Elements of practical midwifery; or, companion to the lying-in room / By Charles Waller.

ELEMENTS

OF

PRACTICAL MIDWIFERY.

J and C. Adlard, Printers,
Bartholomew Close.

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PRACTICAL MIDWIFERY;

OR,

COMPANION TO THE LYING-IN ROOM.

BY

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CONSULTING ACCOUCHEUR TO THE LONDON AND SOUTHWARK MIDWIFERY INSTITUTION;

AND LECTURER ON MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

SECOND EDITION,

WITH ADDITIONS.

LONDON:

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1831.

sede the necessity of consulting the more voluminous treatises on this interesting and important department of medical science.

To the gentlemen attending the author's lectures it cannot fail to be acceptable, as it will form a Syllabus of that part of the Course in which the varieties of parturition are described; and, should the sphere of its usefulness extend no further, he will be amply rewarded for the time he has devoted in thus condensing and revising, for their instruction, the practical rules of the art and science of Midwifery.

Bartholomew Close; 1829.

PREFACE

TO THE SECOND EDITION.

The favorable manner in which the first edition of his work was noticed by the medical journals, and the consequent rapid sale it experienced, has induced the Author to put forth a second, wherein he has ventured to make a few additions, which he trusts, upon examination, will be found to be improvements. He has avoided entering into very lengthened details, it being his anxious wish to bring

before the mind of the student those points alone which are more especially necessary for him to be acquainted with, when commencing his obstetric career.

Bartholomew Close; 1831.

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ELEMENTS

OF

PRACTICAL MIDWIFERY.

THE PELVIS.

As this concise work is intended for those who are entering upon the practical part of Midwifery, and who consequently must be supposed to have made themselves acquainted with the structure of the parts concerned in parturition, it does not appear necessary to dwell long upon their anatomy: this part of the subject will, therefore, be but briefly described. When it is considered that the pelvis contains the internal organs of generation; that it gives attachment to the external; that it affords a natural impediment to the passage of the child during labour; and that, from disease, its shape may become so altered as

to present difficulties to the completion of that process insurmountable by nature alone; the importance of a thorough knowledge of its anatomy, and the parts which it contains, before attempts are made to give assistance at the time of childbirth, will be sufficiently apparent.

The PELVIS is that portion of the skeleton situated at the lower part of the spine and above the thigh-bones: with the former it is firmly connected by cartilage and ligament; and with the latter, by means of the acetabula into which these bones are received.

The adult pelvis consists of four bones; two ossa innominata, forming the anterior and lateral parts; the sacrum, and the os coccygis, forming the posterior part.

In the fœtus, the *os innominatum* is distinctly divided into three portions: the ilium forming the upper, and by far the largest part; the ischium, the lower; and the pubis,

the fore part. They all unite in forming the acetabulum, a cavity which receives the head of the thigh-bone. In consequence of this large mass of bone being, in the fœtus, composed of three portions loosely connected together by cartilage, a certain degree of overlapping is allowed, by which parturition is somewhat assisted.

The *ossa innominata* are joined together before, and to the sacrum behind, in a very strong and effectual manner; each bone is tipped with cartilage, between which is placed a softish semifluid substance; ligaments are crossing them in every direction, so as to form a capsule to the joint: the anterior union is called the symphysis pubis; the posterior, the sacro-iliac synchondrosis. But although the ossa innominata are united together at their upper and fore part, they afterwards recede very considerably from each other, passing downwards and backwards; and this separation, or divergence, forms an arch, of great

importance in midwifery, which is called the Pubic Arch. It was an opinion formerly entertained, that the joints of the pelvis naturally relaxed a short time previous to parturition, and that the process was by these means considerable assisted; experience has, however, amply proved that where this occurs, it is to be ascribed to a state of disease, and is producive of considerable inconvenience and pain.

If the interior of the pelvis be examined, a prominent line may be observed, commencing at the upper part of the sacro-iliac junction, and extending all round, to the corresponding part on the opposite side; this is called the linea-ilio-pectinea: by this line the pelvis is divided into two portions, the upper being called the great or false, the under, the little or true, pelvis.

The *sacrum* is a triangular bone situated at the posterior part of the pelvis, firmly connected to the spine above, to the os innomina-

tum on either side, and to the os coccygis below. Internally it is concave: and this concavity is obstetrically termed the *hollow* of the sacrum; from the foramina at the sides of which, nerves of considerable size are passing out; and the pressure which these nerves undergo is the cause why parturient women so frequently complain of "cramps" in the thighs. By its union with the last lumbar vertebra, a protuberance is formed, called the promontory, or greater angle of the sacrum, whilst the lower portion, which is joined to the os coccygis is sometimes called the little angle of the sacrum.

The *os coccygis* is a small bone attached to the extremity of the sacrum, to which it is firmly connected; but in such a manner as to allow of a considerable degree of motion when pressed upon by the head of the child, by which the outlet of the pelvis is somewhat enlarged. For this purpose we find the ends of both bones tipped with cartilage, and covered with

synovial membrane; and there is a perfect capsular ligament to the joint. This joint sometimes yields with difficulty to the pressure of the child, whereby considerable pain and inconvenience is experienced by the patient. In early childhood, the os coccygis is almost wholly cartilaginous; at the adult period, it is composed of several portions; and in old age, anchylosis frequently takes place, so that it forms, as it were, an elongation of the sacrum.

DIAMETERS OF THE PELVIS.

The *true pelvis*, a knowledge of which is so essential to the accoucheur, is divided into the brim, the outlet, and the cavity.

The situation of the *brim* is marked by the linea-ilio-pectinea before described, and is of an irregular oblong figure; a line drawn from before backwards, viz. from the symphysis pubis to the promontory of the sacrum, measures four inches; this is the shortest, and is called the conjugate, antero-posterior, or

sacro-pubic diameter. The lateral, measured from side to side, is five inches. The diagonal, from the acetabulum to the opposite sacro-iliac symphysis, measures five and a quarter, or five and one eighth, inches.

The *outlet*. Its shape, with the soft parts attached, is irregularly quadrangular, the diameters of which are about four inches either way, the measurements being taken from the symphysis pubis to the os coccygis, and from one tuberosity of the ischium to the other; but it is to be remembered that the os coccygis yielding to the pressure of the child's head during labour, recedes a full inch, which will enlarge the diameter of the outlet from before backwards to five inches, whilst the transverse measurement is only four. It is to be observed, therefore, that the long diameters of the brim and the outlet are opposed to each other; the former being from side to side, the latter from before to behind.

The *cavity* is that part situated between

the brim and the outlet, bounded posteriorly by the concavity of the sacrum, anteriorly by the symphysis pubis, and laterally by the tuberosities of the ischia. The depth of the different parts of this cavity should be borne in mind when the situation of the child is examined. Anteriorly, the depth is only two inches; posteriorly, it is from five to six inches, according to whether the measurement is carried along the curve of the sacrum; and laterally, it is three inches and a half. In consequence of this shallowness on the fore part, the head of the child can be reached by the finger without difficulty, although nearly the whole of the cranial bones may be situated above the brim of the pelvis, and hence, in cases of difficulty, it is frequently necessary to make an examination by carrying the fingers backwards towards the sacrum, in order to form a correct judgment as to the actual progress of the labour.

If an articulated skeleton be examined, it

will be seen that the pelvis has an oblique bearing upon the trunk; the brim being neither horizontal nor perpendicular, but placed at a very considerable angle. In consequence of this arrangement, the gravid uterus, after it has risen out of the pelvis, has a tendency to fall forwards and is then supported by the brim. When the pelvis is very capacious, the uterus is not supported by this part, but sinks into the cavity, by which many unpleasant symptoms are produced during the latter periods of gestation, and at the time of parturition. Further, it is to be noticed that the shape of the pelvic cavity is described by a curved line; the axis of the brim being downward and backward, whilst that of the outlet is downward and forward.

When assistance is required in cases of difficulty, this knowledge is of no small importance, as we are enabled to adapt the line of motion to the axis of that particular part of the pelvis through which the child is being

brought. This knowledge is of equal avail whether we are delivering by the head or by the feet. The loss of the infant is not unfrequently the result of ignorance or inattention to this circumstance.

DEVIATIONS FROM THE STANDARD PELVIS.

These may be either in shape or in dimensions: thus a pelvis may be deformed or distorted; or it may be too large or too small.

There are two diseases which appear to be the principal causes which produce deformity of the pelvis, viz. rachitis or rickets, which attacks the infant, and mollities ossium which affects the adult. The effect of either of these diseases is, a bending of the bones in consequence of a deficiency in the earthy part of their structure, the long bones are incurvated, and their epiphyses enlarged. In consequence of the superincumbent weight, the promontory of the sacrum is pressed forwards, and consequently the conjugate diameter of the pelvis

is lessened, or the acetabula may be pressed inwards, and the lateral diameter be proportionally diminished. The former distortion usually occurs in children, the latter in adults, and the difference is to be accounted for, not as was formerly supposed, by the diseases themselves being of a distinct nature, but by the peculiar circumstances under which the body is placed; the infant, for example, is carried on its nurse's arm, the weight is therefore wholly received upon the sacrum, and consequently this bone yields, whereas in the adult, when the body is erect, as in walking or standing, considerable weight is thrown upon the acetabula by which they are pressed nearer towards each other, and encroach upon the lateral diameter. In these affections the constitution requires support, the circulation is generally languid, the appetite bad, and the secretions unhealthy. When the pelvis has become affected, of course no means will

restore it to its natural dimensions; if the disproportion be slight, it will merely produce delay, and increased pain at the time of labour; if more considerable, it will give rise to the necessity for instrumental interference.

A manifest advantage arises from knowing beforehand, whether a pelvis be of its natural dimensions or not, as the practitioner as well as the patient and her friends, will be prepared for the kind of labour which is about to take place; instruments called pelvimeters were formerly recommended for the purpose of ascertaining this point; some were directed to be applied externally round the pelvis, others were passed within its cavity; but it is found that the hand of the accoucheur is the best instrument: by carrying it up the vagina, and separating the fingers so as to touch the different parts of the pelvis, a sufficient degree of information for all practical purposes may be obtained, although the

different states and conditions of the soft parts render an exact measurement exceedingly difficult.

The head of a child at birth, is composed of a number of bones, having loose cartilaginous attachments with each other, called sutures. This will allow of its being squeezed or fashioned into the shape of the cavity through which it is passing; and hence, when the action of the uterus is powerful, a very considerable degree of difficulty may be overcome in consequence of this accommodative power. Where the sutures are ossified, of course this moulding process cannot take place.

PRESENTATION AND SITUATION.

The term presentation describes that part of the child which is opposed to the centre of the brim of the pelvis,—and situation, its place with regard to the surrounding bones.

ORGANS OF GENERATION.

The organs of generation in the female are divided into two classes, the external and internal; the former including those parts situated anteriorly to the hymen, and which may consequently be seen without dissection; the latter, the parts behind it.

EXTERNAL ORGANS OF GENERATION, OR VULVA.

The *mons veneris*, is a rounded prominence situated upon the symphysis pubis, at the lower extremity of the recti muscles, and extending towards the groins: it is a mere fatty elevation, and in the adult state is covered with hair. Its size varies greatly, depending apparently upon the general constitution of

the female, whether naturally healthy or otherwise.

Labia. Labia externa, seu majora pudendi. These substances are composed of doublings of the common integuments, containing within them a deposition of fat: they commence from the mons veneris, one on either side, and pass downwards until they arrive at the perineum, where they again unite. A little posterior to their junction below, a small membranous band passes across, called the fourchette, which is always torn at the birth of the first child.

The *clitoris,* is a small body of great sensibility, and is said to be somewhat analogous to the penis of the male: it consists of two corpora cavernosa or crura, arising from the rami of the pubis; these unite to form its body, which is supported by a ligament descending from the symphysis pubis. At the extremity of the body is the glans, covered by its prepuce.

Nymphæ. Labia interna, seu minora. These are two small vascular substances, enclosed within duplicatures of skin, resembling, externally, the labia, but are of much smaller size; they originate from the extremities of the prepuce of the clitoris, passing down, within the pudendum, nearly to the orifice of the vagina.

Orificium urethræ. This part, an accurate knowledge of which is so essential to the ready introduction of the catheter, is situated between the nymphæ, about an inch below the clitoris, and immediately above the opening of the vagina: its precise situation is marked by a slight elevation, in which it is placed. The urethra of the female is a curved canal, about an inch and a half in length, terminating in the bladder, which in its natural state, is situated immediately behind the symphysis pubis. The lining membrane of the urethra is very vascular, and contains numerous mucous lacunæ, which are sometimes of large

size: these should be borne in mind, when the catheter is being introduced, for if the parts be much relaxed, the point of the instrument may be caught by one of these apertures, and its passage into the bladder obstructed.

METHOD OF PASSING THE CATHETER.

This operation is to many persons one of considerable difficulty, and it arises from one of the following causes: 1st, from ignorance of the natural and precise situation of the orifice of the urethra; or, 2dly, from inattention to the position of the bladder, which may be altered by many circumstances: in consequence of the connexion which, by means of the peritoneum, is established between the uterus and the bladder, it follows that an alteration in the position of the former must, in some degree, affect that of the latter: thus, for example, when the organ rises out of the pelvis, during the period of gestation, the bladder must necessarily be carried upwards

with it; and where the abdominal parietes are lax and yielding, as in women who have borne many children, or where there is great distortion of the upper aperture of the pelvis, it will be tilted over the symphysis pubis; the canal of the urethra, will under these circumstances, be rendered longer and more curved than natural. The reverse happens in the more severe cases of procidentia uteri: the bladder is here dragged downwards, below and behind the pubes; and, consequently, after the catheter has entered the orifice of the urethra, the direction given for its passage into the bladder must be very different.

The most delicate, and therefore the most proper position in which a female can be placed before the operation be commenced, is on her left side, the practitioner taking his seat at her back; (it is almost needless to say that no exposure of the parts must take place:) the left hand is then to be carried over the thigh, and the labia and nymphæ separated

with the forefinger, whereby the situation of the clitoris will be readily detected: from this point it should be passed directly downwards, till it reaches the prominence already described as marking the position of the orifice of the urethra. The catheter having been previously lubricated with oil, is to be held by the thumb and forefinger of the right hand, and carried under the thigh, when its extremity is easily directed to the orifice, by the forefinger of the left hand already placed there: when it has been passed a short distance within the opening of the urethra, its direction must be altered; a moderate depression of its handle being, under ordinary circumstances, all that is required to allow of its ready entrance into the vesical cavity; but if the bladder be altered in its situation, by malposition of the uterus or other causes, of course the direction of the instrument must be varied also. Where the bladder is greatly distended and the urethra much elongated, a long

elastic gum catheter is the best instrument, taking especial care under common, as well as extraordinary, circumstances, to be gentle in its introduction, and not attempt to overcome the difficulty by an injudicious use of force, as the urethra will be liable to be lacerated by such proceeding.*

It may be necessary to draw off the urine

* The author has had a catheter constructed with a sort of moveable tip, the extremity of which is bent nearly at right angles with the body of the instrument, and is so contrived, that by turning it either upwards or downwards, the communication between it and the bladder, may be either opened or shut; thus when it is introduced, the little tube is turned upwards and no urine is allowed to escape; when the vessel which is to receive the fluid has been placed between the patient's thighs, the point is turned downwards, and the stream of urine thereby directed into the vessel: by this contrivance the patient is kept perfectly dry, and the bed prevented from being soiled; an accident which has frequently occurred with the catheter as originally constructed with the stilette.

in cases of lingering labour, where the head is nearly filling up the cavity of the pelvis; here some difficulty will be experienced, the bladder will be pushed over the pubes, and the urethra tightly compressed against the symphysis; the passage of the instrument is greatly facilitated by the introduction of the fingers into the vagina, by which the head is to be pushed upwards and backwards, and the pressure in this way will be somewhat lessened. It sometimes happens, in consequence of the pressure which the bladder undergoes during a severe labour, that a portion of it is forced downwards, behind the symphysis pubis, and it is divided, as it were, into two compartments, the one situated above, the other below, the head of the child: if the catheter were, under these circumstances, introduced in the ordinary way, the upper cavity or chamber would alone be emptied; but if the nature of the case be understood, it is very easy gently to press upon the lower por-

tion, after the evacuation of the upper, and thus to secure the emptying of the whole of the organ. If instruments were had recourse to without this precaution having been previously taken, the probability is, that the bladder would be lacerated, or at any rate, seriously injured by the pressure to which it must necessarily be subjected.

Hymen. This forms the boundary between the external and internal parts of generation, but is generally classed among the former; it is a thin membrane stretched across the vagina, just within its orifice, which it has the effect of somewhat contracting; it varies greatly in strength, in some being exceedingly weak and easily lacerable, in others it is possessed of considerable firmness; it has generally a central opening through which the menstrual fluid is allowed to escape; sometimes it is perforated by a number of small foramina, and in consequence of it then bearing some resemblance to a sieve, it is called a

cribriform hymen : at other times it puts on a puckered appearance, and is then called a rosebud hymen.

The orifice of the vagina, is the opening situated at the lower part of the external organs, and before the hymen ; this latter membrane where it exists, dividing the canal of the vagina itself from its opening or mouth.

INTERNAL ORGANS OF GENERATION.

Vagina. This is the canal which communicates with the external parts in front, and with the uterus behind, to which it is connected by cellular membrane. It does not, however, directly join the lips of the uterus, so as to form a continuous tube with the cavity of the womb, but passes beyond it, forming a sort of cul de sac, and therefore, in dissecting the parts, the os uteri is seen protruding into the vaginal cavity.

The *uterus* is a flattened pyriform body, situated in the middle of the pelvis, between

the bladder and rectum, usually about three inches in length, and is divided into the fundus, which is that portion above the entrance of the fallopian tubes; the cervix, which is the narrow inferior portion; and the body, which occupies the space between the fundus and cervix. The bulging part which passes down into the vagina is called its mouth, or os uteri, composed of two lips with a fissure between them. The substance of the uterus is muscular, the fibres passing in every direction, so as to form a perfect network. In its unimpregnated state, it has but little cavity, the sides of the organ being nearly continuous.

Uterine appendages. These consist of the fallopian tubes, ovaries, and the ligaments of the womb.

The *fallopian tubes*, are two processes attached to the upper part of the uterus, one on either side; they are very narrow at their commencement, but become gradually broader, and terminate a short distance beneath the

ovaries, by an irregular fringed border, called their fimbriated extremity. They are muscular in their substance.

The *ovaries* are two irregular oval bodies bearing some resemblance to the male testes, and are contained between the folds of the broad ligaments. They are composed of a number of vesicles, indefinite in size and number, and contained in a proper capsule.

The *ligaments* are four in number, two broad and two round; the broad ligaments are formed by doublings of the peritoneum, and are connected to the sides of the pelvis. The round ligaments are muscular substances, attached to the angles of the uterus, a little anterior to the fallopian tubes; they pass out at the internal abdominal ring, through the inguinal canal, and terminate at the mons veneris.

FUNCTION OF THE UNIMPREGNATED UTERUS

Independently of pregnancy, the womb has but a solitary function to perform, viz. the production of a reddish fluid, somewhat resembling blood, but differing from it in being destitute of the coagulating principle. This fluid is secreted monthly by the lining membrane of the uterus, and, from this circumstance, is called the menstrual, or catamenial discharge. It usually commences in this country about the fifteenth year, and terminates at the forty-fifth, of a female's age. In warm climates it comes on much earlier, in cold climates later; but the time of its continuance is usually limited to thirty years. The quantity of this fluid and the time occupied in its production, vary according to the climate, the peculiar temperament of the individual, and the mode of living; in this country the average quantity amounts to about

six ounces, and from four to six days are required for its completion. It is naturally suspended during gestation and lactation, though to this general rule there are some exceptions. Its use is said to be that of preserving the womb in a fit state for impregnation; certain it is that females who have not this function duly and regularly performed, do not very readily conceive. That, however, the previous existence of menstruation is actually necessary for impregnation, has been disproved by two cases which came under the immediate observation of the author, where the females became pregnant before this evacuation had been established; they were both young, and in all probability the uterus was in a menstruating condition when conception took place.

CONCEPTION, OR IMPREGNATION.

When conception takes place, a marked change occurs in one or more of the vesicles

contained in the ovarium; in the human species it is not common for more than one to be impregnated at a time: the surrounding parts of which become more vascular, and its size increases so as to form a slight projection beyond the surface of the ovary. Around this projection, the fimbriated extremity of the fallopian tube attaches itself. The vesicle continuing to enlarge, the peritoneal covering is absorbed, and the rudiments of the fœtus contained in this vesicle are received into the tube, through which they are gradually conveyed into the uterus where they are matured. The cavity left in the ovary, in consequence of the escape of this vesicle, is at first filled with a clot of blood, the colouring matter of which becoming absorbed, a yellowish substance is left, called by physiologists, corpus luteum.

GRAVID UTERUS.

After impregnation, the uterus undergoes a very remarkable change, and the term gravid

uterus includes the womb itself, and the ovum which is then contained within it.

The uterus. This organ must of necessity be subjected to great alterations: it has been mentioned before, that previous to conception, there is scarcely any cavity, whereas at the full term of gestation, the fœtus and its appendages, weighing altogether from nine to twelve pounds, are enclosed within its walls: this growth or enlargement is not the result of distention but arises from an actual deposition of new structure, and from a greatly increased caliber of the vessels which allows a very large quantity of blood to be circulated through it.

The order of the womb's developement is progressive from above downwards: first the fundus enlarges, secondly the body, and lastly the neck. No perceptible change takes place in the cervix, until the end of the fifth month, when it begins to expand, and at

the ninth month it is completely obliterated. The uterus is also altered from its original unimpregnated shape; it swells both behind and before, and therefore instead of being flat, and pyriform, it partakes more of the cylindrical figure, having during the early and middle periods of gestation, the unaltered cervix as it were suspended from it. The only change which takes place in the os uteri is an enlarged condition of the mucous follicles situated around it; they take on a peculiar action, and secrete a tenacious viscid mucus, which has the effect of completely shutting up the cavity of the womb, and this plug remains undisturbed until contractions of the uterus are set up for the purpose of expelling its contents. The uterine absorbents are much enlarged during the process of gestation.

The ovum. The whole of the contents of the gravid uterus, viz. the fœtus, with its appendages, the membranes, placenta, funis

umbilicalis, and waters, are comprised under the general term ovum.

When the ovum first descends into the uterus, it appears as a simple body, but when a little more advanced, the different parts of which it is composed are observable to the eye. It has been doubted whether this difference depended upon a formative power, existing in the early state of the ovum, by which the parts become successively evolved, or whether all these parts were complete originally, and concealed from sight by their extreme minuteness. The former opinion seems most agreeable to fact, for if an ovum be carefully examined at different periods of impregnation, it will be seen that the evolution of the different parts is gradual, first one part appearing, then another. The growth of the fœtus is not in an uniform ratio, it is quicker in the third, than in the second month; at the beginning of the fourth month it is slower, and is again quickened towards the

middle of that month; at the sixth month it again becomes slower, and remains so until the end of gestation. The relative proportion of the Liquor Amnii is much greater at the beginning than it is at the termination of gestation.

The membranes in the latter periods of pregnancy are three in number, the Tunica Decidua, the Chorion, and the Amnion. The decidua cannot properly be said to belong to the fœtus, it being a production of the uterus, the fundus and body of which are alone concerned in its formation; in no instance is it to be found in the cervix. Immediately after conception, even before the descent of the rudiments into the womb, the blood-vessels of its lining membrane enlarge, and take on the appearance of inflammation; a toughish gelatinous mass is secreted, which gradually changes into a thick dense membrane.

In the early part of gestation there are two deciduæ, the ovum descending through the

fallopian tube into the uterus, and continuing to enlarge, must necessarily push a portion of the membrane before it, and it continues to do so, until the protruded portion comes in contact with that part of it which remains attached to the uterus. The part thus pushed forwards by the ovum gives it a reflected covering, and hence is called tunica decidua reflexa; it is merely a temporary membrane, becoming absorbed at the third month, and may be seen at its greatest perfection at the second month after impregnation. The chorion is a thin transparent membrane, situated on the inner surface of the decidua; it is continued over the placenta, covering its vessels, and then passes along the umbilical cord to the navel of the child; although very thin, it is stronger than the other membranes. The amnion is the innermost, forming the bag which contains the fœtus; it follows the same course as the chorion, giving a covering to the placenta and umbilical

cord. The water in which the child is situated is contained within this amniotic bag, from which it is in fact secreted, and hence its designation, liquor amnii. Its analysis proves it to be water, with a small quantity of earth, albumen, and saline matter; it is usually transparent, sometimes turbid, being either milky or yellowish. Its use is evidently to defend the fœtus from injury, and hence in the early months, when this defence is more particularly required, the liquor amnii is proportionally greater in its quantity than afterwards.

The placenta is a flat, circular, fleshy-like substance, which forms the medium of communication between the mother and child, through the intervention, however, of the umbilical cord. It is usually attached to the fundus of the uterus, but occasionally at or near its mouth; and where this is the case, the female is frequently subjected to profuse and repeated hemorrhages during the

later periods of gestation, and at the commencement of parturition. (For a more particular account of the structure of the placenta, see Uterine hemorrhage, page 100.)

The funis umbilicalis is a vascular cord which connects the fœtus to the placenta; it is composed of two arteries and one vein, united by cellular tissue, into which a gelatinous matter is effused. The arteries are perfectly distinct, having no communication with each other until they reach the placenta, where they ramify and inosculate in every possible direction. They terminate in small veins, which gradually coalesce, and at length form one large trunk, (the umbilical vein,) which runs along, and indeed forms part of the cord, entering the umbilicus, and terminating in the vena portarum; by means of this vein the blood is returned from the placenta to the system of the child, after having undergone some change, the nature of which is not correctly understood; it is supposed, how-

ever, to be analogous to that which takes place in the lungs of the adult, and hence it has been termed the placento-pulmonary function. Where the placenta becomes separated to any considerable extent from the sides of the uterus, this function is necessarily impeded, and the infant frequently perishes.

PECULIARITIES OF THE FŒTUS.

The chief points in which the fœtus differs from the adult is in its vascular system: in the first place, there is a communication between the two auricles of the heart, called foramen ovale: there is also a tube which passes from the pulmonary artery to the descending aorta, named canalis arteriosus; and another, passing from the vena portæ to the ascending cava, termed canalis venosus. This opening and these canals usually close soon after birth: in consequence of this difference in the circulatory apparatus, the route of the blood is different in the fœtus in utero to

what it is afterwards: the blood is carried to the vena portæ by the umbilical vein, part passing through the liver, as usual, but the greater portion proceeding directly from the porta to the ascending cava, through the canalis venosus; the two portions there meet, and the blood is poured into the right auricle of the heart: another division then takes place, part only passing from the auricle into the ventricle, and from thence into the pulmonary artery, the remainder proceeding at once from the right to the left auricle, through the foramen ovale, then into the left ventricle, and lastly into the aorta; that portion which found its way into the pulmonary artery also undergoes a separation, part of it passes the usual route, viz. to the lungs, and is returned by the pulmonary veins into the left auricle, left ventricle, and thence into the aorta; the larger portion, however, proceeds from the pulmonary artery to the aorta by means of the canalis arteriosus, and never enters the

lungs at all; from the aorta it is distributed over the whole of the body, and is eventually returned to the placenta by the umbilical arteries, which arise from the hypogastric. In the description, therefore, of the circulation in the fœtus, these three parts of its anatomical structure must be borne in mind, viz. the communication between the vena portæ and the ascending cava, (canalis venosus;) the opening between the two auricles of the heart, (foramen ovale;) and the cross branch which forms a communication between the pulmonary artery and aorta, (canalis arteriosus.) The thymus gland, situated in the anterior mediastinum, is also peculiar to the fœtus: the pupil of the eye, during the early and middle periods of gestation, is closed by a membrane, termed membrana pupillaris: the lungs are dark-coloured, collapsed, and of a greater specific gravity than water: the liver is large, and the stomach small. The testes of the male, in the early part of preg-

nancy, rest upon the psoæ muscles, from whence they descend into the scrotum before birth: the teeth are buried in their sockets: a thick treacle-like substance, called meconium, is contained within the intestinal canal, and the bones, in most parts, are incompletely ossified.

SYMPTOMS INDICATING PREGNANCY.

It is difficult to form a correct opinion regarding the existence of pregnancy, without an examination per vaginam, and even then, unless the female be somewhat advanced, and the womb consequently considerably developed, the accoucheur will be liable to be mistaken: in all doubtful cases it is much better to avoid giving a decisive opinion. Of the symptoms generally enumerated as characteristic of pregnancy, some are of much more importance than others; and, therefore, a very deliberate inquiry is requisite before giving a prognosis.

In general, the first symptom which takes place leading a woman to suppose that she is in the family way, is, suppression of the catamenial flow; but there are so many causes tending to produce this effect, that a careful examination is necessary to ascertain whether it be not the result of disease. Sickness in the morning is a frequent attendant upon the pregnant condition; this sympathetic vomiting should be distinguished from that which is produced by diseased stomach. In the latter case it will be much more constant, in the former the female frequently feels no inconvenience after the morning part of the day. Other signs have been enumerated, such as general emaciation, an increase in the glandular structure of the breast; enlargement and darkening of the areola surrounding the nipple; the abdomen becoming prominent, and a sensation of motion felt within it.

Perhaps the best single symptom is the change in the size and colour of the areola;

this, in a first pregnancy, is usually remarkably distinct. If, in addition to this appearance, milk be secreted, the probability will be increased. Some females experience great irritation about the neck of the bladder in the very early part of pregnancy which soon subsides. This is the result of sympathetic irritation; whereas, when this symptom occurs towards the end of pregnancy, it arises in consequence of the mechanical effect of pressure.

LABOUR.

By Labour is understood that action of the uterus which occurs at the full period of gestation, in consequence of which the fœtus and its appendages (the placenta and membranes), are expelled from its cavity.

DIVISION OF LABOURS.

Labour may be divided into four kinds:

1. NATURAL.
2. PRETERNATURAL.
3. INSTRUMENTAL.
4. COMPLICATED.

Premonitory signs. A short time previous to the commencement of labour, certain symptoms manifest themselves, which are looked upon as indications of the approach-

ing event, and have on this account been termed the premonitory, or the precursory signs. These are, a feeling of activity and lightness on the part of the patient; a diminution of the abdominal protuberance; an increased vaginal secretion; frequently a sympathetic irritability of the bladder, and sometimes of the rectum also.

1. NATURAL LABOUR

presupposes the vertex to be the presenting part, the occiput situated toward the acetabulum, and consequently the face towards the opposite sacro-iliac synchondrosis; the uterus containing but one child; and nature completing the delivery without manual interference.

Labour is divided into three parts, or stages: 1st, the opening or dilatation of the os uteri; 2d, the birth of the child; and 3d, the expulsion of the placenta and membranes.

At the commencement of labour, the pa-

tient complains of pains in the back, shooting through the abdomen, and frequently extending to the upper and inner part of the thighs; there is great irritability of the bladder, causing a frequent desire to pass her urine, her mind is desponding, and she becomes restless and fidgetty; the stomach frequently sympathizes, producing nausea and vomiting; a degree of shuddering, in some cases amounting to a rigor, is experienced, though in very many instances there is no sensation of coldness. The pains are generally of short duration, and the intervals between them uncertain: after a longer or shorter period, the os uteri begins to dilate, the mucous plug, by which it is naturally closed during gestation, comes away, usually streaked with blood from the ruptured decidual vessels; this appearance of bloody mucus is, by nurses, termed "*the shew.*" If we examine, per vaginam, after the detachment of this plug, we find the bag containing the liquor amnii gradually

insinuating itself between the opening lips of the os uteri, and, by thus acting upon the principle of a wedge, greatly assists in its further dilatation. The os uteri being dilated, the pains assume a very different character; the abdominal muscles strongly assist the contraction of the uterine fibres, producing an involuntary forcing-down effort on the part of the patient; the bag bursts, and the waters are discharged; the pains increase, the womb contracts closely round the body of the child, and, by repeated efforts, expels it through the os externum; and this completes the second stage.

If the labour has been properly conducted, the third stage occupies but a very short time, the contractions of the uterus being speedily renewed, by which the secundines (the placenta and membranes) are soon detached.

Passage of the child during labour. At the beginning of labour the child's head rests upon the brim of the pelvis; the vertex

presents, with the occiput directed to one of the acetabula, the chin being bent upwards upon the chest; by this contrivance the long diameters of the head and of the pelvis correspond. When the waters have escaped, the uterus, acting forcibly upon the body of the child, propels it, at first, downwards and backwards, in the direction of the axis of the brim. When the head has completely entered the cavity of the pelvis, a turn is effected, by which the face is thrown into the concavity of the sacrum; whilst the occiput, escaping under the arch of the pubis, protrudes at the orifice of the vagina. By this turn a double good is effected: 1st, the long diameter of the head is made to correspond with that of the outlet; and, 2dly, the shoulders are brought into a situation favorable for their passage through the brim. The pains continuing, the head is soon expelled, the symphysis pubis forming a fixed point upon which it turns round, the face in its passage sweeping over

the perineum. When the shoulders have descended into the cavity, nature turns the child sidewise, in order that they also may be brought into the most favorable situation for their final extrusion; they then readily pass the outlet, and are soon followed by the trunk and lower extremities.

Duties of the Accoucheur. The first duty that devolves upon the accoucheur, on entering the lying-in room, is to ascertain that the female is actually in labour. Now, from the close resemblance which subsists, in many instances, between the false and the true pains, this can only be done by an examination per vaginam; but as this operation must, at all times, be offensive to the delicate feelings of the sex, it should not be proposed too abruptly: it is well, therefore, to enter into a little cheerful conversation before it is had recourse to. The most convenient position in which the patient can be placed is on her left side, the buttocks being near to the edge

of the bed, the knees elevated towards the abdomen, and the chest bent rather forwards towards the knees. The forefinger, having been previously anointed with some unctuous substance, is to be passed into the vagina, and carried forward till it reaches the os uteri, which, at the beginning of labour, is usually high up, and directed backwards towards the sacrum. If the pains are not the true parturient paroxysms, it will be found that, however violent they may appear, no effect will be produced upon the os uteri, it will remain closed. But if we find that, during their continuance, the lips of the os uteri are gradually opening, and that a portion of the membranes is protruded between them, in the form of a tense bladder, then we may rest assured that labour has actually begun. Before the hand is withdrawn, the presentation should be carefully ascertained: for this purpose the finger must remain in the vagina until the pain has subsided, and then gently

carrying it forward within the uterus, it is to be cautiously passed round the presenting part. If it be natural, the vertex will be distinctly felt, and, by tracing the sutures, the situation of the child may also be ascertained. If this examination be conducted roughly, or during the continuance of the pains, there will be great danger of rupturing the membranes, and thereby increasing very materially the patient's sufferings. Being satisfied that the patient is in labour, and the presentation natural, on withdrawing the hand (which ought to be wiped, under the bedclothes, with a napkin), the patient may be informed that every thing is going on favorably. This intelligence will have the effect of quieting her mind, and should always be afforded her. Women are in general exceedingly anxious to obtain this information, having, naturally enough, a great terror at what they term cross-births.

No further manual interference is either

necessary or proper during the first stage of labour. The patient is to be encouraged occasionally to empty the bladder and rectum; and, in order to afford her an opportunity of so doing, the practitioner should leave the room. Some light unstimulating nourishment may from time to time be given, and she may be allowed to walk, sit, stand, or lie down, according to her inclination.

But, when the second stage has commenced, she must be confined to the bed in the position just recommended; the practitioner taking his seat by her side. A broad belt or bandage (a long towel answers the purpose exceedingly well,) is now to be applied round the abdomen, the two ends being given to an assistant to hold firmly; or they may be pinned together with three or four stout blanket pins. The bandage must be progressively tightened as the head descends, so as to keep up a constant and uniform degree of pressure upon the uterine region. This should be par-

ticularly attended to during and after the expulsion of the child. A napkin must be placed under the hips, which is to be removed from time to time as it becomes soiled, and a dry one applied in its stead.

When the head is beginning to protrude through the labia, the palm of the left hand should be placed flatly, but not forcibly, against the perineum, in order that it may be supported and protected from laceration. The fore and middle finger of the right hand may also be pressed gently against the head of the child, so that it may pass gradually, and not too suddenly, through the external parts. If the head be protruded with a sudden jerk, there is reason to fear that rupture of the perineum, to a greater or less extent, has taken place.

As soon as the head is born, if the cord be coiled around the neck, (which it frequently is,) it may be gently drawn forward, and passed over the occiput: if this cannot be

accomplished, it should be loosened by the finger, and pushed back over the shoulders during their expulsion. The hand is also to be passed over the face, to ascertain that no portion of the membrane is still covering it, several well-authenticated cases being upon record where respiration has been prevented and the infant has perished from this circumstance. At this period it is also common for the nurse to bring a small flannel cap, which is to be placed upon the child's head, and tied under its chin.

It is of vast importance that the body and lower extremities of the child be not forcibly dragged away by the accoucheur; it is far better rather to retard than to accelerate their birth; this may be done by placing the hand round the nape of the neck, and opposing a slight degree of resistance: by so doing, the uterus is made to act with greater force; and the consequence is, that in a very large majority of instances, the same pain that expels the

feet also detaches the placenta, and propels it into the upper part of the vagina.

As soon as the child breathes, two ligatures, formed of about ten threads each, are to be tightly tied round the funis; one about three inches distant from the child's abdomen, the other a little nearer the placenta. The cord is to be divided between them; the scissors used for this division being probe-pointed. The infant is then to be removed, and placed in the receiver, which is merely a piece of flannel prepared for that purpose.

Owing to the compression which they undergo, children are sometimes apparently born dead. From this *stillborn* state, as it is called, they may, however, very frequently be recovered by proper management. Where there is the slightest pulsation in the funis, it must be allowed to remain untied, until the breathing is established. Friction over the region of the heart may be employed with the hand alone, or with a small quantity of ardent spirit.

Artificial respiration is also necessary: this is accomplished by inflating the lungs, alternately blowing into the mouth, and depressing the ribs by pressure with the hand; care being, at the same time, taken to close the nostrils. The opening into the œsophagus should also be shut, which may very effectually be done by pressing the larynx pretty firmly backwards against the spine. If this precaution were not taken, the air would of course find its way into the stomach and bowels. Immersion in hot water is another powerful means of restoring stillborn children: warm water is not sufficient; it ought to be as *hot* as can be borne, without injuring the delicate skin of the child. The breathing of newly-born infants is frequently impeded by the collection of a quantity of mucus around the mouth and fauces: where this is the case, it should be carefully wiped away with a clean napkin.

MANAGEMENT OF THE PLACENTA.

The child being consinged to the arms of an attendant, the hand of the accoucheur is to be placed upon the patient's abdomen, and pretty firm pressure made, in order that the uterus may be felt. If it be found small and hard, we may be certain that it contains no other fœtus, and the probability is that the placenta is expelled from its cavity; and this will generally be found to be the case where due attention has been paid to the tightening of the bandage, and due care taken to retard, rather than to hurry, the birth of the lower extremities of the child. In order to be certain, however, with regard to the placenta, an internal examination is required, when, if detached, it will very readily be felt at the upper part of the vagina, sometimes resting upon the symphysis pubis. From this situation it may be removed without difficulty, by twisting the funis round the left hand, and making slight extension downwards and backwards in

the direction of the axis of the brim, whilst, with the fore and middle fingers of the right hand, it is tilted into the concavity of the sacrum; thus imitating the passage of the head. If, notwithstanding these gentle efforts, the placenta does not descend, a more careful examination is to be made, for it has occasionally happened that, in cases of partial adhesion, the uterus has contracted so forcibly that nearly the whole of the non-adherent portion has been protruded beyond the os uteri. This is, however, a very uncommon occurrence; one case only has come under the author's notice in which, although the larger portion of the placenta could be distinctly felt in the vagina, there was an adhesion of so tight a nature as to require the introduction of the hand into the uterus, in order to separate it. When brought through the external parts, it should be received upon a napkin, in which it is to be wrapped up under the bedclothes, from whence it may be conveyed into any convenient receptacle.

RETAINED PLACENTA.

This effect may be produced by three different causes:

1st. *Torpidity of the uterus;*

2d. *Spasmodic action;*

3d. *Adhesion of the placenta to the parietes of the uterus.*

1st. *Torpidity or inaction of the womb* generally occurs from an exhausted state of the organ, in consequence of a protracted labour. When the hand is placed upon the abdomen, it will be found large, flaccid, and flabby: the uterus being uncontracted, of course no hard tumor is perceptible. If the finger be passed into the vagina, the cord may be traced within the os uteri, but no placenta can be felt.

Treatment. Some nourishment may be given the patient, and brisk friction employed

over the uterine region. If this does not prove effectual, (which, however, it usually does,) half a drachm of powdered ergot may be given in warm tea.

2d. *Spasmodic action.* If the placenta be retained from this cause, the patient will complain of constant pain; and if the hand be so placed upon the abdomen as to grasp the uterus, it will be found to be hard and contracted in one part, soft and flabby in another. Sometimes contraction of those fibres situated around the centre of the organ alone takes place, whilst the others remain relaxed, which must necessarily have the effect of dividing the uterus into two chambers, and then, from its shape, it is termed the hourglass contraction. This is, however, of rare occurrence: it is much more common for the circular fibres to contract pretty generally whilst the longitudinal remain relaxed; and the placenta will then be completely shut up within the uterine cavity. If the uterus be

examined through the abdominal coverings, it will be felt hard and of large size. The cord may also be traced with the finger, passing through the contracted os uteri, whilst the vagina remains relaxed below; and this state of parts has been often confounded with hourglass contraction.

Treatment. Friction to the abdomen, and the application of cloths dipped in cold water. As a last resource, the introduction of the hand into the uterus, the dilatation of the strictured part, and the removal of the placenta. In very obstinate cases, a full dose of opium is necessary.

3d. *From adhesion.* When, after delivery, the patient continues to have strong uterine action, (which is ascertained by pressing upon the abdomen,) and the placenta remains behind, there is reason to believe that there is an unnatural adhesion to the sides of the womb.

Treatment. After waiting an hour, if it be

not expelled, the hand may be very cautiously introduced, the placenta separated, and brought away. If hemorrage occur, no time should be lost; the hand must be introduced instantly.

CAUSES WHICH IMPEDE LABOUR.

Many are the causes which tend to obstruct the process of parturition, but they may be referred to two general heads; viz. to increased powers of resistance, or to decreased powers of expulsion.

Of the first variety. Rigidity of the parts of generation, either of the os uteri or of the external parts, or both, is one of the most common causes which produce increased resistance, (more particularly in a first labour.) There is generally a deficient vaginal secretion, the parts feel hot, and the female is feverish.

Treatment. The patient is to be confined

to the horizontal posture; a quantity of blood (proportioned, of course, to her strength and constitution,) to be taken from the arm; the rectum emptied by means of an enema, and afterwards a full dose of opium administered. The repeated application of warm wet cloths to the perineum is also useful, by encouraging the mucous secretion, and thus giving the parts a greater disposition to dilate. Frequent examinations per vaginam ought to be avoided, and great care taken not to rupture the membranes.

Disproportion between the size of the head and the bony structure of the pelvis, is also another cause. Thus, the pelvis may be distorted, or the head may be larger than usual, or its sutures may be closely ossified, so that it cannot be squeezed into the proper shape for its passage through the cavity. Again, the head may be greatly enlarged by the accumulation of water within it.

Treatment. The slighter degrees of dispro-

portion will be overcome by nature's unassisted efforts, though a considerable time may be required. The patient's strength may be supported by unstimulating nourishment, her spirits kept up by cheerful conversation, and great attention paid to the bladder and rectum. In the greater degrees of disproportion, recourse must be had to instrumental interference. Where the difficulty arises from an accumulation of water, the scalp may be punctured with a pair of scissors or a trocar; the fluid escaping, the bones of the cranium will collapse, and the child will then readily pass.

Unusual toughness of the membranes containing the liquor amnii occasionally, though not very frequently, produces increased resistance. This is known by their not giving way at the usual period; the patient at the same time experiencing bearing-down pains.

Treatment. When the parts are thoroughly dilated, the end of the finger, or a blunt-

pointed probe, should be passed through the bag during a pain.

A very large quantity of liquor amnii is sometimes the cause of protracted labour. When it is contained in that part of the bag which protrudes before the head of the child, it is easily distinguished; when behind it, we shall find, if we press with a finger upon the presenting part, in the absence of pains, that it will suddenly recede and get out of reach.

Treatment. Precisely the same as in the preceding case.

Too early rupture of the membranes, by destroying the natural wedge by which the os uteri is dilated, is not an uncommon cause of protracted labour: the process not only being delayed, but rendered much more painful.

Treatment. These labours are generally slow in their progress, and are rather retarded than hastened by manual interference.

A distended state of the urinary bladder, or

of the rectum from an accumulation of hardened fæces, will prove a serious obstacle to delivery, not only from the encroachment which is necessarily made upon the pelvic cavity, but also from the uterine paroxysms being sensibly diminished till the causes are removed. There is, therefore, a double disadvantage; the powers of resistance being increased, whilst those of expulsion are diminished.

Treatment. The catheter, and large emollient enemata, are the obvious remedies.

Descent of the hand along with or before the head will sometimes retard the progress of a labour, especially if it be a first labour, and the parts rigid, or should there be a large head or a small pelvis. This is easily detected, as the fingers can be felt without difficulty.

Treatment. It has been recommended by some, that the hand should be pushed back over the head; but experience has amply proved that, in a large proportion of instances, this mode of proceeding is not necessary, these

cases merely requiring a longer time for their completion than ordinary ones.

A shortened state of the funis umbilicalis is now and then, (but very unfrequently,) a cause of protracting labour: under these circumstances the head remains a considerable time at the outlet, though the pains continue severe; but it is not till after the expulsion of the child that the cause can be ascertained.

Treatment. Care should be taken to put the cord as much as possible off the stretch, by bending the body of the infant towards that of the mother. The funis ought to be divided as soon as within reach.

Of the second variety. An unfavorable state of the patient's constitution will greatly interfere with and impede the parturient actions, whether it be in consequence of a state of plethora, or of the opposite state, viz. that of inanition. These two conditions are

easily recognised by the general appearance of the patient. In the former there is a flushed state of countenance, headach, a pulse either full and round, or contracted and hard, a coated tongue, thirst, and generally a deficiency of the mucous secretion from the vaginal surface; the parts of generation are hot and tender, this tenderness sometimes extending over the uterine region, in which case internal inflammation may be suspected.

In the latter the pulse is feeble, though perhaps quick; the skin cool, moist, and flabby; there is sometimes a feeling of great oppression over the eyebrows: the parts of generation dilatable, and bathed with a copious secretion.

The *treatment* must, of course, be regulated by the cause which produced the symptoms. Where there is a plethoric state of system, abstraction of blood is at first to be had recourse to; the bowels are then to be freely

opened, the room to be kept cool, and perfect quietude and the recumbent posture strictly enjoined; unnecessary examination per vaginam to be avoided.

An opposite mode of treatment is required where the patient is debilitated and exhausted. Nourishment may be administered, and a little stimulus allowed, such as mulled wine, or weak and hot brandy and water. When the female has somewhat rallied, it will become a question whether it will be more to her advantage to expedite or to retard delivery. If the pains have altogether subsided, and there be a disposition for sleep, a full dose of opium may be given, and quietness strictly observed, in order that rest may be procured: but if nature appear to be on the alert, if the pains regularly continue, though defective in power, twenty-five grains of pulv. secalis cornuti may be exhibited in warm tea, and repeated in the course of twenty minutes, if necessary. The effect

of the ergot is, in these cases, frequently very decided; the pains, after a short period, increasing both in frequency and in force, and continuing till the delivery is completed.

Imperfect action of the uterus. For the purposes of labour it is necessary that there should be a perfect contraction of the whole muscular structure of the womb; but this action is sometimes partial only, which produces considerable distress to the patient, without advancing the labour. In these cases there is no freedom from pain, although it may be aggravated at intervals. If the hand be placed upon the uterine region, and pressure applied, the uterus will sometimes be found to have an irregular feel, one part being much firmer and harder than another.

Treatment. If the patient be plethoric, blood must be removed from the arm, the bowels attended to, and opium, both by the mouth and by enemata, administered in large quantities. If, on the contrary, the female be

weakly and irritable, the bloodletting is inadmissible.

2. PRETERNATURAL LABOUR

includes every variety of presentation and situation of the child, excepting that described as occurring in natural labour; cases of monstrosity; and also those in which the uterus contains a plurality of children.

Malposition of the head. The head of the fœtus may present in various ways: thus, it may be a vertex presentation, with the occiput directed towards the sacro-iliac synchondrosis, instead of the acetabulum. It may be a presentation of the forehead, of the side of the head, (in which case the ear is easily recognized,) or of the face: in none of which, with the exception of the ear, need manual interference, for the purpose of rectifying such position, be had recourse to, as nature very generally completes the task herself, without

injury either to the mother or the child, though these labours are tedious and severe. If the patient's strength seems to be declining, assistance may be given with the forceps after the head has descended. The propriety of using much exertion in order to bring down the vertex, may be fairly questioned when the parts are rigid and indisposed to dilate; and if they are lax and yielding, the mucous secretion copious, and the pelvis well formed, there will be no occasion for such interference.

In presentations of the ear, (which are exceedingly rare,) the child should be turned, and brought down by the feet.

Presentation of the feet is known by the lengthened form of the membranes which protude through the os uteri, by the shape of the toes, the projection of the os calcis, and of the malleoli. This presentation can only be confounded with that of the hand, from which it may readily be distinguished by the signs

just enumerated, and by attending to the difference in the relative situation of the parts with which they are articulated. If it be the hand, it will be in a state of pronation, and consequently will be in a direct line with the forearm; whilst, in a presentation of the foot, this part, from the nature of the articulation, will always be found at right angles with the leg.

Treatment. The most favorable position of the child in these cases is with its toes directed to the mother's back, as the head will, under such circumstances, pass through the pelvis with much greater facility than when they are placed in the opposite direction: if, therefore, upon examination, they are found to be thus situated, no interference is required till the scapulæ are about to pass through the outlet; it then becomes of great importance to prevent the arms from being pressed between the occiput and symphysis pubis; for, if they become thus wedged in, the delivery of the head will be rendered extremely difficult. In

order to prevent this occurrence, the fingers are to be introduced into the vagina, and the arms gradually and cautiously (for fear of fracture,) thrown backwards into the hollow of the sacrum, from whence they may be easily extricated, by sweeping them, as it were, over the perineum. If this operation be performed rudely and violently, not only will there be danger of fracturing the bones, but also of lacerating the perineum. Sometimes difficulty is experienced in the delivery of the head, especially if there be any disproportion existing between its size and that of the pelvis: now, as the cord must necessarily suffer from compression when the head has descended into the cavity of the pelvis, it becomes of great importance that it be born as speedily as possible. The finger being passed into the child's mouth, a little pressure made upon the lower jaw, in a direction downwards and forwards in the axis of the outlet, will assist greatly in bringing out the head from

under the arch of the pubis. When the breech and the head are passing the external parts, the perineum must be carefully guarded.

Where the child is coming down in a different situation, viz. with the toes towards the mother's abdomen, then as soon as the buttocks have passed the os externum, it is proper to grasp them with both hands, and gently to turn the body of the child, so as to place it in a more favorable position, viz. with the face to the mother's back; after which, the delivery is to be conducted according to the rules just laid down.

Presentation of the breech. This presentation is known by the prominences of the buttocks, the cleft between them, and frequently by the organs of generation being distinctly to be felt; occasionally there is also a discharge of the meconium. The most favorable position is where one of the buttocks is directed

to the acetabulum, the other to the sacro-iliac junction.

Treatment. No interference is required until the breech has passed the outlet, when the same plan is to be pursued as in presentation of the feet.

Presentation of the knees is to be treated in the same manner.

Presentation of the arm or hand is known by the length of the fingers, the situation of the thumb, and the shape of the articulation. (Vide *Presentation of the Feet.*) Sometimes the scapula is the presenting part, the arm lying across the pelvis; in which case care is required, or it may be confounded with the crista of the ilium. This mistake may readily be corrected by bearing in mind that the scapula is moveable, whilst the ilium is fixed.

Treatment. These presentations can only

be rectified by the operation of turning the child in utero, and converting it into a footling case, by bringing down the feet; a proceeding which requires the utmost caution, or the soft parts of the mother are likely to be injured. This ought not to be commenced, until the os uteri and external parts are sufficiently dilatable to allow the hand to be introduced without violence. The bladder and rectum should also be emptied; and, if the uterus be in a comparatively quiescent state, the difficulty will be greatly diminished; and hence the necessity of bloodletting and the administration of opium in cases where the female is plethoric, and the womb is acting forcibly. If violence were used under such circumstances, the probability is that laceration or contusion would be the result. In women of irritable and delicate habits, the bloodletting must be dispensed with, and the opium alone trusted to.

When about to turn, the situation of the presenting hand is to be carefully noticed,

whether the palm be directed forwards towards the pubis, or backwards towards the sacrum, as it will always be found pointing to that part of the uterus in which the feet are to be found. The right or left hand may then be used at the operator's convenience; the right reaching more readily the anterior, and the left the posterior part of the organ.

Before the operation be commenced, the back part of the hand and arm ought to be well smeared over with oil, lard, or pomatum, in order to facilitate its introduction. The patient is to be placed on her left side, with her buttocks close to the edge of the bed. It is but seldom, if ever, necessary to push back the presenting part into the uterus, as it generally revolves very readily when the feet are brought down. The fingers and thumb of the accoucheur should be so adjusted as to enter the vagina in a conical form; and, in the progress of the hand, the peculiar curvature, and the axes of the different parts of the pelvis

through which it is passing, carefully remembered. The introduction is greatly facilitated by carrying the hand forward in a sort of zig-zag manner, and not by sudden jerks. When the os uteri is reached, the membranes ought to be broken, (and this should be done in the absence of pain,) the hand at once being passed into the uterine cavity, and directed to that part in which the feet are situated; cautiously however resting, and laying the palm flatly upon the body of the child, at each renewal of the uterine efforts. If both feet can be readily found, it is better to bring them down together; but, if much difficulty be experienced in reaching the second, the child may easily be turned by laying hold of one. After having grasped one or both feet, they are gently to be drawn down, taking care to bring them over the child's abdomen, and not over the back; when they have passed the external orifice, the position of the child must be attended to, that the head may be brought into the

pelvis in the most favorable situation for its passage through that cavity, (see *Presentation of the Feet*,) when there will be no further difficulty in the completion of the elivery.

The operation of turning a child in utero is much more easily performed if attempted early, before the rupture of the membranes containing the liquor amnii; for when this escapes, the uterus contracts forcibly around the body of the child, and affords great, and, in some few instances, irresistible difficulties to the introduction of the hand; the child descends, and becomes so completely jammed into the cavity of the pelvis, that the operation would he attended with infinite danger to the mother. Under such circumstances the case must be strictly watched, and if the strength of the patient keeps up, the uterine action powerful, and above all, if, with each returning pain, the presenting part is evidently

descending, or (to use the words of the justly celebrated Dr. Haighton,) "if we find that nature shews a disposition to be upon the move," then, at any rate for a time, she may be safely trusted to; it being, under such circumstances, reasonable to presume that she will be able to complete the delivery by expelling the child in a doubled state; and as, in these severe cases, the fœtus is generally dead, no anxiety need be entertained on its account. The death of the child is, indeed, to be regarded as favorable in these cases, for, when putrefaction has taken place, this doubling process is the more readily effected.

But, on the other hand, should the strength of the mother begin to fail, or, notwithstanding the continuance of the pains, the child remain fixed in the pelvic cavity, or untoward symptoms arise, such as marks of incipient inflammation, &c., then it will become necessary for the delivery to be instantly accomplished by the evisceration and subsequent

extraction of the fœtus. Dr. Denman appears to have had great reliance upon the powers of nature in such instances; but it is now a point of practice agreed upon by all, never to trust to her where turning can be safely performed at the full term of utero-gestation. It is well known that, at the sixth month, this process (of doubling) very readily takes place.

In presentations of the *abdomen*, the *back*, the *nape of the neck*, or the *throat*, delivery must be effected by the operation of turning.

Presentation of the funis. Although the descent of the umbilical cord into the cavity of the pelvis does not interfere with the parturient process, still, from the pressure to which it must of necessity be subjected, the circulation through it becomes interrupted, and the infant frequently perishes if nothing be done for its rectification.

Treatment. A piece of soft sponge is to be

introduced into the vagina, and passed up into the uterus, the funis being carried beyond the head by pressure being thus made against it. The sponge is then to be left, which, by imbibing moisture, will so far increase in size that it will not again descend until after the birth of the head. Where, however, there is much rigidity or irritability in the parts of generation, this method must not be attempted, as it will be productive of great pain. The best plan, in these cases, is merely to place the cord in that part of the pelvis in which it will be exposed to the least pressure during the descent of the head.

Monsters.

The term Monsters is applied to those children who differ from the ordinary shape, whether this difference consists in a redundancy or a deficiency of parts.

It may be observed, that monstrous births are generally premature; but, should the fe-

male proceed to the full period of utero-gestation, no difference in the management of the labour will be required. The accoucheur will, in some instances, be greatly puzzled to discover the presentation.

Labours with Plurality of Children.

It is a very uncommon occurrence for the human uterus to contain more children than two, though a few well-authenticated cases are recorded in which three, four, and even five, have been detected within its cavity. From the returns of the London and Southwark Midwifery Institution, it appears that twin cases have occurred in the proportion of about one in eighty labours; and, although that Institution has been in active operation for the last ten years, one case only of triplets has been recorded.

Twin labour. Certain symptoms have been mentioned by authors as indicating, even before the delivery of the first child, the

existence of a plurality within the womb. These signs are, however, so exceedingly equivocal, that time would be wasted in enumerating them, especially as it would conduce to no useful purpose; the rules applicable to single births being equally so where there are two or more children in utero.

After the first child is born, the hand being placed upon the female's abdomen, the parietes will feel tense and hard, and there will appear to be but little diminution in size; and when an internal examination is made, the bag containing the second child will generally be easily felt.

Treatment. The delivery of the first child is to be conducted upon the usual principles. With regard to the second, two methods have been recommended: the one to trust the case entirely to nature, the other to interfere immediately for the purpose of hastening the birth. In general, the best practice lies between these

two extremes, for the patient is frequently somewhat exhausted after the expulsion of the first child, and consequently requires a little time to recruit herself. Under these circumstances nourishment should be administered, and, if the pains are not then renewed, the membranes may be ruptured, and the os uteri gently stimulated by passing the finger round it; when the uterine efforts will soon be repeated. If dangerous symptoms manifest themselves, such as hemorrhage, convulsions, &c., of course no time must be lost, but the child extracted as speedily as possible. Where the position of the second fœtus requires to be rectified, it can be effected with the utmost ease, in consequence of the already dilated state of the parts. There is sometimes only one large placenta, with which the two funes communicate; at other times there are two distinct placentæ, connected however to each other by the membranes; and occasionally, though not very frequently, the vascular struc-

tures unite through the medium of one or more vessels, which pass from the one to the other.

The same general rules apply to the management of the placentæ as in single births. They are usually expelled together after the birth of both children, and it is of great consequence that they are not too suddenly hurried away. When, from any cause, it may be considered right to assist in their removal, (as, for example, where they are lying in the vagina,) both cords are to be laid hold of, and the same extracting efforts will then be made use of to each.

In the management of twin labours, great care must be taken gradually to tighten the bandage around the abdomen, as, in consequence of the exertion the uterus must necessarily undergo, there is more than the usual risk of hemorrhage; and, when this occurrence takes place, it is apt to be more profuse in consequence of the large extent of uterine

surface which is occupied by the two placentæ. This is the reason why the discharges after delivery are greater than in single births, as they flow from the whole of that surface.

Where the uterus contains more children than two, the labour will require the same management.

3. INSTRUMENTAL LABOUR.

There is, perhaps, no part of a medical man's duty which involves a higher degree of responsibility, than a decision as to whether the use of instruments be really required for the preservation of the life either of the mother or of the child. Many circumstances must be considered before a correct opinion can be formed: such as the length of time the female has been in labour; the cause which has given rise to the difficulty; the constitutional effect produced upon the mother, whether she be calm, tranquil, and disposed to sleep, or whe-

ther the system is getting into an irritable state, and shewing marks of fever, or of inflammation: for a labour may, in some instances, be protracted for several days, and yet be safely trusted to the powers of nature; whilst, on the other hand, cases may occur in which the most prompt treatment is required, in consequence of the effect produced upon the system. Where it is found that, although the pains continue severe, the head still remains fixed in its position for several hours, then it will afford a proof that there is more than the ordinary degree of difficulty, and the patient should be narrowly watched. The state of the bladder and rectum should not be lost sight of, lest, by the continued pressure of the head of the child, they become exposed to injury: as the pulse rises in frequency as soon as any internal part is suffering from this circumstance, the state of it (the pulse) may be regarded as an useful adjuvant in determining the propriety or impropriety of having recourse to instrumental interference.

The young accoucheur is particularly cautioned against an unnecessary multiplication of instruments, as they will only serve the purpose of confusing and perplexing him. The safety of these cases depends much more upon the head that directs, than upon the instrument which effects the delivery; and hence the reason why different men have argued so long and so loudly for the superiority of one instrument over the other.

Instruments are divided into two classes: 1st, those which are not necessarily destructive to either the mother or the child; and, 2d, those by which the child is destroyed for the purpose of saving the mother.

Of the first class are the forceps, both long and short, and the lever.

Of the second, are the perforator and the craniotomy forceps.

In all cases requiring the use of instruments, the bladder and rectum ought to be emptied previous to their introduction; the os uteri and external parts ought also to be well

dilated, and the presentation and situation of the head correctly ascertained. The patient is to be placed near the edge of the bed, on her left side, the shoulders a little elevated, and the thighs separated by placing a pillow between the knees.

Long forceps. This valuable instrument has, until of late years, been too much neglected, and it is greatly to be feared that the lives of many children have been destroyed by the perforator, which might have been saved by the judicious employment of the long forceps. It is applicable in cases of deformed pelvis, wherein the deformity exists at the brim; the conjugate diameter, for example, being too straightened to allow of the passage of the head by nature's unaided efforts, and yet the contraction being too slight to warrant the mutilation of the child by lessening the size of its head; and, in fact, in all cases in which delivery is required with the head at the brim, and where, from any existing cause,

turning may not be thought advisable; as, for example, in cases of hemorrhage, convulsions, &c.

In the more severe degrees of deformity however, where, for example, the distance from pubis to sacrum is under three inches, their use should not be attempted; for, as in these cases the child cannot be expected to be saved, it is better at once to use means by which the mother will be exposed to less risk.

The length of these forceps is about fourteen inches; the perfectly straight ones are the best, the curve recommended by some answering no useful purpose. It is of great advantage that they be made according to the suggestion of Dr. Blundell, the talented lecturer at Guy's Hospital; viz. with a very loose lock; by which contrivance the blades may be joined together, and a very firm hold of the head obtained, even where they have not been applied in an exact line with each other.

Manner of applying the long forceps. In cases requiring the use of this instrument, the contraction is from before backwards, or from pubis to sacrum; it therefore should be so introduced that, when joined together and locked, the blades shall be lying in the sides of the pelvis, embracing in their grasp the occiput and the forehead. For this purpose, after having warmed and anointed the blades, one is to be taken in the right hand, and carefully guarded to its place of destination by two fingers of the left hand previously introduced into the vagina. When applied, it is to be retained in its situation by an assistant, and the second blade introduced in like manner. When both blades have been properly introduced, viz. the one over the occiput, the other over the forehead, the handles are to be brought together and locked; great care being taken not to include any of the soft parts of the mother. After they have been united together, a very gentle degree of ex-

tracting force is at first to be made use of, in order to ascertain whether the instrument be properly applied, and a secure hold of the head obtained. It is better not to bind the handles together with tape, as formerly was recommended; for, by so doing, a constant and injurious pressure is kept up upon the yielding bones of the child's head. In delivering with the forceps, the force should be employed at intervals only; and, if pains are present, it may be used during a pain; the patient being examined from time to time, more especially as regards the state of her pulse, in order to be satisfied that no violent efforts are made use of, likely to endanger the soft parts, by producing contusion: it being well known that the pulse takes the alarm, and rises in frequency, directly the parts are injured by pressure. The situation of the axis of the brim (the part through which the head is first to be brought,) is strictly to be borne in mind, and the force employed in that direc-

tion. When the brim has been passed, and the head brought into the cavity of the pelvis, the forceps are to be removed; and, if the uterus be acting vigorously, the delivery will soon be accomplished. Where this is not the case, they may again be applied, the blades being passed over the sides of the head; or the short forceps may be employed, in the manner presently to be described.

Short forceps. This instrument can only be employed when the head of the child has descended considerably into the cavity of the pelvis; and, indeed, not until an ear can be distinctly felt by the finger, without the introduction of the hand into the vagina. In consequence of this situation of the head, delivery is more readily accomplished by the short than by the long forceps, and the risk of injuring the soft parts of the mother proportionally lessened. When about to operate, the bladder and rectum should be attended to, as before recommended; the in

strument to be guided carefully up the vagina, and over the ears of the child, until the lock reaches the external parts. In a vertex presentation with a natural situation, viz. with the occiput to the acetabulum, and the face to the sacro-iliac symphysis, very little difficulty will be experienced in the application of the instrument. When both blades have been carried along the sides of the head, they are to be brought together and locked; and, when the pains come on, a gently extracting force employed, at first downwards and backwards, till the head nearly reaches the perineum; a half turn is then to be given, so as to throw the face into the hollow of the sacrum, and the occiput under the arch of the pubis. The line of motion must now be altered; for instead of being downwards and backwards, it should be downwards and forwards in the axis of the outlet. Great care is required in the delivery of the head; it should be brought through the external parts in the most cauti-

ous and slow manner, the perineum being supported by an assistant, in order to prevent laceration.

The head being born, the instrument is to be removed, and the delivery completed as in ordinary circumstances.

The bandage around the abdomen ought to be particularly attended to, for, in cases requiring the use of instruments, there is frequently a tendency to hemorrhage.

Where the face is towards the pubis, or where it is the presenting part, the forceps are still to be applied over the ears of the child. A more than ordinary degree of care is, in these instances, required in delivering the head, as the perineum will be put greatly upon the stretch.

Lever. The lever, or tractor, is applicable in every case to which the forceps may be used, and although a most valuable instrument in some hands, yet it is not so easily managed, nor upon the whole is it so safe as

the forceps; and, therefore, the latter is recommended in preference to the former.

Perforator, and craniotomy forceps. As, in the use of these instruments, the life of the infant must be sacrificed, the actual necessity for their employment ought to be well and clearly ascertained before recourse is had to them. It has before been noticed, that if the conjugate diameter of the pelvis be less than three inches, it would be better not to attempt the delivery with the forceps, because the life of the child, under such circumstances, is not likely to be saved, and the soft parts of the mother would be in danger of suffering from the contusion which they must of necessity undergo; but, as it is not always easy correctly to ascertain the dimensions of the living pelvis, it will be right, in every doubtful case, to make a gentle and steady attempt with the long forceps, before the head be opened; taking, however, especial care not to make use of an

undue degree of violence, for fear of contusing or lacerating.

It unfortunately happens that the operation of craniotomy is a very easy one, much more so than the application of the forceps; and is, perhaps on this account, in many instances, too hastily resorted to.

When, after due deliberation, it is judged expedient to open the fœtal head, the rectum and bladder having been attended to, the patient is to be placed in the same position as before recommended; the left hand of the operator is to be carried along the vagina, until the fingers rest upon the head. These will serve as a director for the perforator, which is nothing more than a long pair of sharp-pointed scissors,* which are then to be introduced with their points carefully guarded by the forefinger of the right hand, until

* The author has a peculiar perforator, which is made by Mr. Ferguson, Giltspur street; he thinks it an improvement upon the scissors generally in use.

they reach the presenting part. An opening being made by passing the instrument through the cranium with a sort of boring motion, and this opening having been enlarged to a sufficient extent, the perforator is to be withdrawn in the same cautious manner with which it was introduced. The brain should be thoroughly broken down, either by the finger or by the introduction of any convenient instrument for that purpose.*

The next part of the operation consists in extracting the head by means of the craniotomy forceps, a pair of which were invented some time ago by Dr. Davis. These are, however, quite inadequate in the severer cases of this kind, and will ere long be completely superseded by those of Mr. Holmes: the invention of which entitles this gentleman to the thanks of every obstetric operator. His

* The handle of the common spoon answers very well, or a single blade of Dr. Davis's craniotomy forceps.

(Mr. Holmes's) instrument is one of much greater power, and may be used with more certainty than that of Dr. Davis, which, from the arrangement and small size of the teeth, is very apt to slip, in consequence of the scalp alone being transfixed by them. With Mr. H.'s, this accident cannot take place: the vast superiority of this instrument has, indeed, been acknowledged by all who have used it; more, therefore, need not be said in its favor.

A secure hold of the head having been obtained by the instrument, the convex blade of which is passed on the inside of the cranium through the opening made by the perforator, and the concave on the outside, the operator gradually draws down, making use at first of a moderate degree of force only, and gradually increasing it until the head has passed through the contracted brim, after which there is usually but little difficulty. The long diameters of the pelvis, and of the head and shoulders of the child, must be borne in mind,

that, in the progress of the delivery, they may be made to correspond with each other.

When the child is born, a suture is to be passed through the torn edges of the scalp, in order that it may be brought together, the cranial bones having been previously pressed as nearly as possible into their usual form.

4. COMPLICATED LABOUR.

A labour is called complicated when it is accompanied by certain symptoms or diseases, not necessarily connected with the parturient functions.

Labour with hemorrhage from the uterus.

Every labour is accompanied with a certain quantity of bloody discharge from the womb, but the hemorrhage sometimes bursts forth in such fearful quantities, that the patient's life is suddenly placed in the most extreme peril. In order thoroughly to understand the cause and the treatment of uterine hemorrhage, it is necessary to bear in mind the connexion which is established between the fœtus and the

mother by means of the placenta, and the peculiar manner in which the circulation through the maternal portion is carried on.

The human placenta is formed of two separate portions; one the production of the fœtus, which is vascular, the other the product of the uterus, which is cellular; and hence it is divided into the fœtal or vascular, and the maternal or cellular portions. Between these two parts there is no direct communication, the circulation through each being perfectly distinct. In the arrangement of the fœtal blood-vessels, there is nothing peculiar; the arteries terminate in the veins, as in the other parts of the body: but if the maternal structure be examined, it will be found to be widely different; for here the arteries terminate by open mouths into the cells, from whence, also by open orifices, the veins arise; the communication between artery and vein being kept up by the intervention of this cell. The blood brought by the uterine artery

(for, in order to make the subject more clear, a single vessel will be selected,) must be deposited in this cell before it can be taken up by the returning vein: if, then, by any accident, the cell be torn away from the sides of the womb, (and this must always take place in a separation of the placenta,) it must necessarily have the effect of destroying the communication between artery and vein. The blood, therefore, brought to the uterus by the former vessel, cannot be returned by the latter, but is poured from the open mouth of the artery into the uterine cavity; and when the extraordinary size of these vessels at the full period of gestation be considered, and the free communication that exists between the cells of the placenta, it will not be at all surprising that the hemorrhage should be alarming, even where the separation has not occurred to any great extent. As the size of the blood-vessels increase in a ratio corresponding to the period of gestation, it follows

that the nearer a female has approached her full time, the greater will be the danger to be apprehended from uterine hemorrhage; although, even in the very early months, blood is frequently effused in alarming quantities, owing to the great number of vessels (although of small size) by which the ovum and the uterus are connected together.

Hemorrhage may occur at any period of the labour, before it has begun, or after it has been completed; and, although the general principles of treatment are the same, it will be found convenient to describe it under two heads.

1. *Hemorrhage before the birth of the child.* This may be either accidental or unavoidable:* it is said to be accidental when it arises from a casual separation of the placenta from the sides of the uterus; unavoid-

* See Dr. Rigby's excellent practical work on Hemorrhage.

able when it occurs in consequence of this organ (the placenta) being attached over or near to the os uteri.

Accidental hemorrhage, or that which occurs from a partial separation of the placenta, is not usually attended with so much danger as that which occurs from unavoidable causes, although the irruption of blood in these cases is sometimes so sudden and profuse that, unless proper measures be instantly had recourse to, the female's life may be sacrificed; but if attended to early, and properly managed, the chances are greatly in favor both of the mother and the child. The two varieties of hemorrhage can only be distinguished by a careful examination per vaginam, when, if it be arising from accidental causes, the membranes will be felt presenting at the os uteri; the finger should then be carried round its whole circumference, in order to be certain that the placenta is not even partially attached to it. Where the vagina and mouth of the

womb are filled with coagula, a careless examiner might be rather puzzled in making his discrimination, especially before the parts were dilated; but the difference in the feeling communicated by the touch is so great, that an experienced finger cannot readily confound the smooth and easily lacerable surface of a clot of blood, with the firm, rough, unequal, and granular-like substance of the placenta. It not unfrequently happens that the irritation produced by this examination stimulates the uterus to contract, and the membranes will then be pushed down in a more decided manner: and this will greatly assist the diagnosis. It is to be observed, that the discharge is diminished, if not altogether arrested, during a pain.

Treatment. The treatment of this variety of hemorrhage is generally simple and easy: where it is slight, it sometimes happens that the mere vaginal examination, by increasing the force of the uterine contractions, at once

puts a stop to the flow of blood, and nothing more will then be required from the accoucheur. Where, however, the symptoms increase or continue, the membranes containing the liquor amnii are to be ruptured: by the escape of the waters, the uterus is allowed to contract more forcibly round the body of the child, which will necessarily diminish the caliber of the bleeding vessels. The uterus is often also stimulated to greater exertion; the pains increase, and the child is expelled without further danger. The application of napkins, soaked in vinegar and cold water, to the abdomen and vulva, is also frequently useful. If the bleeding continue after the evacuation of the liquor amnii, the only plan of proceeding is to empty the womb of its contents; and the manner in which this is to be done depends upon the situation of the child. If the head be floating loosely above the brim of the pelvis, the operation of turning may be had recourse to. If it be engaged in the superior

aperture, the long forceps, and if it has completely descended into the cavity, the short forceps, may be employed.

In cases of severe floodings, the secale cornutum, in the usual doses (twenty-five grains), should be exhibited; though this must by no means supersede the measures just recommended.

Unavoidable hemorrhage. The placenta is usually situated at or near the fundus uteri, and, consequently, is quite out of the way during labour; but it occasionally happens that it is attached to the lower part of the cervix uteri, completely closing, as it were, the orifice of the womb. Where this is the case, the opening of the mouth of the womb must, of necessity, have the effect of separating the placenta from its sides, detaching the cells into which the uterine arteries are opening, and thus inevitably giving rise to hemorrhage; and, in consequence of this detachment taking place to a greater extent during the

contractions of the uterus, the reason is at once seen why the flooding is increased under uterine action, (which is very different to what takes place in accidental hemorrhage.)

Sometimes the placenta is attached to a portion only of the os uteri, forming what has been termed a partial placenta presentation. On making an examination under such circumstances, the membranes may be felt protruding; but, by a careful introduction of the finger a little within the womb, and by gently passing it round the os uteri, it may often be distinguished readily enough. In placenta presentations, the blood generally escapes in alarming quantities; the pains are frequently accompanied with very frightful gushes; and if aid be not promptly administered, in the majority of cases the patients would perish.

Treatment. Where the placenta is partially presenting, and the bleeding not very considerable, the mere rupture of the membranes, by allowing the uterus to contract, has

been by some said to be sufficient. The hemorrhage is, however, frequently very profuse, and, therefore, in these cases, as well as in those where the placenta is completely fixed over the mouth of the womb, the only safety to the mother consists in emptying the organ, and it is of high importance that this be done as early as possible, before the patient is exhausted by the loss of blood. It is therefore considered a fixed principle, to extract the child by the operation of turning, the very instant the soft parts are found to be in a state which will allow the hand to be introduced without risk of injury; and, in cases of severe hemorrhage, relaxation and dilatability is soon produced. Under these circumstances no man of prudence would think of waiting for uterine action: first, because he knows that the longer the hemorrhage continues, the less chance would there be of the pains returning; and, secondly, because, if these contractions should come on, it would be disadvantageous,

inasmuch as they would obstruct the hand when introduced for the purpose of turning the child; and, by the opening of the os uteri, (the natural effect of these pains,) the placenta attached to its circumference must be still further separated, and an increased flow of blood be the unavoidable result.

Where it is a partial presentation of the placenta, the hand should be introduced by the side of it, the membranes ruptured, and the feet grasped and brought down; but, where the presentation is complete, it is better to pass the hand through its substance; a method of proceeding certainly more hazardous to the child, in consequence of the fœtal vessels being broken down, but more safe to the mother, because the necessity for a still further separation of the placenta from the sides of the womb will be avoided.

When the delivery is so far advanced that the body of the child is passing the os uteri, in consequence of the pressure which is exerted

upon the uterine vessels, the bleeding is considerably lessened, and therefore it may be right at this period to wait a short time; and if there were still a want of pains, to exhibit a dose of the secale cornutum, to employ brisk friction over the uterine region, and, in cases of great exhaustion, to give the patient a tablespoonful of undiluted brandy.

After the birth of the child, the placenta, generally, soon follows: if any difficulty arise, it may, from its situation, speedily be removed.

2. *Hemorrhage after the birth of the child* may occur either before or after the expulsion of the placenta.

Hemorrhage with retained placenta. When the management of the placenta was treated of, the causes which gave rise to its detention were enumerated. Where the case is combined with uterine hemorrhage, it arises in consequence of the placenta being wholly or in part separated.

Treatment. The general principles of treatment are the same as in retained placenta without hemorrhage; but, as the danger is here greatly increased, they must be more vigorously brought into action. It should be carefully remembered that the existence of the placenta in utero is not the cause of the hemorrhage, but a joint effect with it of some unfavorable condition of the womb: this, therefore, ought to be first inquired into, and the remedies employed accordingly. If the whole of the fibres of the womb were made to contract, the uterine vessels would be closed, and the bleeding, as a matter of course, would cease: to accomplish this object, therefore, is the first indication. Friction, and the liberal affusion of cold water upon the abdomen, are the two most powerful agents for effecting this purpose; the secale cornutum may also be administered; and, as a last resource, the hand is to be introduced into the uterus, and the placenta separated.

This latter mode of proceeding, however, is seldom required, excepting in cases where there is preternatural adhesion of it to the uterine surface, or where there is an irregular and spasmodic action of the womb. (See *Retained Placenta.)*

Hemorrhage after the birth of the placenta is by no means an uncommon occurrence. It arises from the same cause as hemorrhage under other circumstances, viz. from a want of contractile power in the uterus; and, in consequence of the whole placental surface being at this time exposed, the flow of blood is often very alarming.

The *treatment* is not different from the former variety. Application of cold and friction is to be vigorously employed; and considerable advantage is often derived from grasping the fundus uteri through the abdominal parietes, and making strong pressure upon it, so as to double it upon itself.

Internal hemorrhage. It occasionally

happens that, although the blood is issuing from the extremities of the uterine arteries, yet it remains concealed from view, in consequence of its being detained in the cavity of the womb. When the womb is examined externally, it will be found to be soft and gradually enlarging; the patient will be faint, and, in fact, will be labouring under all the symptoms which are attendant on uterine hemorrhage occurring under other circumstances.

The *treatment* is precisely similar to the former. By some it has been recommended that the hand be immediately passed into the uterus, and the clots removed from its cavity; but in general this is wholly unnecessary, and indeed it is doubtful whether there would not be danger of increasing the hemorrhage by removing the coagula which might be adhering to the orifices of the vessels.

General observations on hemorrhage. From the immense quantity of blood which is pour-

ing from the vessels in uterine hemorrhage at the full period of gestation, the danger will be at once acknowledged, and the necessity for promptitude of action fully established: hence the propriety of paying vigilant attention to patients who shew the least tendency to this unfortunate event. In addition to the measures which have been recommended in detail, it is of consequence that nourishment be from time to time administered, and occasionally that some stimulus be employed. It is, however, a common error to use these remedies (stimulants) too early: the patient becomes faint, the attendants are alarmed, and a quantity of ardent spirit is instantly given her. But the prudent practitioner will bear in mind, provided the discharge has not been in an alarming quantity, that syncope is beneficial: for not only is the circulation greatly lowered during this state, but it is a well known fact that the blood has a

greater disposition to coagulate,* and may, consequently, by the formation of a clot, oppose a temporary barrier to its further irruption.

If, however, the hemorrhage continue, and the syncope become repeated, it is of the utmost importance to endeavour to prevent its recurrence, by occasionally administering a tablespoonful of brandy, or some warm milk to which spirit. ammon. aromat. 3i. has been added; taking care that it be given in small quantities, and frequently repeated. The stomach of these patients is, however, often so irritable that it will reject every thing, and therefore any attempt to administer food or medicine is productive of uneasiness and distress.

Occasionally, in the more severe cases of this kind, even although the stomach does for

* The author has repeatedly witnessed this effect in experimenting upon the blood of the horse.

a time retain nourishment, a sensation of weight and oppression is felt at the scrobiculus cordis, and the patient is manifestly relieved when it is rejected by vomiting. The dangerous symptoms may, however, continue or increase, the pulse becoming nearly or quite imperceptible at the wrist; the most powerful stimulants fail in producing more than a temporary rally; the patient's face becomes "hippocratic;" the extremities first, and afterwards the body generally, getting cold; the respiration deep and laboured; there is an incessant and uncontrolable desire to change posture; frequently a general convulsive attack, and then death closes the scene. In many instances this appalling state of things does not come on without warning: hour after hour is the unfortunate victim gradually, though certainly (under the ordinary modes of treatment), sinking into the grave; and this event may take place after the

hemorrhage has been completely arrested by the thorough contraction of the uterus, the system having received so great a shock from the loss of blood that it cannot rally. When this result is apprehended, from the symptoms just enumerated, and from the failure of stimulants to excite more than a temporary rally, (for it will generally be found, even in these desperate cases, that the pulse will rise for a time after the stimulus has been given, but will soon sink again,) the accoucheur will be guilty of a gross dereliction of his duty, if he neglect to have recourse to—

The Operation of Transfusion.

So simple is the principle, so easy the performance, and so splendid have been the results of this operation, that it has borne down the clamour of its opponents, and may now fairly be said to be fixed upon as firm a basis as most other operations in surgery. The design of this work being to convey practical information, it is not intended to enter into any lengthened historical detail. As, however, the trials which were formerly made have been brought forward in evidence against transfusion, it will be but right to state that, as at present practised, it differs very materially both in its principle and the mode of performing it.

It was formerly recommended in certain diseased states of the constitution, and the

blood was taken from the inferior animals, (the calf, sheep, &c.) It is now used as a remedy in desperate cases of hemorrhage; human, and not brute blood, being employed. This difference, though a very important one, was entirely overlooked by the objectors to the operation. Again, it has been asserted by some that transfusion is wholly unnecessary, because, if the flow of blood were arrested, the patient would invariably recover without it; and, if the hemorrhage continued, that it would be useless, as the blood injected into the arm would immediately pass out again at the uterine artery. Many well-authenticated cases, however, have shewn that the first assertion is incorrect;* and, with regard to the second, it remains to be proved whether, under the circumstances of the

* One melancholy example of this kind came under the author's own observation; the poor woman living three hours after the hemorrhage ceased. This case led him to think seriously of transfusion.

case, the introduction of fresh, pure, and living blood, would not, by acting as a stimulus to the system, induce such a state of contraction in the muscular structure of the womb as would prevent any further effusion. This is thrown out as a mere conjecture, as it has not yet been employed with this intent, and consequently is unsupported by facts; but, upon reflection, it seems probable that such would be the effect: at any rate, the attempt would be perfectly justifiable in a case otherwise hopeless; and it should be particularly borne in mind that under no other circumstance has this operation been hitherto performed.

For the suggestion of transfusion of blood as a remedy in these desperate cases of hemorrhage, the profession and the public at large are under deep and lasting obligations to Dr. James Blundell; and, although the proposal was treated with "neglect, opposition, and ridicule," still he was not to be

deterred from his purpose till the remedy had experienced a fair trial; being convinced, from his numerous and well conducted experiments upon the dog, that in this animal, at any rate, the injection of canine blood into the veins was not only practicable and safe, so far as the operation was concerned, but that it really was applied to the nourishment of the system, and consequently was something more than a mere stimulus to the heart's action. This fact being established with regard to the dog, it required no great stretch of the imagination to suppose that human blood, injected into human veins, might also be made subservient to the purposes of human circulation; and upon this principle, and grounded upon these facts, a trial of it was recommended.

From its novelty, however, some time elapsed before it was put into practice; and it is productive of great satisfaction to the author, when he reflects that the first successful operation of transfusion was performed

on one of his patients, by Dr. Blundell and himself. The female was an exceedingly delicate, weakly creature, who had lost a large quantity of blood, very suddenly, after parturition, and in whom the most powerful stimulants failed to procure more than temporary benefit.*

Dr. Blundell, Mr. Doubleday, and others, have in several instances successfully employed transfusion, and, with the exception of one case out of about fourteen,† (where the operation has been properly and carefully performed,) there has been no recorded instance of failure. When it is considered that the cases were otherwise desperate, and that perhaps the mechanical means (from its being a

* This took place in August 1825. For a detailed account of the case, see the medical journals of that period. The author has twice performed the operation since that time, and with the most perfect success.

† The *precise* number has escaped the author's memory.

new remedy) were defective, its value must be highly esteemed; and it may, perhaps, be reckoned among the greatest improvements, or at any rate the most valuable addition which has of late years been made to the means of the accoucheur, and one which is in itself sufficient to hand down the name of its projector to posterity, as one of the greatest benefactors to *womankind*. Nor is it likely (the safety and utility of the operation being fully established,) that its beneficial effects will be confined to the female sex, as it is equally applicable to the male when sinking from large losses of blood, whether from accident or any other cause.

Method of performing the operation. The transfusion of blood from one person into the veins of another may be effected in various ways. The syringe has hitherto been employed, and, as it is very conveniently and safely performed by means of this instrument,

the reader's attention will not be distracted by the relation of any other method. An improvement to the common syringe has been made by Mr. Lloyd, an ingenious instrument maker, in King street, Borough:* to the barrel of this is appended a small funnel, by means of which contrivance, the blood passes directly from the arm of the person supplying it into the syringe, without being obliged to be first received into another vessel: some little time is thus gained, which is an object of importance. A stopcock is also attached to it, by turning which the communication may be opened either with the funnel or with the extremity of the instrument, according as the blood is either being received into the syringe from the funnel above, or is being passed into the vein of the patient. The instrument is

* Since the decease of Mr. Lloyd, the author has been in the habit of employing Mr. Ferguson, of Gilt-spur street, who manufactures his obstetrical instruments with great neatness, and at a moderate expense.

made of brass, and well lined with tin; and, it is scarcely necessary to add, should be perfectly cleaned before it is used, and slightly warmed by passing tepid water several times through it, taking care not to use it too hot, as it would have a tendency to coagulate the serum of the blood.

The basilic or the cephalic vein of the patient is to be laid bare to the extent of an inch or an inch and a half, taking care to divest it of its surrounding cellular membrane. A blunt-pointed bent probe, or a curved and blunt needle, is then to be passed under its lower extremity, in order that pressure may, if necessary, be made upon it with the finger, and the blood be prevented from oozing out; which, by obscuring the orifice, would be productive of difficulty and delay. An opening should be made into the vein large enough easily to admit the point of the tubule which is attached to the extremity of the syringe. This instrument is made to contain two ounces

only, it appearing from previous experiments to be safer to inject a small quantity at a time.

These preparatory steps having been taken, a very free incision is to be made into the arm of the person about to furnish the blood, so that it may pass in a full stream into the funnel, and be from thence absorbed into the syringe; the stopcock must then be turned, and the funnel removed. The next part of the operation consists in expelling any quantity of air that may be contained within the instrument: for this purpose it is to be placed vertically, the handle below, the point upwards; the piston being gradually pressed upwards, till about a teaspoonful of blood is expelled. The point of the finger being then placed over the nozzle, the horizontal direction is to be given to the instrument, which should be insinuated about half an inch within the vein, in the direction, of course, towards the heart, and the blood *very slowly* and cautiously

injected. This is a point of great importance to be observed; for the heart's action is in these instances so weak, that a sudden influx of blood would, in all probability, at once overwhelm it, a fact witnessed by the author in the experiments upon the horse before alluded to. On removing the syringe from the vein, it should be instantly well washed out with cold water. Before repeating the injection, it is better to wait for the space of four or five minutes, to allow the blood time to circulate over the body; it may then be repeated in the same manner, the patient being narrowly watched with regard to the effect it has produced upon her.

Eight, ten, or twelve ounces of blood may be thus injected; and it will seldom, if ever, be found necessary to exceed this latter quantity, even where the hemorrhage has been very profuse. The intention of the operation is not to restore the blood-vessels to the same degree of fulness as previously existed, but so far to

add to the power of the system that the heart may be enabled to continue its contractions. It should be remembered that this organ (the heart) having been for some time acting on a greatly diminished supply of blood, is well prepared to receive the stimulus which an additional quantity would afford it, although small in comparison to that which has been lost. This circumstance is proved by the fact that the pulse evidently improves, sometimes after the first, but always after the second injection; and the effect is in general permanent, there being no recurrence of the syncope afterwards, which affords pretty satisfactory evidence that the injected blood does not act as a mere stimulus, but that it gives *power* to the system.

When a sufficient quantity of blood has been introduced, the probe or needle is to be removed from the arm, the edges of the wound brought together by means of adhesive plaster, and over this a bandage loosely applied: in

fact, it should be treated as a common incised wound.

After-treatment of hemorrhage. In patients who have suffered from severe hemorrhage, care is required in order to keep them perfectly quiet. There is a great degree of restlessness and desire to change posture induced by the loss of blood, and it is of the utmost importance that their entreaties to be moved should not be complied with; for the circulation is in such an enfeebled state, that the agitation produced by motion would actually endanger life. With the intention of procuring rest, opium may be employed in the form of pills; two grains being first given, which is to be repeated in the course of an hour, if needful; or, if the stomach be not irritable, from forty to eighty minims of the tincture may be used in its stead. It will often, however, be found in these cases that the remedy fails in procuring sleep.

Another great point to be attended to is the

supply of proper nourishment. Great attention is necessary in this respect, from the well-known fact that the powers of digestion in these patients are exceedingly weakened: the mucous membrane of the bowels is particularly prone to take on diseased action, under which the patient occasionally sinks. Those articles of food should, therefore, be selected which are the least likely to produce this effect. There is, perhaps, nothing better for the first twenty-four hours than milk, or beaf-tea, which is to be given in small quantities and frequently repeated, that the stomach be not at any time rendered uneasy by distention. Light puddings may afterwards be allowed; and, as soon as the stomach can bear it, a small portion of animal food, such as a lean mutton chop. Fermented liquors must be avoided; but, if the patient feel particularly exhausted and faint, a tablespoonful of brandy diluted with water may be given an hour after her dinner.

Where the bowels are constipated, a laxative must be given occasionally, and for this purpose the very mildest should be selected,* as an active purgative would greatly tend to bring on that irritable state of the intestinal canal which is so much to be dreaded.

Pain in the head, sometimes of a very intense character, is frequently one of the sequelæ of uterine hemorrhage. This symptom often remains till the patient's strength returns, and appears to be entirely depending upon the loss of blood, in some cases being the direct effect of it, in others in consequence of the reaction which follows. Where it is attended with heat of scalp, great relief is

* The following draught will be found very useful in these cases:

℞. Pulv. Rhei, gr. x.
Potas. Sulphat. 3ss.
Aq. Menth. pip. 3x.

M. ut fiat haust. pro re natâ sumend., et post horas quatuor si opus sit repetend.

experienced from the diligent use of an evaporating lotion,* which appears to exert a very soothing influence, independently of its gratefully cooling effect. Palpitations of the heart, and other symptoms usually designated under the term "hysterical," are not uncommon, and generally subside or are relieved as the strength returns. Does excessive uterine hemorrhage ever lay the foundation of organic disease of the heart? A long course of tonic remedies, combined with an appropriate regimen, is frequently required in these cases, before the patient's health is re-established. Removal into a different and, if practicable, a more pure air, will be advantageous. Small doses of conf. opii, combined with conf. aromatic, are serviceable in soothing the bowels when irritable, though this is frequently an exceedingly troublesome complaint to manage. Perhaps it may hereafter be found that the

* R. Sp. Eth. Sulph.; Aq. dist. āā partes æq. M. fiat lotio.

transfusion of a small quantity of blood would not be unattended with advantage.

Labours with hemorrhage from other organs. The process of parturition is always accompanied with a hurried state of the circulation; and it occasionally happens that, under this increased excitement, some one or more blood-vessels give way, and blood is effused in considerable quantities. It may take place from the lungs, from the stomach, or from the nose, &c.

Treatment. These complications of labour are to be treated upon general principles; the constitution of the patient must be carefully examined into, and, if the vascular activity be accompanied with a corresponding degree of power, (and this will be marked by a strong pulse, white tongue, thirst, and other febrile indications,) great benefit will be derived from the abstraction of blood. The bowels are afterwards to be cleared by means of a large emollient enema; and those medicines

which have a tendency to depress action exhibited, such as the nitrate of potash, in doses of twenty-five grains every two hours. The stomach will bear the remedy better, if it be given largely diluted. It will sometimes produce nausea, and under this state the pulse sensibly softens. The patient is to be kept in a perfect state of rest, and her thirst alleviated by cold subacid drinks.

When hemorrhage occurs in an opposite state of system, where there is great weakness and irritability, the plan of treatment must be altered. After having cleared the bowels, as in the preceding instance, great benefit will be derived from the following draught:

℞. Acid. Sulph. dil. m. xv.
Syr. Rhœados ʒ i.
Tinct. Digitalis m. x.
Aquæ ʒ xi.
Fiat haust. tertiis horis sumendus.

This combination of the acid with digitalis has a remarkably good effect when exhibited

in cases where there is great action with little power;* the digitalis lessening action, whilst the acid appears to guard it against too great a depression of power. If the irritability be very great, tinct. opii m. x. may be added to each draught. The state of the uterus must not be lost sight of; and if, upon a careful examination, it should appear that the continuance of the parturient process has a decided tendency to aggravate the symptoms, it will be right (the state of the parts permitting) to finish the delivery either by turning or the application of the forceps, according to the situation of the child. The ultimate recovery of these patients is frequently protracted; in which case they require the same plan of after-treatment recommended in uterine hemorrhage.

Labour with rupture of the uterus or vagina.

* The author has used it very satisfactorily in acute pain of the side occurring in delicate young women, whose pulse has been rapid, though feeble.

This very dreadful accident may take place at any period of the labour, and appears to be produced either from increase of the powers of resistance on the one hand, or from some unfavorable condition of the muscular structure of the uterus on the other; it has also been in some instances occasioned by forcible attempts to turn the child in utero, during the continuance of the pains. The symptoms characterising the accident are, sometimes a tearing sensation on the part of the patient, sufficiently obvious to convince her that some internal part has been lacerated; at other times the exact period at which the accident has occurred is with difficulty ascertained: in two cases which have come under the author's notice, the patients complained, from the commencement of the labour, of a severe cutting pain, which was confined to the anterior and inferior portion of the uterus. The head (if it be a natural presentation) recedes; there is a cessation of pain, a discharge of blood from

the vagina, and generally a sudden and frightful prostration of strength. If the hand be placed upon the abdomen, the limbs of the child may be felt through its parietes. The patient becomes attacked with alarming syncope, her extremities are cold, and she vomits a large quantity of dark-coloured grumous fluid.

Treatment. The delivery of the child must be effected as speedily as possible, either by the use of instruments or by the operation of turning, unless the contracted state of the uterus prevent this mode of proceeding; in which case an incision is to be made through the abdomen, and the child removed in that direction: a better chance would then be given to the infant, and the mother would scarcely be in a worse condition than she was before.

These cases usually prove fatal, and therefore it is advisable that a consultation be held upon them.

Where the laceration is confined to the

vagina, the case is not so desperate, provided the delivery be promptly executed; though there will even here be great danger of inflammation, which, should it arise, must be treated upon general principles.

Labour with convulsions. These formidable attacks sometimes come on suddenly, without warning, but they are generally preceded by symptoms marking an extraordinary degree of excitement in the vessels of the brain, viz. giddiness and pain in the head, sometimes exceedingly acute, accompanied with a distressing feeling of constriction and fulness, as if the brain were too large for the cranium; noise in the ears, and indistinct vision, the patient appearing to see a number of bright metallic substances floating before her eyes, or at other times experiencing partial blindness. There is often a great disposition to sleep, not only in the intervals between, but even during the continuance of the pains; the pulse is usually laboured and slow, though at

other times it is quick and somewhat sharp. If these symptoms are not relieved, the convulsive attack soon follows, the muscles of the body becoming violently agitated: the features are distorted, the lips livid, the eyes have a wild appearance, the breathing hurried and there is foaming at the mouth, in consequence of an increased flow of the saliva; the inspiration of air through which often produces a peculiar hissing noise; and by this particular symptom, Dr. Denman asserts he has been generally able to detect the state of the patient, although he has not been in the same room. During the fit the patient cannot be roused; and on its decline, she is generally left for some time in a state of stupor: according to the longer or shorter continuance of this state, and to the longer or shorter interval between the attacks, is the danger in some degree to be estimated.

Treatment. Blood is immediately to be taken from the arm or the temporal artery, or

both, and no rule can be laid down as to quantity: it should be allowed to flow, unless relief be previously obtained, till at least twenty-four or thirty ounces have been abstracted. If the bowels are constipated, and the rectum contain hardened fæces, a large enema is to be thrown up; the head to be kept elevated, and the scalp frequently wetted with an evaporating lotion, the greater part of the hair having been previously removed. The repetition of the bleeding is to be regulated by the strength of the patient, the effect produced, and the violence of the symptoms. In some instances Dr. Denman has seen considerable advantage derived from suddenly dashing cold water in the patient's face; and, as this is a very innocent remedy, it might as well be tried, although the Doctor acknowledges that it frequently disappointed him.

No manual interference, for the purpose of expediting the delivery, is necessary in the majority of instances, provided the measures

just recommended be promptly adopted; but, if the disease continue, the state of the uterus is to be looked to, and where, from the dilated state of the os uteri and the relaxation of the external parts, the child can be extracted without injury to the mother, it is unquestionably the best practice at once to finish the labour.

Convulsions have been described by authors as occurring in opposite habits, viz. in the relaxed, irritable, and debilitated. Where this is the case, however, the fit will generally be found to partake more of the nature of an hysterical than of an epileptic paroxysm, and perhaps may be regarded as one of the almost endless varieties of that proteiform disease. There is fluttering and palpitation of the heart, a sensation of constriction about the stomach and œsophagus, a bright and glistening appearance of the eyes, a florid state of the lips, and the pulse, though it may be hurried, does not appear to be labouring and oppressed.

Attention should in these cases be paid to the bladder and rectum; after which the following medicine may be ordered:

℞. Sp. Ammon. Fœtid. m. xx.
Tinct. Opii m. x.
Mist. Camphoræ ℥iss.
Fiat haustus omni horâ sumendus.

Should these means fail to procure relief, and the disease appear to gain ground, then the delivery of the child is to be effected; and, as in females of this habit of body there is great relaxation of parts, no difficulty will be experienced in completing the labour.

Labour with hernia of the bladder. In some instances, though they are by no means frequent, the bladder descends during parturition, forming a tumor at the anterior part of the vagina: if much distended with urine, it will be of considerable size, and must therefore encroach considerably upon the cavity of the pelvis. The female complains of constant

pain in the region of the bladder, with a great inclination to pass her water, though she is unable to do so; or, perhaps, a small quantity only escapes, leaving a greater portion behind.

Treatment. The bladder should be thoroughly emptied by the introduction of the catheter, and a steady degree of pressure kept up afterwards, in order that it may be pushed above and beyond the head of the child. It must be retained in this situation during the continuance of a few pains; the head will then pass it, and its further descent be thereby prevented.

MANAGEMENT AFTER DELIVERY.

As soon as the placenta is expelled, the practitioner should introduce his finger into the vagina, to satisfy himself that no laceration has taken place, that the uterus is not inverted, and that no portion of the fœtal membrane remains behind.

The wet napkin is then to be removed, and two dry ones applied, one to the vulva, the other spread out and placed under the patient's hips. If the bandage around the abdomen has become loose, it ought to be re-tightened; and where there has been hemorrhage, additional pressure may be made upon the uterus, by placing a pad formed of folded linen underneath it. Some simple nourishment, as gruel or sago, in small quanti-

ties,* is to be given her; and she is then to be left at rest for at least three quarters of an hour; after which, the soiled linen may be removed, the dry clothes which had been previously pinned around her, drawn down, and she may, very gently and cautiously, be placed in the bed. The horizontal posture should all this time be preserved by the patient; she ought by no means to be allowed to sit up, much less to assist in arranging her dress, as hemorrhage would very probably be induced by this circumstance.

There is always a great degree of vascular excitement during parturition; the pulse becomes exceedingly hurried, and, from the strong disposition there exists in the female to febrile and inflammatory disease afterwards, it becomes of some moment that the circulation should as soon as possible be restored to its

* If the female be very much exhausted by the parturient process, it will be right to add a tablespoonful of brandy.

equilibrium. Opium, from its well-known tendency to procure sleep, most powerfully contributes to this effect; and hence the propriety of exhibiting a large dose as soon as the patient is in bed. From forty to sixty minims of the tincture may be considered an average quantity; and, in order to assist its operation, the light should be excluded from the chamber, and the most perfect stillness enjoined. When the remedy acts favorably, the patient awakens refreshed; the frequency of the pulse is also greatly diminished.

In order to relieve those painful and spasmodic actions of the uterus, which, from their occurring after delivery, have been called *after-pains*, the opium may be continued, in smaller quantities, during the succeeding twenty-four hours, or still longer, if occasion require; and it will be found serviceable to use it in the following form:

℞. Liq. Am. Acetat. ʒiij.
Tinct. Opii m. x.
Syr. Papav. ʒi.
Aq. Menthæ Pip. ℥i.
Sit haustus, quartis horis sumendus.

These pains are often exceedingly severe, and ought always to be put a stop to.* It is a remarkable fact that they seldom occur in a first labour, and therefore one anodyne draught in these cases is frequently all that is required.

* It has been asserted by some that these pains are quite natural, and are instituted for the purpose of expelling any coagula from the uterus, and ought not to be interfered with. This opinion, however, is not correct; for, in by far the most severe case of after-pains ever witnessed by the author, the uterus was contracted to its utmost extent, and no clots whatever were discharged. Again, it is found that no women do better than those whose after-pains have been stopped by opium. Now, this could hardly be expected to be the case, if it were an unwise interference with a *natural*, and therefore a *necessary*, process.

Provided the patient's bowels have been in a regular state previous to her delivery, it is better to defer giving an aperient until the third day; for it is highly necessary that the parts of generation should be kept in a state of quietude after the exertion they have undergone, and, from their contiguity to the bowel, it is impossible to act upon the one without in some degree disturbing the other. Half an ounce of castor oil generally answers the purpose as well or better than any other medicine; and this dose may be repeated at the expiration of four or six hours, if the bowels have not been previously relieved. Where the oil does not sit easily on the stomach, any other simple and mild laxative is to be substituted for it. The purgative must be repeated as occasion requires; and this is often all the medical treatment that is necessary.

The diet of puerperal patients ought, for the first three days, to consist chiefly of gruel, tea and toast, &c.; nothing stimulating is to be

allowed, for fear of inducing fever or inflammation. The old brown caudle is now very properly gone out of fashion. On the fourth or fifth day, if every thing be doing well, slight solid nourishment may be allowed, such as boiled chicken, rabbit, or, if it be preferred, a nutritious pudding. In the course of a few days longer, the female may return to her common diet.

It is a popular opinion, and one which appears to be founded in fact, that ale or porter has a great tendency to encourage the secretion of milk. This beverage, however, should be interdicted until after the fourth day, and for a still longer period if there be any febrile tendency.

It is a common error among nurses to allow their mistresses to sit up too early after confinement, which frequently lays the foundation for prolapsus uteri, and other unpleasant symptoms. No female, however natural and easy her labour has been, ought to be allowed

to rise from the recumbent position before the expiration of a week : this is not giving at all too much time for the parts of generation to recover their tone. After this period she may sit up to her meals, but should recline on a sofa during the rest of the day; and this plan is to be adopted until the end of the second week, and even much longer should circumstances appear to demand it.

The temperature of a lying-in room should not be too high. Females frequently suffer from this circumstance: in some it induces a state of fever; in others, a distressing and weakening degree of perspiration. The room ought always to be moderately cool, and no more bedclothes allowed than is comfortable to the patient's feelings. In regulating these things, the season of the year is, of course, to be taken into the account; but it often happens that recovery is retarded in consequence of there being too much fire in the room, and too many clothes on the bed. Nurses have a

great horror of exposing their patients to a cold atmosphere, and frequently err in the opposite extreme.

If the mother intends to suckle her infant, it is a point of some importance that it be placed early to the breast. Where this has been delayed, it sometimes happens that serious inflammation is set up, and great suffering is experienced. In order to prevent such an occurrence, the child should be put to the nipple as soon as the female has recovered from the exertion of her labour, even though there be but little secretion of milk. It is well known that the application of the child has a tendency "to bring in the draught," as nurses term it; which is, in fact, a rush of blood into the gland for the purpose of its secretion. When, from the flattened state of the nipples, the infant experiences much difficulty in getting hold of them, it will be right to draw them out by means of the nipple-pump, and to replace the child immediately,

before they are again retracted. This frequently requires much patience and perseverance, and irritable women, with their first children, sometimes get so much fatigued and annoyed, that they feel inclined to give up the attempt altogether: it is, however, the duty of the medical man strongly to encourage them to proceed; for, independently of the milk being the proper nourishment of the infant, without which it is not likely to thrive, there is yet another reason why he should urge her to persevere, namely, the fact that, as a general rule, women do not conceive during the period of lactation, and are therefore saved the debilitating effects which would be produced by their becoming pregnant every eleven or twelve months, which would probably be the case if their children were not brought up by the breast.

It is proper also, for the first four or five months, provided the mother be hearty and the secretion sufficient, that the child should

have no other food given it; the irritable state of bowels so frequently met with in children being often produced by improper diet.

It is customary to give an infant, as soon as it is born, a little aperient medicine, with a view of clearing out the meconium which has collected in its bowels during the latter periods of gestation. A small quantity of ol. ricini may be made use of. Amongst the lower classes, it is usual for the nurse to mix some butter and sugar together, which appears to answer the purpose equally well; though, perhaps, the actual necessity for either may be fairly questioned.

LOCHIA.

For some days after delivery, there is an exudation from the orifices of the uterine blood-vessels, which is called the Lochia, Lochial Discharge, or popularly "the Cleans-

ings." After a short time the colouring matter is retained, and a greenish yellow fluid comes away; and this, from its colour, is by females called the "Green Waters." The quantity of this effusion, and the time which it occupies, varies greatly: in some it is quite suppressed in the course of a week; in others it will continue during the month, and in some instances for a still longer period, especially where the female is of a relaxed habit. It occasionally happens that the red discharge will re-appear after it has subsided for several days; this effect is frequently caused by agitation of mind. Where it is very profuse, it must be treated as a case of uterine hemorrhage, viz. by the application of cold, strict confinement to the recumbent posture, and by the exhibition of the secale cornutum, in doses of twenty-five grains three times a day. The bowels should also be carefully attended to, a constipated state of them having a great tendency to aggravate the complaint.

MILK FEVER.

On the third day after delivery, it is common for females to complain of pain in the head and a generally febrile state of system, frequently preceded by a chilly fit; the pulse is full and quick, the tongue dry, and the skin hot; the breasts become swelled and painful, particularly where the application of the child to them has been neglected.

Treatment. The symptoms in some cases are so slight, that the aperient medicine previously recommended to be given on the third morning will be all that is required. Where, however, the fever still continues, small, but repeated, doses of saline purgatives are to be employed; and, where there is much distention of the breasts, the child is to be frequently applied to them, and the mother recommended to abstain as much as possible from fluids.

DISEASES OF THE PUERPERAL STATE.

It is not the intention of the author to enter into a minute investigation of every disease which may occur at this period, but merely to enumerate a few of the more common of them, referring the student to the more extended treatises on this subject for an ample and full disquisition.

Most of the complaints which attend the puerperal state are of a highly active character, and require therefore great activity in their treatment; they are attended not only with increased action, but with a corresponding degree of power: on the other hand it sometimes happens, that although action may be in excess, power may be rapidly on the decline, and hence, in the curative means, care must be taken not to employ remedial

agents which have a tendency still further to lessen the powers of the system. The abstract nature of power and action is unknown, but the distinction between the two is highly important in practice: the balance between them is maintained during health, but this balance may be destroyed by any of the remote causes of disease: some of them are directly stimulant; but many, perhaps most, have at first a tendency to depress, so that the high action which follows is not directly produced by the application of the cause, but in consequence of the reaction which follows.

The want of a just discrimination between power and action, has been productive of much of the perplexity and diversity of opinion which has prevailed respecting the disease called Puerperal fever; it will be found, on consulting the works of different authors, that remedies the most diametrically opposite in their nature, have been proposed,

and successfully adopted, for the cure of an affection which they designate by the same name. It is, however, quite inconsistent to suppose that a disease of the same character can be cured by bleeding and antiphlogistic measures on the one hand, and by stimulation and support on the other; if the one plan be right, the other must be decidedly wrong: and yet these authors refer to cases occurring in their own practice as proofs of the superiority of their particular treatment. The simple matter of fact is that the diseases described by these writers are essentially different; they assume quite an opposite type: viz. in the one there has been action with power, in the other action without power: the one has been acute inflammation of the Peritoneum attended with its usual symptoms, and requiring its usual treatment; the other has been the low or passive form of inflammation, attended with, or perhaps depending upon, fever of the adynamic or typhoid type; and it

is to this latter form of complaint, that the term Puerperal Fever will be applied in the present essay, whilst the former variety will be designated by the name of Peritonitis.

The author is fully aware that there are cases of a mixed character, which cannot be strictly classed under either of these heads, as they appear to partake somewhat of the nature of both; cases, for example, in which a certain degree of power is present, requiring antiphlogistic remedies to a certain extent, where probably, at the very onset, a small bleeding from the arm might be required, but where inevitable destruction would follow that free use of the lancet which is so peremptorily demanded in the more acute attacks of Peritonitis: he is nevertheless of opinion, if the attention of the student be directed to the distinguishing characters of the two forms of disease, that experience and his own good sense will enable him to discriminate those varieties in which the

treatment requires to be modified, and will therefore lead him to adapt his remedies to them. It has been too much the fashion to class nearly all the affections to which the abdomen is exposed at the time of childbirth, under the one head Puerperal Fever, and in consequence of this circumstance and the varieties of treatment recommended, great inconvenience, and difficulty has been experienced by the young practitioner in making up his mind as to the proper mode of proceeding.

AFFECTIONS OF THE ABDOMEN.

Peritonitis, or Acute Inflammation of the Peritoneum, usually commences a few days after delivery, though occasionally much later; but, in the latter instance, it can generally be traced to some external cause: it begins with chilliness, followed by heat, and intense pain in the abdomen, increased by

the slightest pressure. There is frequently uneasiness in the head, the tongue is white and dry, the lips parched, and the skin hot. The pulse is quickened, but at the onset seldom exceeds 100 or 110 beats in the minute: it is either full and round, or contracted and hard, and indicates a considerable degree of vascular power.

The secretions of milk, the lochia, the perspiration and urine are checked, and in the most vehement forms of the disease, may be entirely suspended. The patient is frequently found lying on her back, with her knees bent upwards, on the trunk of the body: by this position the inflamed membrane is put off the stretch, and less pain is therefore experienced than if the legs were extended.

Treatment. This is extremely simple and in general very successful, if the inflammation be combated at its commencement. Blood should be removed from the arm in a

full stream, until faintness is produced, and great care taken that the patient be not suddenly roused from this state by the injudicious application of stimuli to the nostrils, as the longer she remains in this condition, the more secure will she be afterwards. The following pills should be immediately ordered:

℞. Hydr, Submur, Gr. v.
Pulv. Opii. Gr. iij. fiant pilulæ duæ, quamprimum sumendæ.

From twenty to thirty leeches are then to be applied over the abdomen, and, with a view to encourage the bleeding from their orifices, a flannel bag, filled with scalded chamomile flowers, should be applied after they have dropped off. The chamomiles will retain their heat and moisture for a considerable time, are much lighter than a poultice, and will, consequently, produce less inconvenience to the patient: the weight of the latter frequently occasions a great deal of

pain. At the expiration of three hours, *at the furthest*, the patient must be visited again, and if circumstances demand it, the bleeding and pills are to be repeated; it, however, frequently happens that she is much relieved, the pain has nearly ceased, the tongue is a little moister, and the pulse slower.

The remedies to be employed are the same, viz. calomel and opium, but in smaller doses, and repeated until a slight degree of soreness is produced in the mouth; an occasional mild laxative or an emollient enema being had recourse to, if necessary, for the purpose of preventing constipation, but purging should be avoided, as having a tendency to prevent the mercurial action from taking place.

Puerperal fever, like acute inflammation of the Peritoneum, generally begins a few days after confinement, commencing with a rigor, which is soon followed by heat, flush-

ing of the face, and great pain in the head. The pulse rises in frequency, often beating at the rate of 140, or even more, in the minute, within a few hours after the chill has gone off: its character is very peculiar, giving an undulating sort of sensation to the finger, as if the artery was only half full of blood, very widely differing from the powerful throb of Peritonitis. There is considerable pain in the abdomen, although at the onset the cerebral symptoms appear the most prominent. In the epidemic, with which the London and Southwark Midwifery Institution was visited in the early part of 1830, the abdominal pain was at first very circumscribed, and referred, in almost every instance, to the anterior and inferior portion of the uterus, so that pressure could be borne in every other part without producing uneasiness. As the disease advanced, the pain extended over the abdomen generally, in many instances leaving the part first attacked.

Swelling to a great extent occurs in the last stages of the disease, and is produced partly by the effusion of a large quantity of fluid into the Peritoneal cavity, but principally from an immense accumulation of air within the intestinal tube. Where this has taken place the diaphragm is pressed upon, and, in addition to the other symptoms, the patient suffers from dyspnœa. The tongue is at first but little if at all affected, but soon becomes dry, red, and glassy, or covered with a dark brown fur; there is occasionally vomiting, and sometimes a very profuse diarrhœa, though these symptoms are by no means constant.

There is much variation with regard to the lochial discharge, in some cases it is natural, in others lessened; or it may be of the usual quantity, but altered in quality, being dark coloured and offensive. The lacteal secretion is at first unaltered, but, as the disease proceeds, becomes checked, or

entirely suppressed. The female seems to care but little for her infant, seldom inquiring after it, and her general aspect is that of a person completely worn out and exhausted. In some instances the pain ceases a short time previous to dissolution, in others the patient expires in the most dreadful agonies. The above symptoms are those which alone characterise the disease called, in this treatise, *Puerperal Fever:* no author has been consulted for their description, they have been carefully noted at the bedside; and the student is very particularly enjoined to discriminate *early* between the two diseases, peritonitis and puerperal fever, that the proper treatment may be had recourse to. In order to assist his judgment, the following table exhibiting the most striking difference between them, may not be unacceptable.

Peritonitis.	*Puerperal fever.*
Pulse small and hard, or full and round, seldom exceeding 100 at the onset.	Pulse soft and undulating, frequently from 140 to 150, soon after the chill.
Head not much affected.	Intense headach, or great confusion.
Tongue dry and white.	Tongue at first natural, becoming afterwards glassy or dark brown.
Secretions checked, or entirely suspended.	Secretions frequently at first healthy, in many cases altering afterwards in quality and quantity.
Pain superficial.	Pain at first deep-seated and decidedly uterine.
Skin hot and dry.	Skin variable, not unfrequently moist and perspiring.

Treatment of puerperal fever. It has been ascertained by melancholy experience, where this fever attacks females in its worst form, that in a large majority of instances,

medical treatment is of little avail; the Materia Medica has been ransacked, for the relief of these unfortunate patients, without success: upon the whole, leeches to the abdomen, the application afterwards of the chamomile bag, the exterior of which may be sprinkled over with oil of turpentine, to render it counter-irritating, and the rapid introduction of mercury into the system, have been found to be the most serviceable; this plan of treatment has, in the mild forms of the disease, been eminently successful, the females recovering permanently, though slowly. Opium, from its well known effect of diminishing the frequency and increasing the force of the vascular system, is a remedy that will be found useful at the commencement of the disease, but it must be given in the larger doses; at least three or four grains should be combined with the first dose of the mercury, which may or may not be repeated in a few hours, according to circumstances:

if relief has been obtained, it should be continued in smaller doses; one grain, for example, with two of calomel, every two or three hours; mercurial frictions, or fumigations, may also be had recourse to, for it is a point of the utmost importance to affect the system as speedily as possible. If the symptoms should not be somewhat subdued, if the pulse remains at 140, or should increase at the expiration of twenty-four hours, the patient's doom may be looked upon as sealed; if, on the contrary, the pulse should become slower and fuller, and the patient express herself relieved, a favorable result may be anticipated; but this disease is never knocked down as it were, at once, like peritonitis; it will run a definite course, and all that can be expected or hoped for, as regards its treatment, is that it may be kept within bounds, not incompatible with the existence of life. The bowels frequently become relaxed, the fæces often passing involuntarily;

where the opposite state exists, it is of great moment, should it be necessary to administer an aperient, to select a very mild one; the following draught answers the purpose remarkably well.

R. Ol. Terebinth. ℥ss. Ol. Ricini. ℥ij. sit haustus ut opus sit sumendus.

Where diarrhœa supervenes, the calomel must be withdrawn, and frictions or fumigations, or both, trusted to; small doses of Conf. Aromat. et Conf. Opii, being at the same time given by the mouth. In the last stages of the disease, the carbonate of ammonia has been tried, but without benefit. Puerperal fever may in fact be considered the *opprobrium medicorum*, its very nature has not yet been agreed upon; but as the intention of this volume is to convey practical information, and not to investigate discordant theories, the attention of the student will not be distracted by an enumeration of

the various opinions which have from time to time been promulgated respecting it: he is again earnestly entreated when called to cases of puerperal affections of the abdomen, carefully and attentively to watch the symptoms, in order that he may make up his mind as to what the disease really is, for without this knowledge it is quite clear that no rational plan of treatment can be had recourse to. Fortunately puerperal fever, in its malignant form, is by no means a frequent occurrence; indeed, in healthy situations and in the country it is scarcely known, what is there witnessed is the acute form of peritoneal inflammation, and is, in general, easily cured by making use of the proper remedial agents; and it is on this account that practitioners from the country so frequently express their astonishment at the ravages committed by this disease, in the metropolis.

Irritable Peritoneum. A very painful state of the peritoneum sometimes occurs,

which might be confounded with inflammation, but the two affections are without difficulty distinguished by careful examination. The patient complains of extreme pain in the abdomen, increased by pressure, and in this respect the two diseases resemble each other; but the countenance is more cheerful, the skin soft, and not so hot, the tongue very little furred, and moist. The female will generally be able to lay with her legs extended: the pulse is rather hurried, but the character of the beat is natural.

Treatment. Long-continued fomentations, with the internal administration of a few doses of calomel and opium very speedily afford relief.

Hysterilis, like peritonitis, is commonly of an acute character, and begins a few days after delivery; it has many symptoms in common with Peritonitis, but the pain is different, partaking more of the character of

afterpains, there being distinct exacerbations, although there is not an interval of perfect ease: it is attended with fever of the inflammatory type, the pulse being hard and frequent, the skin dry, and the tongue furred. Irritation of the bladder is a very common symptom in this disease, the patient complains of heat, and difficulty in passing urine.

The lochial discharge is lessened or suspended, and frequently the lacteal also. The uterus is distinctly felt to be enlarged, and tender to the touch; pressure upon it produces pain in the back; there is frequently uneasiness at the upper and inner part of the thigh. Sickness and vomiting now and then occurs, and the pain is then greatly aggravated from the compression exerted by the abdominal muscles upon the inflamed uterus.

Treatment. Precisely the same means

are to be employed as in acute inflammation of the peritoneum, with which disease it is occasionally complicated.

Inflammation of the round ligament. In consequence of the vascular structure of this part, it is not unfrequently the subject of inflammation, and then pain is felt in the situation of the ligament. There is pain and tenderness in the groin, accompanied with a kind of dragging sensation, much increased by pressure, and sometimes a slight degree of fulness is to be felt.

Treatment. From eight to twelve leeches, according to the urgency of the case, should be applied to the groin, and the bleeding encouraged by having a poultice placed over the orifices. This generally acts like a charm, almost immediately relieving the symptoms. Saline aperient medicines, with an occasional opiate, where there is much irritability, will generally be all that is required.

AFFECTIONS OF THE HEAD.

The naturally nervous irritability of females is greatly augmented during the puerperal state, and hence, as might be expected, they are frequently subject at this time to cerebral disturbance; urgent therefore is the necessity of avoiding, as much as possible, every source of mental inquietude and excitation. The remarks previously made, regarding abdominal affections, apply with equal force to those which are attacking the head, and it is therefore equally necessary early to discriminate between action with power and without power. It ought carefully to be borne in mind, that mere frequency of pulse does by no means justify the employment of actively antiphlogistic measures, for it generally happens that the less power there is in the system, the greater is the hurry of the circulation. Uterine hemorrhage may be taken as an example to illustrate this assertion; the

pulse will always be found to rise in frequency, the very instant a serious quantity of blood has been lost: in fact, the patient may be considered in a comparatively safe condition, so long as the circulation remains steady. *The character* of the pulse should therefore be particularly attended to, when investigating the symptoms of a disease.

Phrenitis. This affection is attended with a very high degree of fever; there is intense pain, and a sense of constriction within the cranium; a red and turgid state of the conjunctiva, and of the face; great intolerance of light and sound; continued watchfulness, and often violent delirium; the pulse is quick and hard; the skin hot; the tongue dry and white; urine high coloured and scanty; the bowels confined.

Treatment. The temporal artery should be opened, and a considerable quantity of blood allowed to flow; then the head is to be shaved, and kept constantly cold with an

evaporating lotion, or a bladder partly filled with ice. Free purging is also required, beginning with calomel and jalap, and following it up with repeated doses of sulphate of magnesia, and infusion of senna. The patient must be kept free from light and noise, and great attention paid to position; it being of great consequence, especially when delirium supervenes, that the head be kept, as nearly as possible, in the erect posture. Blisters ought never to be employed until the actively inflammatory symptoms have been subdued, and then should be applied in the neighbourhood and not upon the head itself; the excitement caused by them in this latter situation has been productive of great mischief. After an attack of inflammation, the brain is frequently a considerable time in recovering its functions, the patient is left in a very debilitated condition; a course of tonic remedies will, in this case, be required: the shower bath, as soon

as the patient can bear it, will be found a very useful adjuvant.

Puerperal Mania. The symptoms of this disease have been so accurately described by Professor Burns, that no apology is required for extracting them from his "Principles of Midwifery," a work which, as a book of reference, stands unrivalled, and ought to be in the library of every practitioner of the obstetric art: he observes,

"The period at which this mental disease appears is various, but it is seldom, if ever, sooner than the third day, often not for a fortnight, and, in some cases, not for several weeks after delivery. It usually appears rather suddenly, the patient awakening, perhaps, terrified from a slumber; or it seems to be excited by some casual alarm. She is sometimes extremely voluble, talking incessantly, and generally about one object; supposing, for example, that her child is killed, or stolen; or, although naturally of a religious

disposition, she may utter a succession of oaths, with great rapidity. In other cases, she is less talkative, but is anxious to rise and go abroad. It is not, indeed, possible to describe the different varieties of incoherence, but there is oftener a tendency to raving than melancholy: she always recognises surrounding objects, and either answers any question put to her, or becomes more exasperated by it: she can, by dint of perseverance, or by proper management, be for a time interrupted in her madness, or rendered in some degree obedient. In some instances, she reasons for a while pretty correctly on her insane idea. The eye has a troubled appearance; the pulse, when there is much nervous irritation, or bodily exertion, is frequent, but it is not in general permanently so, though it is liable to accelerations; the skin is sometimes rather hot, the tongue white; the secretion of milk is often, but not always, diminished; and the bowels are usually cos-

tive. There is seldom permanent headach; but this symptom is sometimes produced pretty severely by attempts to go to stool, if accompanied by tenesmus, or by efforts to void urine in strangury. In some instances the patient recovers in a few hours, in others the mania remains for several weeks, or even some months; but, I believe, it never becomes permanent, nor does it prove fatal, unless dependent on phrenitis."

Treatment. This disease generally occurs in irritable and delicate habits, and appears to depend more upon over-excitement of the nervous system, than upon vascular activity, or congestion; it follows, therefore, that powerfully antiphlogistic measures rather retard than accelerate its cure: the chief indications are to attend to the state of the bowels, to cool the head where there is much heat of scalp, by the continued use of an evaporating lotion, and to prevent the continuance of the lacteal secretion, by remov-

ing the child from the patient. In the moral treatment great care is required to keep her as calm and quiet as circumstances will permit; where there is great restlessness, an anodyne may be cautiously tried; the patient being narrowly watched during its operation. It will, however, generally be found that time and good management will accomplish more than medicine, these cases usually recovering completely, although the period is very uncertain, some regaining their intellects in a few weeks, whilst others remain in a disordered state for many months. If there should be marks of determination to the head, then, of course, a certain quantity of blood is to be removed, the application of leeches to the forehead or temples, being had recourse to for that purpose.

Simple Fever. The author has adopted the term simple fever, to distinguish it from that form of disease designated *puerperal fever*, although this complaint has just as

much right to the title as the other variety, but the general acceptation of the term puerperal fever, is, where it is combined with abdominal disease, and therefore that name has been retained, although it is certainly liable to objections.

In this complaint there are no signs of peritoneal inflammation, all the uneasiness being referred to the head; the patient has a chill, this is soon followed by intense headach, the heat of the body rises greatly above its natural standard, the eyes are suffused, the countenance turgid, but anxious; the skin dry; the tongue coated; the bowels at first confined, but frequently followed by a very unmanageable diarrhœa: there is intense thirst, great restlessness, and not uncommonly delirium, but this latter symptom varies greatly in degree; sickness and vomiting occasionally are present; the pulse rises rapidly, its beat characterizing a certain degree of power though not to any great de-

gree. The heat is sometimes followed by very free perspiration, which however gives no relief.

Treatment. From twelve to eighteen leeches should be applied to the forehead and temples, which may be repeated or not, according to the symptoms; the whole of the hair is then to be removed, and the head kept wetted with an evaporating lotion. A purgative at the onset is serviceable, but it is seldom necessary to repeat it often, the bowels having a tendency to get into a relaxed state. Saline medicines, such as Liq. Am. Acet. with Antim. Tartar., or Digitalis, are also of service at the commencement. Where the stomach is disturbed the effervescing draught may be substituted in its stead; small doses of calomel given every night and morning, in the latter stages of the disease, are of great service.

Caution is required in the management of Diarrhœa, when it comes on: it will be found,

in some instances, that the cerebral symptoms are evidently relieved, and then it will be improper suddenly to check it; but if allowed to continue too long, it will tend greatly to depress the constitutional powers of the patient. Small doses of Conf. Opii. with Conf. Aromat., may here be employed, and if a more powerful astringent be necessary, half a grain of sulphate of copper with the same quantity of opium, should be given three times a day.

This complaint is usually recovered from, although convalescence is frequently protracted. The author has known recovery to take place where the pulse had risen to 140, and where the stools were passing involuntarily.

Irritable Head. The author published a paper on this affection in the number of the Medical and Physical Journal, for February 1825, under the title of "Puerperal Irritability," but as the symptoms are gene-

rally referred to the head, he deems it better to designate it as above; it is a complaint to which little attention has hitherto been paid, although it is not of very uncommon occurrence; the patient complains of great weight and oppression about the head, seldom amounting, however, to violent pain, she is restless and uneasy, and complains much for want of sleep: the head is often hot, the face pallid and anxious, though this symptom is, in some instances, more strongly marked than in others; the bowels are generally easily irritated, the skin is soft, and frequently covered with a most profuse perspiration. The appearance of the tongue is not much changed, though sometimes it has rather a whitish character, as if smeared over with cream, and almost universally moist. The pulse is hurried, but does not communicate a feeling of power to the finger, it is soft and yielding; there is great intolerance of light and sound, and in one instance, which

occurred in the author's practice, there were convulsive motions in some of the muscles of the limbs and in those of the lower lip.

Treatment. The obvious indication is to allay this irritable state of the nervous system, by exhibiting opium largely, after having emptied the lower bowels, by means of an injection, where this is required, which it seldom is: the dose should be three grains of the powdered opium, repeated every hour, or every two hours, according to circumstances, for four or five times, after which the symptoms usually subside or wholly disappear. This is the only internal medicine required, but great relief is experienced from the assiduous use of an evaporating lotion to the scalp. Great caution is required in the administration of an aperient, the bowels usually partaking of the irritability of the system generally.

This state of the head should be carefully distinguished from a somewhat similar one,

produced in consequence of fecal accumulation. In this latter affection there is more decided *pain* in the head, a drier skin, slight uneasiness when the abdomen is pressed upon, and there is a very marked difference in the appearance of the tongue; it is always discoloured, usually more red than natural, the papillæ becoming more prominent, and there is occasionally a brownish streak upon it, and but little moisture: the proper treatment is of course to unload the bowels of their contents as speedily as possible.

OCCASIONAL CONSEQUENCES OF PARTURITION.

SYNCOPE.

Some women, after delivery, are the subjects of repeated attacks of syncope, without any obvious external cause; partly, perhaps, in consequence of the pressure of the gravid uterus being suddenly taken off the larger blood-vessels, and hence an additional reason why the bandage so often recommended should be attended to.

Treatment. This affection generally takes place in hysterical habits, and is more alarming than dangerous. The accoucheur should, in the first place, satisfy himself that the fainting does not arise from hemorrhage, either

external or internal: this is done by examining the uterus through the abdominal coverings; and, if he finds it hard and contracted into a small compass, he knows that the uterine vessels must be closed. The position of the patient is next to be attended to: she ought to be placed with her head below the level of her body, in order that the blood may gravitate towards it, (syncope being supposed to arise from a deficiency in the quantity of blood circulating through the brain.) As soon as she can swallow, the following draught may be given:

℞. Sp. Am. Fœtid. ʒss.
Mist. Camphoræ ℥iss.
Fiat haustus statim sumendus et repetend; si opus sit.

If there be much irritability and restlessness after the fit of syncope, ten minims of tinct. opii are to be added to the draught. Where there is organic disease of the heart, these attacks are exceedingly dangerous.

LACERATION OF THE PERINEUM.

In spite of the best directed efforts to prevent this accident, it occasionally happens that the perineum gives way. Carelessness is, without doubt, sometimes the cause, or an undue degree of violence in delivering with the forceps; but now and then it appears to be the effect of a delicate state of skin, in consequence of which it cannot support the necessary degree of extension during the passage of the head. The laceration in these cases seldom extends the whole length of the perineum, and therefore but little inconvenience is experienced.

Treatment. The slighter degrees of this accident do not require much medical treatment. Should the patient complain of smarting and soreness, a strong decoction of poppies is to be made use of, and the part smeared over with any simple ointment, to guard it against the irritating effects of the discharges.

Where there is complete laceration from the vulva into the rectum, the patient's situation is rendered most deplorable, as it but seldom happens that reunion can be effected, and therefore she will ever afterwards be subject to an involuntary discharge of fæces. In addition to the measures recommended, the patient must be desired to lie with her knees closely approximated; the bowels kept soluble, and a fresh and warm poultice applied every four hours. Stimulating lotions, rendered glutinous by the addition of gum acacia, may afterwards be tried; but where the rectum is involved in the injury, these measures seldom succeed. If the bowel remain whole, although the sphincter ani be divided, a perfect recovery is not improbable.

PROLAPSUS OF THE WOMB.

When a female has been allowed to sit up too early after confinement, this accident is by no means an unfrequent occurrence; and

if, from its having taken place in a previous labour, there is reason to suppose it will again occur, and the case be properly managed, it may in many instances be altogether prevented. When the increased weight of the uterus, and the lengthened state of its ligaments during and for some time after parturition, is considered, together with the great relaxation which takes place in the vagina, the reason why prolapsus uteri should occur at this period will be sufficiently obvious.

Treatment. The recumbent posture must be maintained for more than an ordinary period after confinement: the patient ought not to rise from this position for several weeks: as, however, the heat of a bed will have a relaxing effect, it is proper that she be removed to a sofa as soon as she can bear it. A nourishing diet is to be allowed, and particular attention paid in keeping the bowels soluble, as the exertion necessary to evacuate them when constipated is very injurious.

INVERSION OF THE WOMB.

The uterus is sometimes found, after delivery, to be completely inverted; its fundus passing through the os uteri, and lying out between the patient's thighs. This accident may be produced by forcibly pulling at the funis for the purpose of removing the placenta, before the uterus is contracted, or it may arise spontaneously, from irregular contraction of the organ.

Treatment. From whatever cause it has originated, its instant reduction must be effected: if there be much delay, powerful uterine contraction is apt to come on, and the inversion is rendered permanent. The fundus uteri should be grasped by the hand, so as to double it upon itself, and steady pressure made upon it, passing it through the encircling os uteri, and carrying the hand far enough to return it completely to its natural situation. The hand ought to be kept within

the uterine cavity until regular contractions come on, by which a recurrence of the accident will be prevented. Where the placenta is attached to the uterus, it is better not to remove it until the reduction has been effected.

RETENTION OF URINE.

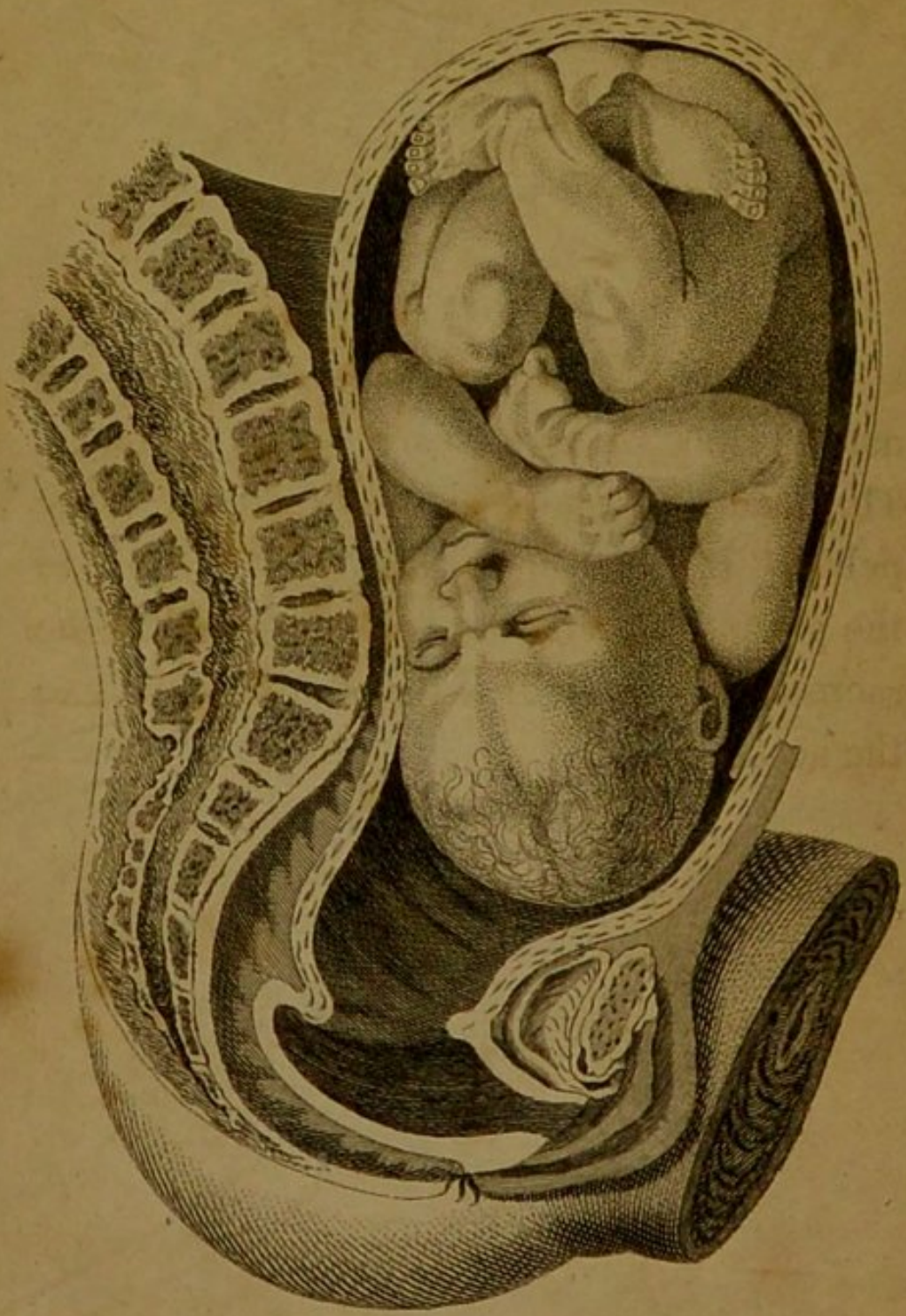
In consequence of the pressure to which the bladder is exposed during labour, its muscular structure occasionally becomes for a time paralysed, so that the patient is unable to pass her urine; and very considerable inconvenience will be the consequence of neglect of this circumstance.

Treatment. The catheter ought to be regularly employed twice at least every twenty-four hours; and if, after a few days, the symptoms are not relieved, small doses of the terebinthinate balsams will be found serviceable; and in very obstinate cases it may be necessary to apply a blister over the pubis.

An injurious degree of pressure is sometimes experienced at the neck of the bladder only, the muscular fibres around this part becoming paralysed, whilst the rest retain their tone; the consequence of which is, that, as soon as a small quantity of urine is secreted, the organ is stimulated, contraction takes place, and the urine flows involuntarily.

Treatment. A small elastic gum catheter, to the extremity of which a bladder has been previously fastened, should be introduced into the bladder, and retained there. The same medical treatment is required as in retention of urine.

Plate 1.



London, Published by S. Highley, Fleet Street, & Maze Pond, Boro.

PLATE I.

In this Plate, the child is represented in its natural situation, at the early period of labour. The head has not yet entered the brim of the pelvis. It is placed diagonally with regard to the pelvis, the forehead being opposed to the sacro-iliac synchondrosis, and the occiput to the acetabulum.

PLATE II.

In this Plate, the child is represented with its head engaged in the cavity of the pelvis; but little change has as yet been effected in its relative situation.

Plate 2.

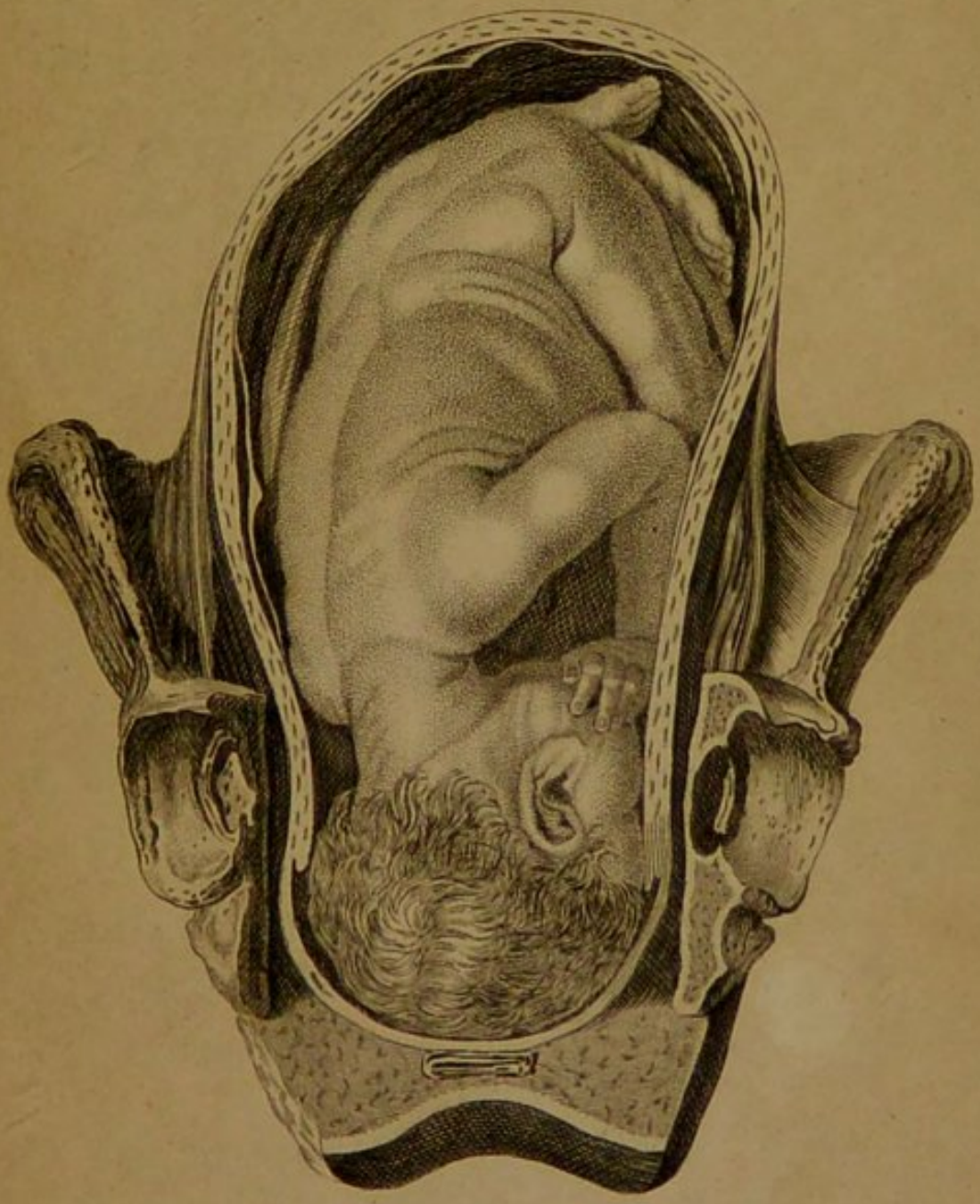


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Plate 3.

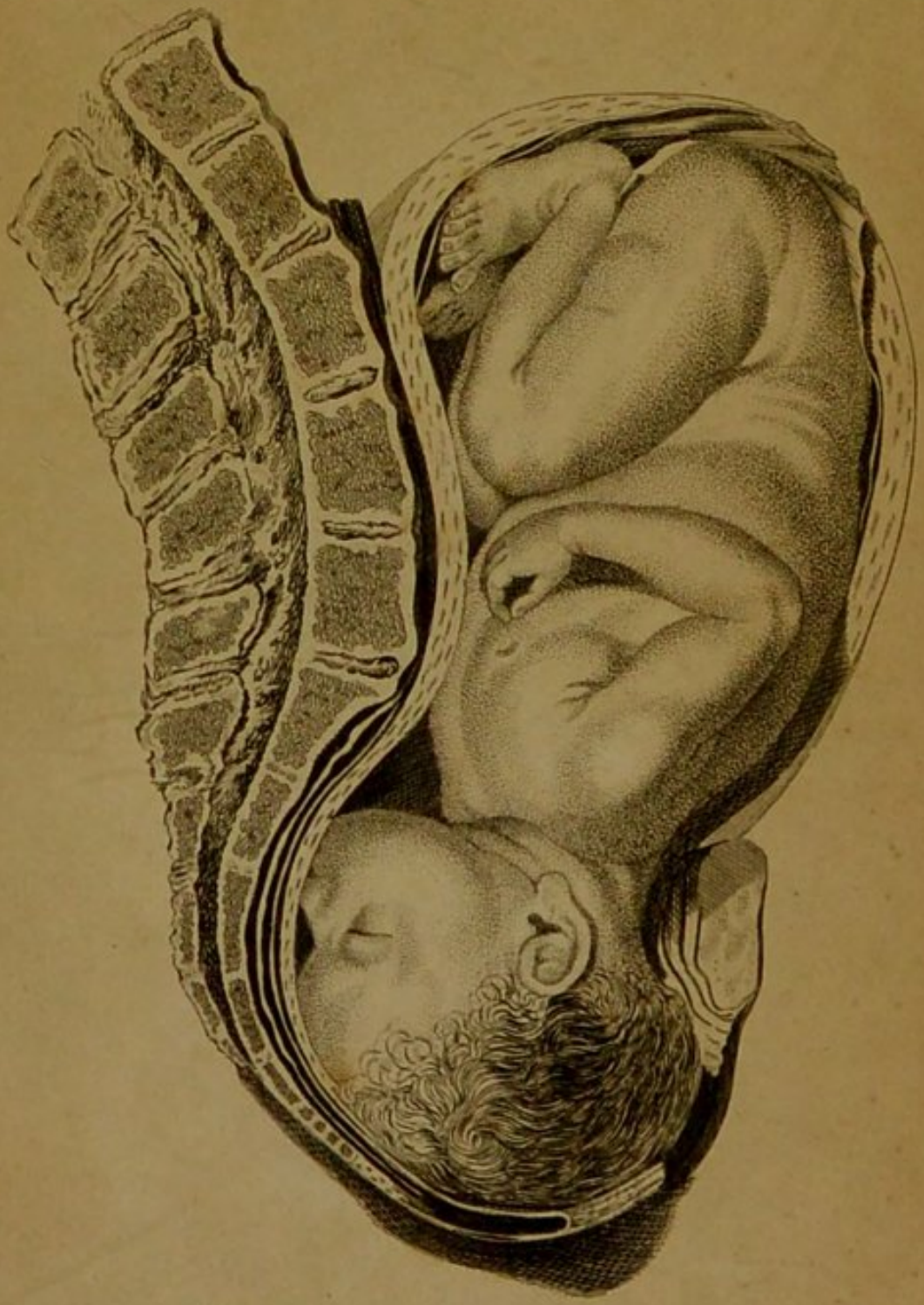

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PLATE III.

In this plate the head of the child is represented in a very different situation to that which it previously occupied. (See Plates I. and II.) The half-turn has here been effected, the face being thrown into the concavity of the sacrum, whilst the occiput is seen passing under the arch of the pubis. The perineum is now beginning to be put upon the stretch.

THE END.

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