attempts were also made to rectify the position, so as to rotate the chin forwards, but without success.

About two hours later, every effort having been made to obviate it, delivery by perforation of the supra-orbital region was accomplished. The osteotomist was required before the extraction by the craniotomy forceps could be effected. The child was found to weigh ten pounds.

This patient had a perfectly good recovery, no untoward symptom whatever occurring in her puerperium.

CASE CXI.—*Face presentation. Delivery by cephalotomy, after other modes of relief had been attempted without success.*

November 19th, 1856, 2½ p.m.—I was requested by a professional friend to give my opinion and assistance in a primiparous labour, the patient's age 28. She had been thirteen hours in labour. I found a distended bladder, and removed by the catheter a pint and a half of urine. The head was not impacted, the large fontanelle to right side, os uteri not fully dilated; the rotation of the chin forwards could not be effected. As there was no heat, nor deficiency of mucus, I suggested a further reliance on nature.

At 10½ at night I was again summoned, and found the os uteri rigid, and no advance. The bladder again required relief, and a pint and upwards of urine was removed by the catheter. After every possible effort had been made to accomplish the birth, attempts to turn, as a last resource under chloroform, having failed, I at length, at 12½, very reluctantly commenced delivery by cephalotomy.

I perforated the skull at the orbit, and the bones proving to be much ossified, I had on that account to remove several sections of bone by the osteotomist.

In order to use all the requisite caution under the circumstances for the safety of the patient from contusion or laceration, I devoted an hour and a little more to the delivery, which, by the earnest entreaty of the patient, who was restless, was performed under chloroform.

I am happy to add that recovery took place without a single bad symptom.

CASE CXII.—*Difficult labour under face presentation. Delivery by cephalotomy, on account of contraction at pelvic outlet.*

Within a few weeks after the occurrence of the above case, I was requested by a professional friend at the west end of town to meet him in the case of a difficult labour under a face presentation. It was the patient's first confinement, her age 27. The liquor amnii had escaped many hours. The face had descended as low as the outlet, under violent pains, which had returned at short intervals throughout the night, and a part of the previous day.

The difficulty was at the outlet of the pelvis; the chin had not turned to the pubic arch, and all efforts to effect that rotation had failed. The parts had become heated and swollen; the brown discharge referred to in previous cases of protracted labour was evident; the patient, who was

not a robust subject, presented undoubted signs of exhaustion.

There was no resource, therefore, but to deliver by cephalotomy. I perforated at the orbit, and having effected a free discharge of cerebral substance, extracted the child by the craniotomy forceps.

This patient recovered well, and, by request of her medical attendant, she called upon me not long after, on the eve of her return to France. The subsequent history of this lady, shortly, was as follows, as it has been kindly communicated to me recently by the physician who consulted me in her first labour. In due time becoming again pregnant, she was kept, by her medical attendant in Paris, on a very spare dietary, and it is understood also, that, as we had advised, labour was induced prematurely, viz., at seven and a half months. She was delivered of a living child.

She subsequently conceived a third time; would not again consent to restrictions in her diet; on the contrary, she lived, as usual, generously, during this her last pregnancy. Her labour ensued at *full* term; she was delivered again in Paris, instrumentally, after that process had been protracted for two days. She died within three days of her delivery.

Further details my friend has not been able to obtain, in consequence of the distressed state of mind of the husband.

## CHAPTER VI.

### DIFFICULT BREECH OR FOOTLING CASES.

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CASE CXIII.—*A difficult breech birth; after many hours of fruitless labour, the patient was delivered under chloroform. Disproportionate space at the pelvic brim was the obstructing cause.*

Sunday, August 28th, 1856, 6 p.m., I was summoned by Dr. Powell, of Guildford Street, Russell Square, to a primiparous labour, breech presentation, the patient of medium stature, externally well formed, and of moderate good health.

Slight labour pains had commenced on Friday, with the discharge of the waters, and had continued, more or less, up to the period of my visit.

I found the os uteri three fourths dilated, the breech high up, resting on the pelvic brim, the parts moist, not unduly heated. I suggested a further reliance on the natural efforts, as affording the best hope of a living birth. It was determined, that if after four more hours no progress had been effected, assistance should be given. The bladder and bowels were duly attended to.

I was not summoned again till midnight; in the interim there had been active pain without advance. My friend had attempted delivery by the blunt hook, without avail. I

found it also impossible to lower the presentation, and so determined to seek the aid of chloroform. I had the patient reduced to unconsciousness, and then, after another fruitless attempt to bring down the presentation, I passed my hand into the uterus, and brought down a lower extremity; the pelvis was then gradually lowered and the rest of the trunk. The shoulders offered considerable difficulty; the arms were liberated before the head entered the brim. The extraction of the head was difficult, although it was placed in the most favorable position for its transit, with the chin depressed on the sternum, and the long diameter of the head directed obliquely backwards as it passed the brim. The child was stillborn, and from the appearance of the cord it must have been dead several hours. This patient had a perfect recovery ultimately; but was very ill with aphthæ of the mouth and throat, and with diarrhœa for four or five weeks.

### Case CXIV.—*A difficult breech birth, occasioned by hydrocephalus.*

In the summer of 1847 I was called to a patient of the Royal Maternity Charity. She had been delivered, as far as the shoulders of the child, under a breech presentation; and the midwife had exhausted her efforts in vain to complete the delivery. I detected a loose condition of the bones, with fluctuation, which led me to decide that I had to deal with a hydrocephalic child; it was useless, therefore, to repeat the tractions.

I perforated behind the ear, when a clear serum escaped in abundance, the head collapsed, and the birth was completed within five minutes after, without difficulty. The brain, as usual in such cases, was found expanded into the form of a bag, lining the internal surface of the skull.

This patient recovered as soon and as completely as after a natural labour.

CASE CXV.—*A difficult footling case; early discharge of liquor amnii; the birth delayed after the expulsion of the shoulders, on account of a stricture formed around the child's neck by the cervix uteri.*

Monday, December 2d, 1839, 7 p.m., I was summoned to a primiparous labour, footling presentation. The liquor amnii had escaped fifty hours. I found the breech and lower extremities in the world. Some little assistance had been given by the attendant in bringing these down, after he had judiciously abstained for several hours from interference.

The passage of the shoulders and head was rendered difficult by a spasmodic constriction of the cervix of the uterus, closing upon the neck of the child. Opium was given to relax this, and abstinence from traction observed during the presence of the stricture.

Chloroform would have been useful in relaxing the stricture, and perhaps would, applied in time, have secured a living birth, but it was not in use till some years later.

The placenta occasioned no difficulty, and the patient's subsequent progress was perfectly favorable.

CASE CXVI.—*A breech labour rendered difficult by congestion of the uterus and a rigid state of parts, the removal of which brought the labour to a safe conclusion, as regards both mother and child.*

October 23d, 1846, I was called to a primipara, æt. 36, in labour for many hours after escape of the "waters."

I found a breech presentation, the orifice of the uterus fully dilated; it had been so, indeed, for upwards of twelve

hours; the vagina rigid, dry, and heated, also the perinæum and skin generally; the pulse full and hard.

Prolonged traction had been made at the groin with the finger and tape fillet, without the slightest progress.

The kind of pulse, a plethoric aspect of the patient, and the rigid state of the passage, induced me to suggest bleeding. Sixteen ounces were withdrawn, upon which the skin became moist, the vagina and perinæum relaxed; the uterus now exerted itself most efficiently, and without any manual aid the child was born within an hour afterwards, in a state of asphyxia, but speedily restored by the means detailed in preceding case. The placenta followed quickly, without hæmorrhage. The patient had a good recovery.

### Case CXVII.—*A difficult breech birth; artificial delivery.*

In the month of June, 1855, I was consulted in a primiparous labour, with breech presentation, patient æt. 27. The liquor amnii had escaped two days before. I found the os uteri two thirds dilated, the breech presenting loosely on the brim; mucous membrane moist, not heated; moderate pains at intervals of three or four minutes; movements of the child strong, and fœtal pulsation evident. Under these circumstances I suggested more time. Not hearing at night of the case, I presumed it had ended well, and was surprised, at 8 in the morning, to hear that the patient was not yet delivered.

The breech was still at the brim of the pelvis, the os uteri was fully dilated last night. The movements of the child not apparent, and no fœtal pulsation to be distinguished.

I endeavoured to deliver with my finger hooked round the groin; this not succeeding, I applied the blunt hook and brought the child into the world. It had evidently been so

long dead that resuscitation was impossible. The mother did well.

Would the child have been saved had delivery been effected on the previous evening, upon full dilatation of the os uteri? Most probably.

CASE CXVIII.—*A difficult breech labour; the presentation, impacted in the brim of the pelvis, required manual aid; the child born asphyxiated; the cord not tied till full resuscitation. It was the patient's third præternatural labour.*

April 12th, 1842, 10½ a.m.—A patient of Royal Maternity Charity, in labour of her eleventh child; the left nates presented.

The labour pains commenced at 3 a.m., April 11th, and continued of moderate strength till 1 this morning, when the orifice of the uterus being fully dilated, the liquor amnii came away; the pains now flagged.

I found the neck and orifice of the uterus firmly contracted around the presentation, and no proper parturient pains present; the breech and the surrounding portion of the uterus fully occupied the pelvic brim, and appeared to me in some degree impacted, and so the cause of the difficulty. It occurred to me, that if I could by gradual and cautious traction with my index finger bring down the left leg, so as to remove the impaction, and thus the spasm seemingly the consequence of it, the uterus would resume its proper action. I accordingly accomplished this change very slowly, acting gently at intervals. In the course of a few minutes after the above proceeding, the spasmodic state of the cervix ceased, the uterus resumed vigorous action, and the child was born in half an hour from the return of efficient pains. The head being arrested at the brim, the usual manipulation of depressing the chin upon the breast

with two fingers in the mouth, and pressing the occiput upwards, and then applying traction upon the head and trunk, the child was brought through. It was in a state of asphyxia, from which, however, it was restored at the end of ten minutes, by the usual means, maintaining the while, free communication with its mother's circulation, which the pulse in the cord showed to be yet perfect. When respiration was established, the cord was tied and divided.

The child was found to weigh ten pounds, being larger than any of the mother's previous children.

Under these circumstances the exhibition of a sedative, or opium, or chloroform, would probably have resolved the spasm. As I apprehended that the size of the child was here the cause of the impediment, and that the impaction thus resulting, excited reflex and irregular muscular action in the cervix, it appeared to be the more rational proceeding to remove the state, upon which that seemed to depend.

The practice of delaying the tying of the cord when pulsating, in this and similar cases, till breathing life has been completely established, is a point of importance which has not always been insisted upon.

# CHAPTER VII.

## TRANSVERSE PRESENTATIONS.

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CASE CXIX.—*Cross birth, arm presentation; turning; child stillborn; earlier aid would probably have yielded a different result. Good recovery.*

I was requested one afternoon in March, 1838, to visit a poor woman in labour with her fourth child. The liquor amnii had been discharged *an hour and a half*. I found the os uteri fully dilated; the arm in the vagina; the parts lax and moist; uterine action moderate; pulse 78. Muscular resistance was excited by my hand, as I passed it up to turn.

I reached one foot and passed a tape noose round the ankle. Holding the extremity of this purchase, I pushed up the presenting part; thus the turn was easily effected, and the child speedily delivered, but stillborn. Earlier interference would probably have saved the child's life. In this patient's last labour her child also came by a cross presentation.

CASE CXX.—*Cross birth, arm presentation; turning, which came too late to save the child. Good recovery.*

August 14th, 1844.—Mrs. —, æt. 40, a fourth labour, arm

presentation. The liquor amnii discharged two hours ago; the uterus strongly contracted on the body of the child. I attempted to turn, but found the resistance of the uterus to my efforts too great. I took some blood from the arm, and exhibited a full opiate, after which the operation of turning was easily effected. The child was stillborn, but did not appear to have been dead long, and perhaps would have been saved by delivery an hour or two earlier. The pelvic brim, on careful measurement after delivery yielded a sacro-pubic diameter of only $3\frac{1}{2}$ inches. The patient had a good recovery.

CASE CXXI.—*Cross birth; side of abdomen and chest; turning; child stillborn.*

Saturday, March 25th, 1854, I was requested by a professional friend to meet him in a sixth labour. The liquor amnii had come away on the previous Thursday. The side of the abdomen and chest presented. The insertion of the funis at the umbilicus of the fœtus easily felt.

By slow degrees I succeeded in reaching one leg and bringing it down. I left my friend to conduct the remainder of the case, judging it unwise, on account of the insufficient dilatation of the os uteri, to attempt delivery of the child at present. After some delay, on account of arrest of the head, the extraction of a stillborn child was effected. The patient did well.

CASE CXXII.—*Cross birth, arm presentation; turning; child apparently dead before labour. Good recovery.*

Tuesday, June 26th, 1854, at $10\frac{1}{2}$ p.m., I was requested by a parochial midwife to see a patient in labour, with an arm presentation. The liquor amnii had escaped an hour

and a half before I saw her. The patient had had a fright on the previous Thursday, ever since which she had not felt the child. I found the uterus not strongly contracted around the body of the child, and had, therefore, no difficulty in passing my hand up and delivering by the feet. The child was stillborn.

An earlier delivery would probably have saved this child.

CASE CXXIII.—*Arm presentation; hæmorrhage; firm clots at os uteri mistaken for placenta prævia; delivery by turning; child still. Good recovery.*

Patient, æt. 35, July 17th, had had previous children. There had been profuse hæmorrhage. The surgeon who had requested my aid, fancied he felt the placenta presenting; tough clots at the os uteri led to that suspicion. The liquor amnii had escaped three hours. I passed up my hand to the feet without great difficulty, and delivered by turning. During the operation I felt the cord, and that it was without pulsation.

Probably the hæmorrhage had deprived the child of life.

The placenta caused no difficulty, and the mother's recovery was good.

CASE CXXIV.—*Arm presentation; delivery by turning; child still. Mother did well.*

June 26th, 1855, at 10½ p.m., I was requested to see a patient in labour with a cross presentation. The "waters" had come away an hour and a half before my visit. The patient had had a fright on the previous Thursday, since which she had not felt the child. The arm occupied the genital passage. The uterus not being strongly contracted

on the body of the child, a lower extremity was readily reached, and delivery by turning easily accomplished.

The child, as expected, was stillborn. The mother had a good recovery.

CASE CXXV.—*Cross birth; arm presentation; spontaneous "evolution" or expulsion; child stillborn. Mother did well.*

November 18th, 1854, I was called by Mr. Wilkinson, of the Caledonian Road, to a third labour. The liquor amnii had escaped several hours before. The left arm and side of the child's body presented, the arm lying under the pubis, the clavicle extending close under the pubic arch. I arrived quickly, but the pains in the interim had been very violent, and had at length accomplished the expulsion of the child before my arrival; its breech being expelled first, the arm not receding. The child was dead, and of about seven months' gestation.

Mr. Wilkinson's description of the birth was a very accurate account of the above very rare operation of nature, so clearly explained by Dr. Douglas in 1811.

I have had two similar cases under my observation, in both of which the women had had children before, the pelves exceeded the standard capacity, the children were under the average size, and they were stillborn; apparently had not been long dead, and probably were destroyed by the undue pressure to which they had been exposed.

CASE CXXVI.—*Shoulder presentation; delivery by turning; child still. Mother did well.*

July 27th, 1856, 2½ p.m., I was requested by a surgeon to come to his assistance in a case originally one of shoulder

presentation. In attempts to turn, an arm had been brought down instead of a leg, and subsequent attempts to reach a lower extremity had failed. By proceeding gently and slowly, I reached a lower extremity, and, by the help of its purchase, brought the body through the pelvis, and gradually the head. The child was stillborn; the placenta followed ten minutes later, leaving the uterus well contracted.

CASE CXXVII.—*Arm presentation; turning; child living. Good recovery.*

December 15th, 1856, 5 p.m.—A patient in my district of the Royal Maternity Charity, a little deformed woman, but whose pelvis, nevertheless, was not involved in the deformity, being in labour of her second child, sent for her midwife. The hand protruded at the outlet of the pelvis. She had been some hours in slight labour pains, and the liquor amnii had escaped upwards of an hour. With some difficulty I succeeded in passing my hand up by the side of the presenting arm into the uterus, and the child was delivered by turning. It was born in a state of asphyxia, but completely resuscitated by the usual means. The placenta came away without trouble. The mother and child did well.

CASE CXXVIII.—*Arm presentation; turning; child living. Good recovery.*

June 4th, 1858, I was consulted in a case of arm presentation, the patient's age being 36, and the pregnancy her seventh. The "waters" had escaped about an hour before my arrival. I passed my hand up without much difficulty, and hooking my index finger around the more

distant knee, I readily accomplished version. The child descending with the toes forwards, I rotated the trunk, directing the front surfaces of the child obliquely backwards. The arms were brought down, when the shoulders entered the brim. The head was next guided through the brim, by disposing the face towards the right synchondrosis, and so the child was delivered.

It was born in a state of asphyxia, but readily resuscitated from it.

CASE CXXIX.—*Arm presentation; attempts to turn, before giving chloroform, had failed; after anæsthesia it was accomplished. Child born dead. Mother recovered well.*

February, 1850.—I was called to a patient, æt. 28, deformed by rickets; the pelvis, however, was but little affected in its dimensions.

It was the patient's third pregnancy. The arm presented, and repeated attempts to turn had been made without success. Under these circumstances I was sent for.

My first efforts at version were unsuccessful, so violent were the uterine contractions. I succeeded, however, after giving chloroform by inhalation to the extent of a drachm.

Before anæsthesia the patient was restless, and quite unmanageable; but while in this state she remained perfectly quiescent, and the operation was rendered comparatively easy.

The child was stillborn, as was to be expected, after so much pressure had been exerted upon it.

The after-birth followed in less than ten minutes, without hæmorrhage.

I should not omit to add, that there had been some hæmorrhage before I saw her, which, during turning, I found

to be due to a low attachment of the placenta to the uterus, although its edge did not quite reach the os uteri. The uterus contracted well after delivery, no hæmorrhage recurred, and the patient had a good recovery.

### Case CXXX.—*Arm presentation. Delivery by embryotomy. Good recovery.*

Saturday, November 30th, 1839, 8 a.m., Mr. Woodthorpe, surgeon, of Kingsland, requested me to visit a patient in his neighbourhood; her age 28; her second labour. The previous child was born thirteen years ago; she then passed a widowhood of twelve years, and married again a year ago.

I found the arm down in the vagina, swollen, livid. Liquor amnii escaped on Monday; but no pain setting in till Friday evening, the vaginal examination was deferred till then. The arm was not then down, and the nature of the case was obscure.

Saturday morning, at 4 o'clock, the arm was found down in the vagina; several fruitless attempts, before and subsequently to the exhibition of a full opiate, were made to turn, after which I was sent for. I found an impacted state of the presenting arm, which was swollen; an excited state of the heart and arteries, a hot and dry skin and vaginal mucous membrane. For these states, and also with a view to preparing the patient for a final attempt to turn, I ordered bleeding to faintishness in the sitting posture, and a full dose of laudanum; but such was still the impaction, that even after the above treatment version was quite impracticable.

It being hazardous to delay longer, I now perforated the axilla, using the arm as my guide to it; eviscerated the cavities of the trunk, causing their collapse, and so, by traction at the arm, I brought the child by degrees through

the outlet. This patient had a good recovery in the usual time after a natural labour, and has had a living child since.

Had the practice of anæsthesia been introduced at the above date, possibly, applied in time, the result might have been different.

CASE CXXXI.—*A transverse presentation; elbow, with funis; turning impracticable after a full dose of opium; delivery by the crotchets. Good recovery. Remarks.*

In the year 1844, Mrs. —, æt. 20, in labour of her second child. Her first (now living) had been delivered by the forceps. The waters had escaped a quarter of an hour before my arrival, the mouth of the womb at the time being nearly fully dilated. The elbow and funis presented; there was very feeble pulsation in the cord. The patient had a moist skin, of natural temperature; her pulse was but little raised above its natural rhythm; the vagina not heated, and sufficiently covered with mucus.

I attempted, by gently and gradually passing my hand up into the uterus, to turn; but powerful uterine contractions were induced, which returned in full force against me on each attempt. I administered one drachm of laudanum, waited patiently for its action, then repeated my efforts, but without effect.

The cord had now ceased entirely to pulsate; I accordingly proceeded to deliver by the crotchets, perforated the chest in the axilla, divided the contiguous ribs, obtained a purchase on the body by the guarded crotchets, and so brought the child through the passage. The body came sideways, the breech and feet being first expelled, as in a case of "spontaneous evolution." The uterus contracted well; the placenta was thrown off within half an hour, and removed from the vagina. The patient was left with a

perfectly contracted uterus, and earnestly expressing her gratitude. Pulse 90, quick.

Visit on the following day.—Pulse 80, soft; skin moist, of natural temperature; lochia good; urine passed without difficulty; convalescence uninterrupted.

*Remarks.*—In this case the uterine action, and that of the accessory powers, were such as to render turning impracticable even after the exhibition of opium, which so frequently enables us, by diminishing the violence of the womb's contractions, to complete the operation. The treatment of bloodletting adopted in some cases with occasional success, in quelling excessive uterine action, would have been improper here; the patient's constitutional strength did not admit of it. The practice of anæsthesia in childbirth had not yet been thought of. It was first adopted by Dr. Simpson, in Edinburgh, through the medium of ether, on the 19th of January, 1847, preparatory to the operation of turning; and by means of chloroform, on the 8th of November, of the same year.[1]

CASE CXXXI.—*Cross birth, arm and foot presentation with funis. Embryotomy. Favorable convalescence.*

December 5th, 1849, at 10½ p.m. A third labour. I was requested to see a patient, of a neighbouring parochial infirmary, æt. 30, in labour at full term. The presentation consisted of the arm, foot, and funis. The liquor amnii had escaped three hours before; repeated attempts to turn the child had been made. The coils of cord prolapsed were devoid of all pulsation. The child was immoveably fixed.

I perforated the most accessible part of the chest, eviscerated, and then with the crotchets brought the child

[1] 'Monthly Journal of Medical Science,' vol. 1847-48, p. 451; 'Obstetric Memoirs,' by Dr. Simpson, p. 631 et seq.

gradually into the world. The patient had an uninterruptedly good recovery.

The pelvis was deep in this case, which made the operation a little more tedious.

### Case CXXXII.—*Shoulder presentation. Embryotomy. Good recovery.*

April 7th, 1846, at 6½ a.m., I was called by Mr. Samuel Bacon to Mrs. C—, æt, 40, of robust health, in her ninth labour. All her previous confinements had been favorable.

The pains had set in at 9 the previous evening. At 3 in the morning—six hours later—the "waters" came away; the mouth of the uterus was at this time nearly fully dilated. The shoulder was now first detected to be the presenting part. Without loss of time, my friend endeavoured to deliver by turning; but so great was the resistance to the entry of his hand, that after repeated efforts he was unsuccessful. Under these circumstances I was consulted.

I found turning not practicable. The patient's habit of body, and her pulse full and firm, justifying a resort to the relaxing agency of bloodletting, preparatory to a final attempt to save the child, I suggested that treatment. Twenty ounces were removed, the patient being in the sitting posture. Fainting did not take place. One drachm of laudanum was given immediately afterwards; nevertheless version could not, even now, be accomplished, the shoulder remaining as fixed as before.

As there was risk in leaving the patient longer unrelieved, I now commenced the operation of embryotomy, and guided by the arm, which I had previously brought down, I perforated the axilla, dividing the ribs, and eviscerating.

I then made a purchase on the trunk, by a pair of craniotomy forceps, yet the child could not be brought down.

It was therefore necessary to divide the neck; but the arm, which I had already brought down, to give me more room for reaching a lower extremity, being in my way I removed it first at the shoulder-joint. After decapitation, the trunk was readily brought into the world, and the head was then delivered by craniotomy; my friend here giving me useful assistance, by the pressure of his hand upon the hypogastrium, so as to fix the head at the pelvic brim. The afterbirth followed without trouble, and the uterus contracted well.

Immediately after delivery—which, with the necessary care of the mother's tissues, occupied an hour and a half—the pulse from 120 fell to 104.

At our visit on the following morning the pulse was 80, and soft. The patient had had a good night, and had passed water freely without any pain whatever. Lochia natural.

Beyond extra care to keep the patient undisturbed by visitors, and ordinary attention otherwise, no treatment was called for in this case. The patient recovered as quickly as after any of her previous labours.

*Remarks.*—The preparatory treatment of this patient, prior to delivery, although it did not enable me to accomplish my first object of turning, contributed no doubt to guard the patient from any unpleasant results of prolonged efforts to save the child by that operation; as also from those evils which might have been reasonably apprehended from the subsequent proceedings, however cautiously conducted.

I have only, in two other instances (Cases 133-4), found it necessary to separate the arm in delivering by embryotomy under cross presentations. In the present case, the neck was situated so high up that the difficulty of acting upon it was increased, and the arm could not now be replaced in the uterine cavity. I therefore separated the arm, as above stated, using Smellie's scissors, carefully sur-

rounding the shoulder-joint with the index and middle fingers of my left hand. Adopting the same precautions with the neck, I effected its division in the same way. I have since had constructed for this purpose a special pair of scissors between ten and eleven inches long, blunt at the end, without shoulders, and curved near their extremity.

The division should be effected little by little, the finger being placed at the distal side of the neck, and hooked around it, to guard the surrounding maternal tissues.

These scissors I have recently used with success in a case of *intra-uterine polypus*, where, on account of the mobility of the growth, the ligature could not be thrown around the pedicle.

### Case CXXXIII.—*Arm presentation. Delivery by the crotchets with decapitation. Favorable recovery.*

October 29th, 1851.—I was called to the case of a poor woman, æt. 34, in her third labour, the arm presenting.

*Previous history.*—The waters escaped spontaneously on the 26th instant, without pains. At 11 last night (28th) she was seen by a surgeon. At that time the os uteri was firmly contracted around the arm and shoulder, on which account he had administered tartar emetic and opium, to relax the os uteri; but without success.

*Present state.*—I find the arm in the vagina, much swollen and desquamating; the genital mucous surfaces exquisitely tender, heated, and dry; the tongue coated with a brown fur; pulse weak, 120. The patient's countenance expressed great exhaustion. I determined on delivery by embryotomy, as the only safe mode of relieving the poor woman. I found the swollen arm to occupy so much space in the vagina, as to leave insufficient room for operating on the parts of the child above, without exposing the mother's tissues to risk of injury. I therefore first removed the arm

at the shoulder, then, finding the neck most accessible, I passed the decapitating hook round it, and effected its division. Pressing the head aside, I now made a purchase by the guarded crotchets on the child's chest, and brought the trunk into the world. The head I next delivered by craniotomy without difficulty.

I did not think it advisable to place this patient under chloroform, fearing ill consequences in her then condition; and, at the same time, looking upon any further attempt at version of an impacted, decomposing child as contrary to reason, I did not, for a moment, contemplate such a proceeding.

I have only to add, that, notwithstanding two rigors, one before and another after delivery, the patient had a perfectly good delivery.

On the following day, the bladder responded freely, the pulse was at 80; the patient said she felt comfortable.

Had anæsthesia been appealed to early on the previous day, it is not improbable that turning might have been accomplished, and the child saved.

### Case CXXXIV.—*Cross birth; arm presentation. Delivery by embryotomy. Good recovery.*

February 2d, 1854, 1½ p.m.—I was requested by Mr. Rawlins, of Kentish Town, to meet him in a case of arm-presentation, second labour. The liquor amnii had escaped the night before. Well directed attempts to turn had been made by Mr. Rawlins, but without success.

I thought it unadvisable to repeat the attempt at version, till I had first placed the patient under chloroform. She was reduced to unconsciousness and quiescence: in short, it would not have been prudent to have carried its administration further; yet the operation was even then impracticable, the child being still immoveably fixed. I managed

to reach one foot, and to bring it down, and to throw a tape noose around it; but after repeated attempts to effect the turning in the way which succeeds under a less degree of uterine contraction, I was obliged to desist. In my search for the extremity, I found the funis without pulsation, and therefore was not so much disappointed.

I now perforated the chest at the axilla with the trocar, but finding the swollen arm a great impediment to safe proceedings, as regards the mother's tissues, I was obliged to separate it at the shoulder joint. I then eviscerated the thorax, when the child readily came by traction at the foot. The placenta passed away without trouble, and the patient recovered without a single bad symptom.

CASE CXXXV.—*Cross birth; arm presentation. Embryotomy. Collapse. Jaundice. Recovery.*

August 3d, 1855, at 1½ a.m., I was requested by Dr. Broxholm, of Richmond Road, Islington, to meet him in a third labour, the case being one of arm-presentation; the patient's age 28. The liquor amnii had escaped four hours and a half before. Proper attempts to turn had entirely failed, the child being firmly fixed in its position. I decided, on examination, not to repeat them, and a very low condition of the patient, with an extremely weak, fluttering pulse, also, determined me not to give chloroform.

I therefore at once perforated the chest, and eviscerated, but even now the child could not be extracted. I therefore divided the accessible portion of the spine, which proved to be the first dorsal vertebra. I made a purchase with a pair of embryotomy forceps, and so brought the child into the world. The placenta came away quickly afterwards. The patient was so low during and after the operation, that I was obliged to give her a little brandy from time to time.

From the extreme prostration and vomiting, with a pulse 140 and intermittent, I feared a rupture of some portion of the uterus might have taken place, and we gave a guarded prognosis. We were much pleased, however, to find, on the following day, that the patient had considerably rallied.

Pulse 120, and regular; tongue harsh and brown; there is occasional bilious vomiting; the face is flushed; skin a little above the natural temperature; but the patient's expression is not anxious; the breathing is not laboured, the abdomen is a little tympanitic, but not tender. Urine passed without pain, sufficient in quantity, and not high coloured; lochia ample. We had now better hopes.

This patient had an attack of jaundice on the fourth day after delivery, which yielded to a few doses of blue pill and mild aperients. Effervescing salines, with hydrocyanic acid, were found useful in allaying the vomiting and febrile disturbance, which occurred during the first three days of the puerperal month. The general treatment of the case after delivery requiring due watching, and causing very natural anxiety as to the issue, was very ably conducted by my friend Dr. Broxholm, who has informed me of the complete recovery of his patient.

CASE CXXXVI.—*Shoulder presentation. Turning impossible, even after anæsthesia. Delivery by embryotomy. Good recovery.*

Sunday, March 4th, 1855,—I was called to a patient under the care of a very intelligent midwife of the Royal Maternity Charity.

The liquor amnii had escaped on the previous Thursday, but for two days no pain followed. On Saturday the midwife was sent for, who found the os uteri yet closed, and

left with directions to be again sent for, when active pains set in.

When again called, the labour had lasted several hours. The shoulder was found presenting and fixed. A drachm of laudanum was now given, and after an interval to allow of its taking effect, an attempt to perform the operation of turning was made, but without success.

I was then sent for, and placed the patient under the influence of chloroform; nevertheless the presentation remained as fixed as before.

I was therefore compelled to deliver by embryotomy, eviscerating through an opening which I made in the axilla, after first bringing down the arm as a guide to that region. The child was now easily extracted, the placenta was thrown off spontaneously, and the patient had a favorable recovery.

The patient's last labour, which was also attended by the above Charity, was an arm presentation, and the child was saved by turning, performed before the liquor amnii had escaped.

## CHAPTER VIII.

### HEAD AND HAND OR ARM, AND HAND AND FOOT.

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CASE CXXXVII.—*Head presentation complicated by prolapse of the hand. The pains lingering. Labour completed by a recourse to the ergot of rye, after returning the hand. The child living.*

On February 1st, 1845, a patient of the Royal Maternity Charity, æt. 22, in labour of her third child, was taken with pains at 6 in the evening; at 10 p.m., the "waters" broke. The head presented by the vertex, and the hand descended by the side of the head; the head was freely moveable upon the brim of the pelvis.

At 1½ a.m., I was called to her; I found the parts soft, lax, and free from heat; orifice of uterus three fourths dilated and soft; capacity of pelvis ample; the patient's two former labours had been short, and completed by the natural efforts.

I returned the hand above the head, and, while keeping it up with the tips of my fingers, by pressure upon the uterine tumour, I brought the head to bear more firmly upon the pelvic brim. At the end of half an hour, on examining again, the head alone was found to present. At 3 a.m., there being no increase of pains, which had been, without obvious cause, feeble from the first; three ʒss

doses of ergot were given, which induced active pains, and the child, living and healthy, was expelled at 20 minutes before 6 a.m., by a head presentation. There was no difficulty with the placenta, which was expelled by the natural efforts. Nothing further occurred beyond an attack of milk fever, which subsided under laxative medicine.

CASE CXXXVIII.—*Lingering labour. Head presented, with prolapse of the hand. Hand replaced, and labour terminated by the secale cornutum. Child living.*

In March, 1845, at 11½ p.m., I was requested to see a patient in lingering labour, but not so much on that account as from the circumstance of the presentation of the head being complicated by descent of the hand.

The liquor amnii had escaped at 9 a.m. The pains had been trifling throughout the day. The orifice of uterus dilated two thirds, its boundary tissue soft and moist; no bad symptom; no obvious cause for inertia of the uterus. I returned the hand above the head, and examining again, after the lapse of a few minutes, a slight pain having occurred in the interval, I found that the hand did not return. I advised an hour's delay, to see what nature would do, and the ergot to be given should labour still be lingering.

At the end of an hour, half a drachm of that medicine was given, soon after which, pains of a strongly bearing character set in, and the child, a healthy, living boy, was born an hour later. The placenta followed of itself in a quarter of an hour, without hæmorrhage.

CASE CXXXIX.—*Head and arm presentation, with rigid os uteri; the latter relaxed by chloroform, the arm then reduced, and the child born living by a head presentation.*

April 11th, 1854, 5 a.m., I was called by Mr. Langley to

a labour. I found the membranes entire, the os uteri dilated to the size of a five-shilling piece. Head presenting, arm prolapsed by its side.

At 8 a.m. the os uteri was rigid and a very little more dilated, although there had been much pain.

Chloroform was now given, which softened the rigidity and hastened dilatation, and the arm had descended a little more; the opening however soon became sufficient, so I ruptured the membranes, and at the same moment reduced the arm above the head. The latter alone now engaged in the pelvic brim, and the child was expelled naturally, living and vigorous, at 10¼ the same morning.

The chloroform was exhibited on a handkerchief, in all ʒiv being expended. There was a good contraction of the uterus; the placenta came off by the natural efforts, and the patient recovered perfectly.

*Remarks.*—It was obvious that if great care had not been taken to seize the first favorable opportunity of reducing the arm, the case would have resolved itself into a transverse presentation, or the head and arm would have descended together, and become impacted, as in Case 142.

### Case CXL.—*Head and hand presentation. Hand reduced; child born living by the head. Two cases.*

These were the only two instances of this kind of labour occurring in 2449 deliveries attended under my direction in Royal Maternity Charity,[1] Western District (1855-6-7).

In both the hand was pushed up above the head, leaving the latter alone at the pelvic brim. No further aid was required. The children were living. The mothers also did well in both cases.

[1] 'Lancet,' April 17, 1858.

CASE CXLI.—*Head and foot; foot reduced; child born living under a head presentation.*

This kind of labour, with the head and foot presenting, occurred only once in the above 2449 deliveries. It happened in a single birth.

The foot was pressed upwards, and reduced above the head, and the latter was left alone engaged in the pelvic brim; a living birth quickly followed.

CASE CXLII.—*Head and arm presentation; after impaction had existed for some hours, under violent action, threatening laceration of the uterus. Delivery by craniotomy.*

December 19th, 1846, 2½ p.m.—I was requested by a surgeon to see a patient, æt. 41, in labour of her sixth child.

I found the head impacted in the brim of the pelvis, with the arm down by the side of it. The liquor amnii had escaped at 10 o'clock previous morning (18th); but pains did not ensue till 10 last night. Attempts had been made to reduce the arm into the uterine cavity, but without avail. The mouth of the uterus was not fully dilated, a considerable portion remained in front, tense and hard. The patient was greatly fatigued with her pains, which had been strong and frequent for many hours, their violence such as to raise fears that the uterus might give way. The parts were heated.

Finding that further delay would be attended with great risk, I perforated. After removing much cerebral substance, and applying traction, the head did not even then descend. The rigid condition of the os uteri was the

obstacle; on account of this I decided to give time for the action of tartarized antimony in softening that structure.

I left about 4 p.m.; returned at about 9. I then found the mouth of the womb fully dilated; the head had now nearly entered the pelvic cavity. I now fixed a pair of craniotomy forceps on the head, and brought the child (a male) slowly through the outlet.

This patient had a perfectly good recovery. She had already had two full-term children, both males, by head presentations, and they were living, although born under severe labours.

Had the surgeon been in attendance in time, it is possible the arm might have been passed up, before the head became engaged; thus a living child would in all probability have been the consequence, as in Case 139.

I have not given examples of head and funis presentations, since the prolapse of the cord does not act as an impediment to delivery.

# APPENDIX AND STATISTICS.

## TURNING IN A DEFORMED PELVIS.[1]

CASE CXLIII.—*A second labour; previous labour had been completed by craniotomy; child born asphyxiated, but restored to active life.*

June 13th, 1858, at 10½ p.m., I was called to a patient in difficult labour, with deformed pelvic brim. Her age 27; her second child.

*History of previous labour.*—Sixteen months ago she was delivered of her *first* child. Considerable reduction of the head was necessary, and much force of traction required even then: the perspiration, I was informed, pouring down the face of the operator during his exertions. Much blame was alleged against the two practitioners who then attended, but to me the proof of blame was not apparent. The truth of the matter was, that the disappointment at the loss of the child was great, and the relatives could not get rid of the idea that the child might have been saved. Under the contraction which I found I did not consider that probable.

*Present state.*—I find here the space at the brim of the pelvis much less than natural in the sacro-pubic diameter. The parts soft, unheated; no trace of any injury having been sustained in the previous delivery. The os uteri all but fully dilated, and what remains is relaxed. The head is engaged and wedged in the pelvic brim, the greater part

[1] See pages 37-8.

still above it; it lies transversely, with the face to the left side. Fœtal pulse is distinctly heard on auscultation.

*Treatment.*—Having first drawn off by the catheter the small quantity of urine in the bladder, I applied the forceps where alone there was room for them—at the sides of the pelvis. They locked easily, but no advance was obtained. After this I found the fœtal pulse still distinct, which made me unwilling to perforate.

I was anxious to save the child, not only because the parents were most desirous that it should be born living, but also because it was my duty, if there was a chance of securing a living birth, to adopt a course which promised even a remote prospect of success.

I, therefore, bethought myself of a practice, formerly not very unfrequently attempted, and recently revived by Dr. Simpson, that of turning. This case appeared to me to present that rare assemblage of circumstances which would warrant the experiment. The uterus was acting feebly; the os uteri was soft, and all but fully dilated; the vagina ample and not rigid; the parts at outlet also favorable. I, therefore, after well anointing my hand and arm, passed them up, by the side of the head, into the uterine cavity; grasped a limb and brought it down. Getting a purchase upon it, external to the vulva, I applied upward pressure upon the head, and displaced it from the brim. The operation of turning was thus completed. I now extracted the trunk, drew down the arms carefully, and the head next engaged. The cord was pulseless, except close to the navel; the child's heart was perceived to be slowly beating. I now lost no time in extracting the child, which, by disposing my fingers alternately upon the cheek-bones and jaw, also on the occiput and shoulders, and so making traction, I effected after a short delay.

It was a quarter of an hour after the birth before any signs of active life showed themselves; but by persisting in the hot bath, aspersion of the surface with cold water,

friction over the spine, and rotation of the child's body, after the plan of "the ready method," a gradual resuscitation was effected, and at length the child was restored.

It was a female, as was the first birth; it appeared to me to be a month short of full term, and was stated by the attendants not to be so large as the first child. The patient's calculation indeed was, that she was only eight months advanced. This was the cause probably of the success, which I am disposed to think would not have attended such an operation at full time in this case.

After the birth I made a particular examination of the conjugate diameter, and found it to measure a little under three inches. The weight of the child, which was a female, was also taken, and it was ascertained to amount to six pounds two ounces. The placenta was thrown off into the vagina immediately after the birth of the child, and it was thence removed.

I advised, that, in any further pregnancy, premature labour should be induced at seven months and a half.

I saw this patient on the following day; she had passed water freely, and had not a single bad symptom. The child was doing well, and had sucked vigorously. The patient's joy was expressed in most lively terms.

## COMPLETE OCCLUSION OF OS UTERI.

### Case CXLIV.—*Obstructed labour from obliterated os uteri, the result of adhesive inflammation.*

Monday, July 12th, 1858, 6¼ p.m., I was requested by Mr. William E. Jefferys, of St. Augustine Road, Camden Square, to see a patient, æt. 25, in her first labour.

*Previous history.*—She had been married between eight and nine months, and was only seven months advanced in her gestation when taken in labour. When between four and five months pregnant, she was placed under

Mr. Jefferys' care for syphilitic sores on the labia pudendi and on the throat. She was treated by iodide of potassium, Plummer's pill, and black wash was locally applied. Under this treatment the ulcerations got well.

On Friday, the 9th instant, the patient was taken with slight pains; she did not, however, request the aid of her medical attendant till Sunday; but the pains even then being so slight as to be deemed spurious, it was thought better not to disturb the patient by vaginal examination.

Monday, 9 a.m., Mr. Jefferys was again called; the pains were now stronger and regular.

Examination discovered no orifice of the uterus, but there was found bulging downwards into the vagina a large globular swelling, *i. e.* the uterus exhibiting very much the form which it does in retroversion; but on extending the examining finger high up behind, and then also in front, no orifice was met with, the progress of the finger being in each direction arrested by the reflexion of the vaginal mucous membrane.

On applying the tip of the finger to the centre of the swelling, in the presence, and also in the absence of the labour pains, a part of the organ could be felt thinner than the rest, and more elastic and fluctuating from the contained liquor amnii; this was the only indication afforded of the probable locality where the orifice should have been; the surface presenting not the slightest interruption to its continuity.

Having satisfied myself that there was no retention of urine, I concluded that this interesting case was the result of the orifice of the womb having become obliterated by a plastic exudation from previous inflammation; that this had brought about a glueing together of its sides, and that the os uteri had become subsequently attenuated. It had been hoped, that the bearing pains would eventually have caused this thinner portion of the uterus to give way, and so have allowed of the opening of the womb and the

birth of the child; but this not taking place, I was requested by Mr. Jefferys, with whom was Mr. Hainworth, of Camden Town, to see the case, which I found as I have above described, and in accordance with the diagnosis of those gentlemen.

I decided to make the opening if possible by bearing strongly upon the thinner portion of the prominence with the finger, failing in that I had determined to use for the purpose a catheter or the end of a canula, and that not sufficing I should have made the required aperture with the trocar perforator before referred to. I succeeded in my object by the pressure of the finger, and thus obtained an orifice of the diameter of a florin. At the same time I necessarily discharged the liquor amnii, which was tinged green by meconium. The head was then found presenting.

The mouth of the womb thus laid open gradually widened with the advance of the pains, and the child was born dead by a cranial presentation at 9 the same evening. The child appeared to have been dead some days, indeed the patient had not felt it move for about ten days. The placenta caused no trouble, and Mr. Jefferys has since informed me that his patient is going on favorably.

Such cases are extremely rare; and I do not remember in the course of my experience to have met with a similar one.

I can only find two cases recorded of closed os uteri precisely similar to the above in presenting no cicatrix, nor other indication on the surface, of the former aperture. *One* of these is reported by Dr. Ashwell,[1] as occurring in a patient whom he saw with Mr. Tweedie and Mr. Roe, November, 1836; the *other* by Dr. F. W. Fogarty,[2] with Mr. Alridge, November, 1848.

[1] 'Guy's Hospital Reports,' No. iv, p. 258, April 1857.

[2] Ranking's 'Half-yearly Abstract,' vol. xii, 1850, p. 178. 'Lancet,' March 2, 1850, p. 264.

In both of these examples the vaginal portion of the uterus formed a large, uniform, globular mass; and the womb was laid open by an incision made from before backwards, successively through the anterior and posterior boundary of the orifice produced. In Dr. Ashwell's patient a rent, followed by collapse, took place after that operation, a little later in the labour. Both patients—one a primipara, their ages 23 and 25—recovered perfectly. The children were males, and survived.

For my own part, I prefer perforation by the finger, or by a blunt instrument to incision, as the aperture thus made more closely resembles the natural orifice, than does one made by a bistouri; the latter, moreover, is very likely, it appears to me, to extend into a rent. Since being consulted in the above case, I have found that the plan, which I adopted, is also recommended by M. Cazeaux,[1] and Dr. Rigby[2] in preference to incisions.

[1] 'Traité de l'Art des Accouchements,' p. 643.

[2] 'Library of Medicine,' vol. vi, p. 199.

## STATISTICS, WITH ANALYSIS,

### OF 7302 DELIVERIES UNDER MY SUPERINTENDENCE.

Of these labours, 6680 occurred in the western district of the Royal Maternity Charity (1842-57) ; 622 were attended by the pupils of my midwifery class, and by the St. George's and St. James's Dispensary.

In the Royal Maternity Charity the boundary line extends three miles in every direction from St. Paul's Cathedral. I have the management of the western division, which commences a little on the east side of St. Paul's ; is bounded by the Thames on the south, and extends northwards and westwards. The two other divisions, the eastern and southern, are respectively directed by my colleagues, Dr. Robert Barnes and Dr. Samuel Griffith.

The patients are attended by carefully educated midwives, and are delivered at their own homes ; an arrangement by which is ensured a great freedom from puerperal fever, a disease which at different periods has been so fatal in the lying-in hospitals of this and other countries.

I.—*In the above* 7302 *deliveries there were—*

| | | | |
|---|---|---|---|
| Children born | . | 7371 | |
| Single births | . | 7233 | 99·055 per cent. |
| Twin births | . | 69 | 0·945 per cent. 1 in 105·826. |

| | | |
|---|---|---|
| Children born living | 7053 | 95·686 per cent. |
| Children stillborn . | 318 | 4·314 per cent. 1 in 23·179. |
| Male children . | 3824 | 51·879 per cent. |
| Female children . | 3510 | 47·619 per cent. |
| Sex not stated in reports | 37 | |

## II.—*Presentations in the 7233 Single Births, and proportional frequency of each kind.*

| | | | |
|---|---|---|---|
| Head . . . | 6698 | or 1 in | 1·079. |
| Face . . . | 110 | or 1 in | 6·5754. |
| Breech . . . | 93 | or 1 in | 77·774. |
| Footling . . | 44 | or 1 in | 164·386. |
| Knee . . . | 1 | or 1 in | 7233. |
| Shoulder . . | 5 | or 1 in | 1446·600. |
| Arm . . . | 10 | or 1 in | 723·300. |
| Elbow . . . | 3 | or 1 in | 2411. |
| Placenta prævia . | 10 | or 1 in | 723·300. |
| Hand, one or both . | 6 | or 1 in | 1205·500. |
| Head and hand . | 6 | or 1 in | 1205·500. |
| Head and both hands | 1 | or 1 in | 7233. |
| Head and foot . | 1 | or 1 in | 7233. |
| Head and funis . | 11 | or 1 in | 657·545. |
| Head, funis, and hand | 1 | or 1 in | 7233. |
| Shoulder and funis . | 1 | or 1 in | „ |
| Hand and funis . | 1 | or 1 in | „ |
| Breech and funis . | 1 | or 1 in | „ |
| Arm and funis . | 1 | or 1 in | „ |
| Foot, hand, and funis | 1 | or 1 in | „ |
| Foot and funis . | 2 | or 1 in | 3616·500. |
| Hand and placenta . | 1 | or 1 in | 7233. |

Not specified . . 225. These were probably head cases. In nearly every one of these I find the labours were precipitate, the children being born before the arrival of help.

## III.—*Of the Twin Deliveries, 69 in number.*

### 1. *The presentations.*

| | | |
|---|---|---|
| Head and head | in | 34 |
| Head and feet | „ | 14 |
| Head and breech | „ | 11 |
| Feet and head | „ | 1 |
| Arm and head | „ | 1 |
| Foot and hand | „ | 1 |
| Breech, and foot with funis | „ | 1 |
| Breech and breech | „ | 2 |
| Head and knee | „ | 1 |
| Breech and head | „ | 1 |
| Vertex and ear | „ | 1 |
| Face and breech | „ | 1 |
| | | 69 |

### 2. *The sexes of the twins.*

| | | |
|---|---|---|
| Both children were males | in | 28 |
| „ were females | „ | 21 |
| One child a male, the other a female | „ | 18 |
| The sexes not stated | „ | 2 |
| | | 69 |

### 3. *The vitality of the twins.*

| | | |
|---|---|---|
| Living children | 129 | |
| Stillborn | 9 | (*see Still-births.*) |

## IV.—*Of the Cross Births, 25 in number.*

5, Shoulder.
- In 4 delivery by turning, of which 3 were living, 1 was stillborn.
- In 1, turning being found impracticable, I delivered by embryotomy.

3, Elbow, all delivered by turning, stillborn.

10, Arm; of which,
- 1, stillborn at six months.
- 8 delivered by turning; of these, 2 were living, *one* a twin; 6 were stillborn, one of which died during prolonged extraction of the head.
- 1, by embryotomy.

7, One or both hands.
- 5 turned, living, *one* of these a twin.
- 2 were stillborn.

Thus, of the above children which presented transversely,

10 were born living, or 40 per cent. of cross births.
15 were stillborn, or 60 „ „

Of the still-births, 2 were delivered by embryotomy; 1 was a six months' fœtus, so its death was due to immaturity.

## V.—*Of the Complex Presentations.*

| | |
|---|---|
| Head and hand, living, hand reduced above the head | 6 |
| Head and both hands, living, hands reduced | 1 |
| Head and foot, living, foot reduced | 1 |
| Head and funis, 9 living, 2 stillborn | 11 |
| Head, funis, and hand, living, funis and hand reduced | 1 |
| Shoulder and funis, turning, stillborn | 1 |
| Hand and funis, turning, stillborn | 1 |
| Breech and funis, stillborn | 1 |
| Arm and funis, turning, stillborn | 1 |

| | |
|---|---|
| Foot, hand, and funis, stillborn, foot brought down . | 1 |
| Foot and funis, stillborn . . . | 2 |
| Hand and placenta turning, stillborn . . | 1 |
| | 28 |

Thus, of the 28 complex presentations,
There were born living, 18, or 64·286 per cent.;
„ stillborn . 10, or 35·714 per cent.

## VI.—*Complications of Labour.*

1. Of the cases of *accidental hæmorrhage,* 23 in number.

1, with miscarriage, at second month; mother did well.
5, with premature labour, between seven and nine months; mothers did well.
1, near full time, after a long walk; liquor amnii had escaped, when the patient was visited; she recovered well.
8, the membranes were stiletted. In 4 of which the flooding was thus arrested: 2, the hæmorrhage not being subdued, and—on account of the small and rigid os uteri—turning not possible, the vagina was then plugged; 2, delivery was accomplished by turning. In all 8 the mothers did well.
3 were treated by cold applications. In *two* of these hæmorrhage recurred after delivery, but was easily arrested. The mothers had good recoveries.
5, particulars of treatment not stated; but I presume that the bleeding was arrested by cold applications and quietude. The mothers had favorable recoveries.

In the above cases all the mothers had good recoveries. Fifteen children were living; eight children were stillborn.

2. Of the cases of *unavoidable hæmorrhage, placenta prævia,* 11 in number.

1, Placental presentation, partial, head immediately above it. Treatment: rupture of membranes. Child born by its presentation, and living, without further interference. Mother did well.

2, Placental presentation, much flooding. Treatment: membranes ruptured, children stillborn blanched. Mothers did well.

2, Placental presentation, partial. Treatment: rupture of membranes, ergot of rye given. One child born alive, one stillborn. Mothers did well.

1, Placental presentation; turning; child born alive. Mother recovered.

3, Placental presentation; turning; children stillborn. Mothers did well.

1, Placental presentation, complete; blood had been draining away for some hours; turning; child stillborn; the mother died during delivery. The "plug" was not employed in this case; had it been applied, and at first, during the delay before delivery could be undertaken, it is my belief that this mother's life would have been saved.

1, Partial placental presentation with hand; uterus strongly contracted. The waters had escaped. The patient had been seen before my arrival by the surgeon who occasionally acts for me in the subdistrict in which she resided. He had attempted version, but she successfully resisted all his efforts to deliver her. I therefore found it advisable to place her under the influence of chloroform, and thus in the course of a few minutes I succeeded in extracting the child by "turning." The child was

blanched and stillborn. The patient recovered her consciousness completely within five minutes after delivery. The placenta was thrown off naturally into the vagina, and thence removed. Having freely ventilated the room, and given strict injunctions that the patient should not be removed for several hours, I left her, with a good pulse, a good expression of countenance, and a well-contracted uterus, and with the security of a firm bandage and compress. The sequel of this case was, that the patient died two hours after delivery, of consecutive hæmorrhage. She had not lost sufficient blood to blanch her, even on the removal of the placenta. It appeared that she was a very obstinate woman, of intemperate habits; that, in defiance of instructions, she persisted in sitting up directly the midwife left. While in this posture profuse bleeding set in, and proved quickly fatal. I found on inquiry that the midwife had, as I had requested, remained an hour with this patient, after delivery, to watch her; had enjoined every precaution before leaving; and so was free from all blame. The patient's age was 34; it was her fifteenth confinement. Her last labour had also been one of placenta prævia, and the hæmorrhage so profuse that great exertion was required to save her life.

Thus, in the 11 cases of placenta prævia,

9 mothers were saved, 2 mothers died.
3 children were saved, 8 were stillborn.

3. *Hæmorrhage after birth of child,* 39 cases.

1, After birth of child, from rapid delivery, in erect posture. The funis was broken by child's fall.

4, Between birth of child and expulsion of placenta, from inertia of the womb.

5, With morbidly adherent placenta, which was immediately detached and removed in each case.

19, After delivery of child and placenta.

1, After delivery, inducing convulsions.

1, After delivery, and a rapid labour of one hour's duration, in a primipara.

1, After birth of twins; delivery preceded by convulsions.

1, Profuse hæmorrhage after delivery and fainting; patient had had hæmorrhage in previous confinements.

1, Three hours after delivery.

1, After delivery, ergot of rye was given, and the child applied to the breasts.

1, After delivery of twins.

1, On sixth day after childbirth, and from over-exertion.

2, On ninth and twelfth day after delivery, from relaxation of the uterus.

In all, the ordinary treatment of the application of cold, pressure, &c., was adopted, and in some few the exhibition of brandy was required. All the patients recovered save one. (*See Maternal deaths.*)

4. Of the cases of *puerperal convulsions,* 5 in number.

1, Before and after delivery, in a young primipara. Treatment: V.S. and forceps delivery, with aperients, and cold applications to head; child stillborn; mother recovered. This patient has had a living birth since, without difficulty.

1, Before delivery in a case of twins, hæmorrhage occurred afterwards.

1, During protracted labour, continuing also afterwards. Treatment: V.S.; craniotomy for impaction of head.

1, Before delivery. Treatment: V.S.; child born alive by the natural efforts, under head presentation.
1, Nine hours after delivery.

All the mothers had perfect recoveries.

1 case of *rupture of uterus and vagina* during a rapid labour. Fatal. This case occurred in March, 1857, the patient's age was 36. It was her *ninth* labour. The child was born by a head presentation, a female, and not large. The labour was rapid. The "waters" had escaped at 2 p.m.; labour did not set in till 6 p.m.; indeed, at half-past 4, the os uteri was ascertained to be closed, and the patient was left sitting at the tea-table with her family, not yet complaining of pain. Not till a quarter past 8 was the midwife sent for, on active pains commencing. She arrived at half-past 8, and found the child lying dead on the bed in a pool of blood. The flooding continued, notwithstanding cold applications and bandaging, till near the patient's death, which took place at about 10 o'clock the same evening, evidently from loss of blood.

At the post-mortem examination, a laceration was discovered extending through the neck of the uterus and upper part of the vagina on the left side, *not* involving the peritoneal coat, under which there was found extravasated in patches some coagulated blood. To the naked eye, there was no apparent pathological condition of the parts to explain the lesion, but we may presume that an action of the uterus urged the child downwards so strongly against a tissue weakened by degeneration, that the fatal rent, which took place coincidently with the birth, occurred as a necessary consequence.

1 case of *inversion of the uterus*, with much flooding. The womb was perfectly and easily reduced by the hand, but the case proved fatal, from the combined effect of the

shock, and the great loss of blood which had been sustained. This patient's age was 23; it was her second pregnancy, and her previous health had been good. The child, a female, had presented by the head, and was born living without unusual assistance. There had been no morbid adhesion of the placenta, and the "inversion" it appeared had occurred quite *spontaneously*.

1 case of *collapse* within an hour after sudden delivery of twins. Fatal.

1 case of *rupture of perinæum*, protracted retention of urine, and inflammation of vagina. Labour difficult, but completed without instruments. (Case CVI.)

1 case of retention of urine under face presentation. Catheterism alone required.

1 case of great *excess of liquor amnii*, interfering with the due action of the uterus, and accessory powers of parturition. The waters were accordingly discharged.

1 case of prolapsion of rectum.

1 case of amaurosis during pregnancy and labour, in a primipara; sight recovered after delivery. No depletive treatment was indicated; the patient did well.

2 cases of chronic bronchitis of many years' standing, complicating and protracting labour. Both fatal within a few days after delivery.

## VII.—*Of the Labours which required the operation of Turning.*

| | | | |
|---|---|---|---|
| Accidental hæmorrhage | . | in | 2 |
| Shoulder presentation | . | „ | 4 |
| Elbow presentation | . | „ | 3 |
| Arm „ | . | „ | 10 |
| Hand „ one or both | . | „ | 7 |
| Shoulder and funis presentation | . | „ | 1 |
| Arm and funis „ | . | „ | 1 |
| Hand and funis „ | . | „ | 1 |
| Hand and placenta „ | . | „ | 1 |
| Placenta prævia . | . | „ | 5 |
| | | | 35 |

In these 35 cases of turning,

| | |
|---|---|
| 11 children were saved . | 31·429 per cent. |
| 24 children were stillborn . | 68·571 per cent. |

## VIII.—*Of the Instrumental Labours.*

6, Forceps; of these in
- 3, Uncomplicated cases of head presentation.
- 2, First children in twin cases.
- 1, Puerperal convulsions.

1, The vectis was applied for arrest of head.

9, Craniotomy; in
- 3, Deficient pelvic space.
- 1, Puerperal convulsions and impaction.
- 1, Hip-joint disease, causing pelvic contraction.
- 1, Carcinoma uteri.
- 1, Rigidity of os uteri, which all the relaxing agents failed to remove.

1, Want of development of maternal parts, in a patient aged 14½ years.
1, The face was directed to the pubes.
2, Embryotomy; in
1, Shoulder presentation; turning had failed, even under chloroform.
1, Arm presentation.

Thus the deliveries by forceps or vectis were 7, or 1 in 1053.

Embryotomy deliveries were 11, or 1 in 670·09.

Of 25 cases of cross births, 2 required embryotomy, 1 in 12·5.

IX.—*Record of* 526 *of the above Labours attended by my pupils, to show the proportion of cases in which the funis was round the neck of the child.*

| | | |
|---|---|---|
| Funis once round neck, 29 living, 2 stillborn, | 31, or 1 in | 16·968. |
| Funis twice round neck, all living . | 7, or 1 in | 75·143. |
| Funis three times round neck, child resuscitated, | 1, or 1 in | 526. |
| Funis once round neck and arm, living . | 1, or 1 in | „ |
| Funis round neck and body, living . | 1, or 1 in | „ |
| Funis round leg, living . . | 1, or 1 in | „ |
| | 42, or 1 in | 12·523. |

| | |
|---|---|
| Of these, 40 were living . | 95·238 per cent. |
| 2 were stillborn. . | 4·762 per cent. |

The treatment pursued in *all* where the cord was once round the neck, was in accordance with my instructions, never to pull it over the head, lest the funis might be stretched or torn, the uterus irritated,

or the placenta prematurely detached; to slip it over the shoulders in all cases. Where the cord was *more than once round the neck,* and could not be loosened and passed upwards over the shoulders, it was ligated and divided, and so the child's birth allowed to proceed, or assisted, according to circumstances.

## X.—*Of the Still-births,*

Which were 318 in the 7371 children, viz., 1 in 23·179, or 4·314 per cent.

26, Premature, but not putrid.
- 1, Of second month's gestation.
- 6, Of six months.
- 7, Of seven months, two of which were twins.
- 2, Of eight months.
- 10, The period of prematurity not mentioned.

20, Putrid.
- 1, At six months' gestation.
- 6, At seven months, of which one after a fright.
- 1, At eight months, after much ill health; previous child also stillborn.
- 12, At or near full time. Of these, in 1 same occurred at previous labour; 1 after a fright fifteen days before labour; 2, twins.

All these births were completed without instrumental aid, not being difficult nor complicated.

4, Syphilitic.
- 1, Mother had borne five dead children; the last and probably all, syphilitic.
- 2, Mothers had each already given birth to four children, syphilitic and putrid.
- 1, Between six and seven months' gestation.

8, Under accidental hæmorrhage.

5, Membranes ruptured accidentally, or by art.

1, Membranes stiletted, the flooding continuing, version.

1, Breech presented, which came without special interference.

1, Shoulder and funis, turning.

8, Under unavoidable hæmorrhage.

7, Placenta prævia.

1, Hand and placenta.

79, Under head presentations, of which 4 were twins. All born without artificial interference.

2, Head and funis.

8, Face, one of these putrid.

1, Face to pubes, craniotomy.

19, Breech; one with accidental hæmorrhage, and one putrid.

18, Footling; of which *three* in twin cases; and in *one* case the neck of the uterus contracted spasmodically round neck of child for upwards of two hours after the body was born. I did not see this case; possibly chloroform would have been useful in resolving the spasm.

2, Foot and funis.

2, Knee, one in a case of twins.

1, Breech and funis.

10, Arm.

8, Treated by turning.

1, By embryotomy.

1, Turning, child died during extraction of head; the previous children were also stillborn after protracted labours, the brim of the pelvis being below average dimensions.

2, Shoulder, one delivered by embryotomy.

1, Arm and funis, delivered by turning.

3, Elbow, delivered by turning.

2, One or both hands, delivered by turning.
1, Hand and funis, delivered by turning.
1, Foot, hand, and funis. Foot brought down.
2, Puerperal convulsions; one delivered by the forceps; one by craniotomy.
1, Malformation of child, anencephalous.
1, Labour protracted by chronic bronchitis; probably the forceps would have been useful.
2, Pelvis deformed; twin children.
1, Child large, expelled spontaneously after protracted labour; probably forceps would have saved it.
1, Child the second of twins; no hæmorrhage; labour quickened by ergot of rye.
1, Patient's fourth stillborn child.
4, Patients had a fall shortly before delivery.
7, From craniotomy deliveries.
82, Single-birth children. No further statement. Had any difficulty occurred, an entry by myself would have been made in the register.

## XI.—*Puerperal and other Diseases after Delivery.*

23 cases of peritonitis.
9, Requiring mild antiphlogistics; recovered.
10, Requiring active treatment; recovered.
1, Acute, following a kick; recovered.
1, Asthenic with phlebitis, requiring turpentine stupes; recovered.
1, Asthenic, traceable to infection; death.
1, Sthenic, maltreated by an ignorant mother. When I saw this patient, she was moribund, and so depletion was out of the question. Death the same night.
1, Inflammation of vagina, with sloughing from protracted pressure by a large child; a vesico-vaginal fistula yet remained at last report.

1, Severe neuralgic pain of abdomen, with much constitutional disturbance; recovered.
5, Inflammation of uterus, with high fever; recovered.
2, Phlebitis of uterus and appendages; fatal.
1, Phlegmasia dolens followed by breast abscess; recovered.
4, Milk fever; *one* with high delirium; did well.
2, Inflammation of breasts; did well.
2, Abscess of breasts, incision; did well.
1, Puerperal fever, asthenic; death.
1, Ephemeral fever; emetic; purgative; quinine; recovered.
1, Mania lactea; gentle aperients, nourishment, morphia; recovered.
1, Acute insanity on third day; morphia, generous diet; recovered.
1, Delirium and pyrexia from violent passion; recovered.
1, Enteritis; recovered.
1, Abscess of abdominal wall; incision; recovered.
1, Very painful varicose veins; bandaging; did well.
1, Gastro-intestinal and uterine irritation with low fever; recovered slowly.
1, Fever with enlargement of spleen; fatal.
1, Fever from drinking rum and porter; did well.
1, Attacks of fainting; did well.
1, Hysterical palpitation of heart; did well.
1, Hysterical convulsions from violent passion; did well.
1, Diarrhœa; did well.
1, Sanguinolent diarrhœa with high fever; recovered.
1, Cholera; fatal.
6, Bronchitis.
    2, Acute; cured.
    2, Chronic; recovered their former state of health.
    2, Chronic; died.
1, Great debility in labour, emaciation, and cough, probably phthisis.

2, Phthisis, one with hæmoptysis.

Where not mentioned, the obvious treatment for each case was pursued.

*The above Analysis shows that the mortality among the mothers was* 16 *only in the* 7302 *deliveries, or* 1 *in* 456·375. *The causes as follows; in—*

1, Rupture of vagina and uterus; great internal and external hæmorrhage. Death in two hours after spontaneous delivery.

1, Hand and partial placental presentation, only slight hæmorrhage before delivery. Death two hours after delivery from consecutive flooding under relaxed uterus, the patient persisting, contrary to advice, in sitting up.

1, Inversion of uterus, spontaneous; death from hæmorrhage and shock, immediately after the complete reduction of the organ.

1, During version under complete placental presentation, after much hæmorrhage. Eleventh child. (See p. 266.)

1, Exhaustion after protracted labour, delivery having been too long delayed, under the neglect of a midwife not connected with the Royal Maternity Charity.

1, Collapse within an hour after the delivery of twins; no hæmorrhage, but the patient had been almost starving during her pregnancy.

1, Hæmorrhage supervened after the midwife had left the patient cheerful and comfortable. Death took place by exhaustion on the twelfth day after delivery.

2, Phlebitis of uterus and appendages.

2, Peritonitis, low type; one traceable to infection.

1, Sporadic peritonitis. When I was called to this patient she was sinking from the disease; abdomen

tympanitic; breathing laborious; pulse irregular; skin cold and clammy; so bloodletting was out of the question. A self-sufficient relative had neglected to send in time, otherwise I believe this patient might have been saved.

2, Chronic bronchitis of many years' standing.

1, Cholera.

1, Fever, with enlargement of spleen; six weeks after delivery.

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## CORRIGENDA ET ADDENDA.

Page 71, line 27, *for* "pelvic," *read* "pubic."

Page 127, line 1, *for* "pelvic," *read* "pubic."

Page 185, last line but one, *for* "slowly," *read* "strongly."

Page 182, Case 77, *add*—"The patient had an uninterrupted recovery."

Case 140 (*Obliterated os uteri*), page 260, Case 15, *add*—"both of whom, however (Cazeaux and Rigby), refer to the Treatise of Naegele, jun., as the source of most of their observations on the subject."

Page 249, Chapter VIII, in heading, *for* "hand and foot," *read* "head and foot."

# INDEX.