THE
PRESENT STATE
OF
MIDWIFERY
IN PARIS.
WITH
A THEORY
OF THE
CAUSE AND MECHANISM
OF
LABOUR.

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PREFACE.

CURIOSITY, with a desire of improvement, led the editor to the Continent, and the following is an assemblage of observations, as they fell from the lips of the first Professors in France; in the last and preceding year.

It may be advantageous to know the progress of an art in different countries, or in the hands of various Professors, as 'tis to accumulated observations we owe increase of science; and the mere ideas of ingenious men are often productive of happy effects.

To draw a parallel or comparative view with the practice in Britain, would engage a detail that would swell the page far beyond his intention, which

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is simply to give an idea of the French method and opinions; and as many who have studied formerly in France, as well as those who have neither time or inclination to take the journey, may be desirous of knowing the present state of the schools of Midwifery in Paris, he offers the following account, with as much perspicuity and conciseness as he is able; leaving to be judged the propriety or utility of the remarks.

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THE

PRESENT STATE

OF

MIDWIFERY

IN FRANCE.

FRANCE, 'till of late years, was regarded as the fountain of chirurgical knowledge; and hence the conflux of foreigners from, perhaps, every nation: but the feat of this part of learning is removed, and the great fource of midwifery, in particular, has been long dried up. The levity and indecent behaviour of the French ſtudents, ſhut the doors of the lying-in wards of the

Hôtel-Dieu, and procured an edict of government prohibiting acceſs: Since when inſtruction has flowed in private channels, clear and profitable, in proportion to the abilities of the ſeveral profeſſors through which it has ran.

At preſent, although the obſtetrick art is taught by many, there are but two of eminence, or perhaps but one (ſince Dr. Petit declined) of real ſcientifick knowledge in Paris: Mr. Levret, accoucheur to Madame La Dauphine, claims the preference; and Mr. Payen, royal profeſſor at the theatre de Saint Côme, is at leaſt ſecond in vogue, if not in knowledge.

Mr. Levret, whoſe writings are well known to the medical world, has joined to ſtrong natural parts, ſome advantages of education, and his lectures are ſupported with geometrical reaſoning and demonſtration; but partial

tial to a ſyſtem, he treats different opinions with too little reſpect, and ſees every effort of genius that does not tend to elucidate his own theory, with the eye of malevolence: Hence he hath fettered the free expanſion of his capacity; and with the affectation of originality, often blends the errors of prejudice and fancy with the moſt ſolid reaſoning.

His courſe, although far ſuperior to any other, is notwithſtanding leſs frequented; being more expenſive, mathematical, and abſtruſe to the generality of learners; and indeed, not having real labours, or touching leſſons included, is not ſo eligible to beginners.

His leſſons continue about ſix weeks, are delivered in aphoriſms, divided into ſections, and where neceſſary he exemplifies the text: but a myſterious, oſtentatious air! rules his manner.

His preparations and inſtruments are diſplayed with formal parade, and his reaſoning is often intangled or loſt in the impertinent vivacity of the Frenchman. His machines are finiſhed in a very ſlovenly manner, and their contrivance far inferior to our own: Upon the whole, the pupil ſhould be rather a proficient to profit by his inſtructions.

He opens the firſt lecture with an exordium; and enumerates the requiſite qualities of a ſtudent in midwifery. He ſuppoſes him acquainted with the conſtituent parts of the human body; to have a good ſhare of phyſiological and pathological learning; and to have a tolerable knowledge of geometry and mechanicks; without the latter, whatever medical talents he may poſſeſs, his ideas will be confuſed, his operations embarraſſed, his progreſs ſlow and limited; at beſt he will

will acquire only the routine, and implicitly follow the practice of others.

In his anatomical deſcription, (which is according to Winſlow), he lays down the dimenſions of what is called a well-formed pelvis, as a ſcale of compariſon only, not with any ſtreſs upon the nice proportioned ſymmetry of its parts. He regards nature in too extenſive a light to ſuppoſe her operations confined to the tenths of inches; and ſees her variations, when not diſtorted, without inconvenience to the individual.

The deformed pelvis may be owing to the rickets, or to accidents during infancy: and the deformity much influenced, and increaſed, by the particular ſhape of the lower extremities. He conſiders the os innominatum reſting upon the femur as upon a pillar; and the inſertion of the latter will form a preſſure, and vary the ſhape of the

baſin according to its line of direction.

In rickety children, the neck of the os femoris is often confounded with the head of that bone; and altho' the thighs and legs may, as the child grows up, loſe the curve, and become tolerably ſtraight; yet the direction of the preſſure remaining ſtill the ſame, the deformity of the pelvis will continue, or be very little altered.

The thorax, alſo, is ſometimes the cauſe of the ill-ſhaped pelvis; for when the ſternum is high, or much raiſed, the pubes will be drawn up, more or leſs, by the action of the muſculi recti abdominis, and the diameter contracted to the ſacrum.

But a prognoſtick of difficult labour is not always to be inferred from external deformity; ſeeing there are many women, with the greateſt appearance of ill ſhape, who are, notwithſtanding, very happily delivered, without ſuf-

fering more than the common pains: In theſe women the ſpine does not project inwards, but leaves the pelvis free and open.

When a woman is lame, 'twill be neceſſary to inquire at what time of her life ſhe became ſo; if the misfortune happened before the age of puberty, or in her more infant years, as it may then be preſumed, the gait having been altered, the preſſure was thence unequal upon the yet ſoft, yielding bones, and their ſhape affected thereby.

To this he adds (as other cauſes) a delicate conſtitution, and miſmanagement in nurſing; and then proceeds to practical reflections on particular parts.

The os coccygis, in women, is commonly flexible and pliant; perhaps, not one in twenty is an exception; whereas in men, 'tis generally immovable; and the reaſon of this dif-

ference is obvious; in women, it facilitates the birth, making leſs reſiſtance to the child, and yet ſufficient to prevent the danger of its ſudden expulſion.

The more the os ſacrum approaches the axis of the pelvis, the pubes will approach alſo in the ſame proportion; and the contraction at the brim will widen the lower part of the baſin.

On the contrary, ſhould the ſacrum and pubes incline outwards, the lower part of the pelvis will be contracted; inſomuch, that it may happen, although the os uteri be ſufficiently dilated, and the head of the child properly preſenting, yet may the birth be retarded; and even delivery impracticable, when the oſſa iſchiûm and os coccygis approximate too near.

In the firſt conformation, the commencement and progreſs of labour will be ſlow; but rapid in the end. Whilſt

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in the latter, appearances will promiſe a ſpeedy concluſion, and be afterwards protracted.

In either forms women are ſubject to prolapſus uteri; complete in the firſt, and incomplete in the ſecond; and in neither caſes will the peſſary be always efficacious; for as the protuberances of the iſchii are the baſis upon which it ſhould reſt, when the bottom of the pelvis is wide, the peſſary cannot be large enough to find a ſupport; and when narrow, the uterus will, by inclining from ſide to ſide, continually diſplace the peſſary, and render it uſeleſs.

When the coccyx, with the ſacrum, are but little concave, the pelvis will be ſpacious, and the birth liable to precipitancy. 'Tis here the attention of the accoucheur is particularly required, to guard the parts from ſuffering in the ſudden, and violent parturition. At Bruxels, where Daventer's chair is in-

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diſcriminately uſed, lacerations of the fourchette, and perinæum, are very frequent.

If the ſpine of the iſchium, on either ſide, projects or curves more on one ſide than on the other, it will obſtruct the paſſing of the child, in ſuch a manner, that the head will be thrown to the oppoſite ſide, whilſt the ſhoulder is borne, by the contraction of the uterus, againſt the apophyſis on the curved ſide; and may there ſtick, 'till relieved by the hand of the accoucheur.

If the lumbal ſpine is convex more than ordinary, the belly will be pendulous; and in parturition the infant will be preſſed againſt the prominence of the loweſt vertebræ and ſacrum, and may reſiſt the ſtrongeſt efforts. 'Tis remarkable in ſuch conformations, women bear their burdens much better than others; as the perpendicular weight, during geſtation, is taken off the

the os coccygis, ſacro-ſciatic ligaments, rectum, levatores ani, and teguments of the perinæum. The gravity of the uterus being transferred over the pubis, walking and exerciſe ſhould be avoided, not to increaſe the prominency.

The ſingularity of the following opinion obliges me to make uſe of the author's own words, where ſpeaking of the circumference of the baſin, he ſays, " On doit e reconnoitre trois diametres principaux (ſur tout pendant le travail de l'enfantement) dont le plus grand le traverſe obliquement, tant a droite qu'a gauche, le petit va d'un côté a lautre, et le moyen croiſe celuici, a angle droit. La longuer de ces deux derniers diametres eſt ſujet a varier, mais celles des premiers tres rarement l'eſt *."

Strange as this may appear, he ſupports the aſſertion, in this manner.

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* L'Art des Accouchemens, page 6. § 31. troiſieme Edit. Paris.

The pſoæ, and internal iliac muſcles, ſwelling in the throes of labour, occupy a greater part of the pelvis, laterally, and reduce the longeſt diameter of the ſtrait ſo much that it now becomes the ſhorteſt; and remarks that, what ſeems to have led others into a different opinion, have been their obſervations upon the dry ſkeleton only; where, indeed, it manifeſtly is ſo.

He maintains, alſo, a ſeparation of the bones, in the violent efforts of parturition. The gravid uterus (ſays he) preſſing upon the large veſſels, obſtructs the circulation, detains the blood in the collateral branches, collects the lymph in greater quantity, and renders the cartilages at the ſymphyſis of the pubis, and junction of the ſacrum with the oſſa innominata, humid, ſoft, and yielding; whilſt the continual weight of the uterus, borne down by the abdominal muſcles upon the ſtrait of the pelvis, gradually dilates the articulations, 'till they

they are ſeparated in the ſevere pangs of labour. Nor ſhall we be ſurpriſed at this effect, when we reflect that wedges, made of the ſofteſt wood, inſinuated between the clefts of a rock, will ſever, and raiſe a very conſiderable weight, when ſwelled by the humidity of the air: and we have a familiar inſtance in the kernel of the peach-ſtone, which is able to break its ſtrong confinement: The roots of briar, alſo, or the tender branches of the vine, entering the chinks of walls, very frequently deſtroy, and bring them down: But the polypous, a ſoft pulpous tumor, ruining the articulations of the noſe, cheeks, and palate, brings the analogy yet more home.

The ſacrum is connected with the illia by ſtrong aponeurotick, elaſtick fibres; and if the ligament of the pubes be divided, upon a freſh ſubject, theſe fibres will immediately ſeparate the ſymphyſis; but, if the fibres are

firſt divided, the pubes will remain together, although the ligament be deſtroyed; which will not happen when the experiment is made upon the male pelvis. And if the capſule be ſcraped on both ſides the ſymphyſis of the pubis of the female ſkeleton, an interſtice will be perceived, between two cartilages, inſtead of one only, in the male; and, further, in examining the pelvis of women who have ſuffered hard labours, a kind of callous hath been found, riſing in a ridge, withinſide the pubis.

The breaking of theſe fibres, which ſometimes happens in very difficult labour, is attended with ſevere pain, inflammation, ſuppuration, and frequently a caries of the bones. A crepitation is perceived when ſhe moves; and if ſhe walks (though ſhe is rarely able to ſtand) her hips will riſe, alternately, one above the other: If a caries

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is the caſe ſhe ſuffers a burning heat in the parts, and the cataſtrophe will be often the moſt melancholly ! the matter corroding the bones will deſtroy the membranes, extravaſate between the interſtices of the muſcles of the thighs, legs, and down to the very feet. When the pus iſſues by the anus, it denotes the caries on the left of the ſacrum, penetrating the rectum, lying on that ſide. This terrible ſituation admits of no remedy ; but, by knowing the progreſs and effects, a ſuitable prognoſtick may be made.

Beſides a knowledge of the bones, and ligaments, the accoucheur ſhould be equally well acquainted with the ſoft parts that line the baſin ; that he may conduct his inſtruments with propriety, and underſtand the complaints, when either the head of the child, or the inſtruments preſs upon the nerves, and occaſion a numbneſs or cramp in

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the lower extremities; which frequently happen, and will immediately ceaſe upon removing the cauſe.

In the firſt pregnancy the nerves are particularly effected; the labia pudendi much ſwelled, the parts exceſſive tender, and the woman complains exquiſitely when touched. It is therefore adviſable not to make the examination 'till the pains are increaſed; for ſhould ſhe do otherwiſe than well, it may be imputed, by the buſy ignorant, to an injury done her in the pertinacious inquiry.

A ſtumbling, paralytick motion of the knee, is a frequent ſymptom, alſo, in the firſt pregnancy; occaſioned by a preſſure upon the poſterior crural nerve. When it happens in both knees, the woman falls, though upon the ſmootheſt ground. In a very ſmall belly this preſſure is almoſt continual; in a large one the child ſwimming in a greater fluid,

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the effect will be only when it receives a ſudden motion, and, in the ſwing, ſtrikes againſt the nerves.

The waters, contained in the membranes, being more or leſs, may be a reaſon why the motion of the fœtus is perceived ſooner in one pregnancy than in another; as it will more readily touch the ſides of the uterus when the fluid is but little, than when the uterus is diſtended by a greater quantity; and in proportion to their quantity, the waters will be a medium of conſiderable reſiſtance; through which the limbs of the fœtus will move with difficulty, and cannot always be felt with certainty.

The fœtus, ſuſpended in a fluid, equiponderous with itſelf, does not touch the uterus in any poſition, or at any time of pregnancy; but if it periſh, the circulation ceaſes, the body becomes ſmaller, ſpecifically heavier, loſes the balance, and ſinks to the bottom.

Hence the woman finds an alteration, ſeemingly a new weight, which indicates the death of the child.

As the uterus receives blood from the aorta, it may eaſily be conceived the rapidity with which it enters, and the neceſſity to abate the momentum in inflammations of this part. In plethorick habits, the complaints in the firſt months are generally relieved by bleeding; but if a vein be opened in the foot, it will increaſe the diſorder by making a revulſion of the blood downwards.

The denſity of the womb, is relative to the general ſtate of the fibres, and always influences the circumſtances of labour. To illuſtrate this we will ſuppoſe two caſes, exactly the ſame, in women of different habits; the one a perſon of ſtrong fibres, robuſt, inured to fatigue; the other delicate, ſedentary, and little uſed to exerciſe; in both it ſhall

ſhall be neceſſary to turn, with the waters in part, or moſtly evacuated; the firſt will require a conſiderable force, often a degree of violence, to overcome the rigidity of the uterus, cloſely contracted about the body of the child; when in the ſecond caſe, the relaxed fibres making little or no reſiſtance, the buſineſs will be done with eaſe and expedition. But what are the conſequences? The firſt patient's poverty may expoſe her to many inconveniencies, and not afford even the common neceſſaries of life, yet ſhe gets well in a few days! Whilſt the latter, obſerving a ſtrict regimen, with every convenience to ſupport her, languiſhes under hyſterical complaints, is ſometimes loſt, in ſpite of every care, or recovers with difficulty. So great is the effect of conſtitution!

As ſoon as the uterus riſes above the brim of the pelvis, the inteſtines will

lodge between it and the ſpine; therefore the fundus uteri cannot incline backwards, unleſs in a bad conformation the ſpine is very concave; in which caſe the os tincæ will project over the pubes, and occaſion a difficult labour. This circumſtance requires the woman to be placed upon her knees and elbows, to bring the orifice towards the hollow of the ſacrum; as changing the ſides is neceſſary when the fundus inclines either to the one or the other.

By the riſing of the uterus into the abdomen, the hernia umbilicalis is generally removed about the fifth or ſixth month; as alſo the hernia inguinalis, provided it is not fixed; in which caſe the danger is obvious.

The ſhape of the abdomen ſhews very often the inclination of the uterus. When pendulous to one ſide, owing to the attachment of the placenta, the child will preſent obliquely; and it frequently

quently happens that the placenta, by its weight and place of adherence, inclines the uterus to preſs upon the iſchiatic nerve, which occaſions a pain in the hip and thigh, ſometimes from the firſt month of pregnancy: and whenever a bandage be neceſſary for the relief of a pendulous belly, it ſhould act in ſuch a manner as to raiſe the abdomen in a perpendicular direction, or it may augment the pain by forcing the uterus upon the courſe of this nerve.

'The os tincæ is ſometimes torn in difficult births, and remains ſwelled or deformed: 'twill be therefore eligible to inquire if ſuch a cauſe has preceded, to diſtinguiſh a diſorder more recent. The os tincæ appears ſwelled, fungous, and deformed, (though without pain) when the placenta is fixed upon the orifice.

Of the PLACENTA.

ART is the imitation of nature; and thoſe will beſt ſucceed in any ſcience, who cloſeſt watch her operations. 'Tis the point of view in all the medical branches, to diſcern her conduct, to ſupport and ſecond her efforts, and where aſſiſtance is not eligible to withhold the attempt, and forbear to thwart her endeavours. Hence then, if we are attentive to what paſſes in the natural labour, we ſhall readily perceive the part we are to act when called upon for aid.

'Tis remarkable, that of all the females in the animal creation, woman parts with the placenta with the leaſt facility, and greateſt loſs of blood; and although the frequent examples of ſeparation, and ſpontaneous expulſion, ſhews nature is often ſelf-ſufficient, yet

yet many accidents have taught the inconvenience of delay, or abandoning the work entirely to her management.

The woman is no ſooner delivered of the child than the womb cloſes, and may be diſtinguiſhed, externally, between the pubes and the navel, (ſometimes on one ſide, according to the poſition of the woman in bed, or to the attachment of the placenta) in a globular form; and if at this time a finger be introduced by the vagina, the os tincæ will be found contracted, and almoſt intirely ſhut. At this inſtant, alſo ſhe is without pain, the uterus no longer meets with the reſiſtance which occaſioned it; every part is returning to its priſtine ſituation; and the placenta is now impriſoned, as it were, and confined, 'till the ſides of the womb, approaching ſtill nearer to their center, meet with this ſecondary obſtacle,

which occaſions a renewal of the pains and freſh ſolicitation for the opening, again, of the orifice.

This is, in few words, the uſual ſcene in natural caſes, where nothing interrupts the common courſe; and it will be eaſy to diſcern the time favourable for the relief of nature, not to be omitted without (ſometimes imminent) inconveniences. The time, we mean, is when the uterus enters again into contraction, for the expulſion of the after-birth; which happens ſooner or later in different women, according to different circumſtances; in ſome ten minutes after the birth of the child, others fifteen, others half an hour, and even longer:

The uterus will more ſpeedily effect a ſeparation of the placenta, as the woman is more or leſs ſtrong and vigorous, the waters ſmall in quantity, and

and in proportion to the time they have been diſcharged, preceding the child.

When the woman is weak and delicate, the waters large in quantity, and the child comes away immediately, or ſoon after the membranes are broke, the uterus will require a longer time to recover from its inert ſtate; and conſequently if we ſhould attempt to bring away the placenta, with the ſame promptitude in this as in the preceding caſe, it would be at the riſk of inverting the womb, if the adherence was conſiderable, or endanger a flooding, faintings, convulſions, and death, if the placenta eaſily ſeparated, and the uterus ſhould not ſoon recover its tone.

The abdomen, alſo, will inform us when to wait for the occaſion; for, if it feels ſoft, lax, and without the round tumour, juſt deſcribed, it will be highly improper to proceed to the extraction

traction of the placenta, as the womb is yet inactive, and ſubject to the above conſequences.

We agree with every good practitioner, the delivery of the placenta ought not to be attempted too ſoon, or before the criterion of uterine contraction; and differ, in opinion, with thoſe who defer their aſſiſtance after the ſigns are announced; for when the placenta adheres to the ſide of the uterus, inſtead of to the fundus, the contraction will be unequal, and the uterus will purſe up, confine the cake in a kind of cell, and render the extraction extremely difficult.

The placenta ſometimes comes away with the child, the membranes being entire, and frequently, immediately after they are broke; in both caſes, a flooding generally follows, menacing, in proportion as the womb is inert: Beſides the common means of

ſtopping the hemorrhage, it will often be effectual to introduce the hand into the vagina, and with the fingers ſtimulate the orifice of the womb ſo as to incite a contraction.

If, after the delivery, the woman grows gradually more weak and faint, and the volume of the uterus ſeems to increaſe, we may reaſonably ſuſpect a ſecret hemorrhage, which the os tincæ, being in part contracted, and cloſed up by a coagulum, may prevent from appearing: The firſt intention of relief is to remove the coagulum, and then the common means may ſucceed; remembering, the practice of giving cordials is now moſt juſtly exploded.

The placenta is ſometimes divided into two equal parts, with a bifurcated cord; and ſometimes ſeparated into lobes, hanging together, or with one or more detached from the reſt. It is therefore an uſeful caution always to examine

examine the placenta immediately after delivery; and if there is any large veſſel broken upon the borders of the membranes, it may be preſumed to have led to a detached lobe yet remaining behind, which ſhould be ſought for, and gently ſeparated; in the ſame manner as when the umbilical cord breaks and leaves no aſſiſtance for the delivery of the placenta; which is done by introducing one hand into the uterus whilſt the other is applied upon the abdomen, to keep it from rolling, the fingers inſinuated between the membranes and the uterus, (the back of the hand being to the ſide of the uterus) are to be moved gently ſideways, and the placenta will be detached with facility; being careful never to graſp it 'till the whole is entirely ſeparated.

'Tis to be obſerved, the ſkin of the child covers the umbilical cord a ſmall length

length from the inſertion at the navel, under which is a portion of the peritoneum, that ſometimes projects even beyond it; and if it was cut, or the ligature made upon it, the conſequences might be fatal: the ligature never ſhould be made 'till the child breathes, as it would interrupt the circulation; but when the child breathes vigorouſly, the valves of the umbilical arteries are then ſhut, and the circulation independent of the mother.

The umbilical arteries generally ariſe from the iliacs of the infant; but ſometimes from the aorta itſelf, in which caſe a very ſenſible pulſation is perceived after the funis is tied, and if the ligature ſhould ſlip or fail, the hemorrhage would be rapid, and fatal. Here the graduated compreſs upon the navel is remarkably neceſſary.

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Of LABOURS, *and the* METHOD *of* DELIVERY.

LAbours are commonly divided into natural, laborious, and preternatural. We diſtinguiſh only the firſt and the laſt; viz. natural and preternatural.

Natural labours are thoſe where nature is ſufficient of herſelf; whether the labour be quick or ſlow: and

Preternatural, where nature requires aid and aſſiſtance; and theſe may be of two kinds, the one where the hand alone is ſufficient, the other where inſtruments are neceſſary.

It is not always the ſituation of the child in the uterus, or of the uterus in the abdomen, that occaſions the moſt laborious caſes; they are oftener owing to the bad ſhape of the pelvis,

or

or to the waters having been long evacuated, and the woman of ſtrong rigid fibres.

We will begin by preternatural caſes requiring the aſſiſtance of the hands only. But firſt let us premiſe, when the child preſents otherwiſe than the head, it ought always to be turned to the feet.

CASE I.

The Child preſenting both Feet.

REMEMBER the toes are generally toward the pubes in this caſe, though ſeldom exactly oppoſite the ſymphyſis, but rather inclining to the right or left. If we loſe ſight of this remark, it may happen that inſtead of turning the child to the ſide the belly is inclined, viz. towards the anus, we may oppoſe this

this good diſpoſition, and not ſucceed ſo completely.

Delivery is effected by a double movement, viz. by drawing and turning, at the ſame time, to the ſide the toes point. The feet are held in the left-hand (when the toes point to the right) the middle finger placed between them, and the heels to the palm; when the knees are deſcended, take them in the right-hand, the middle finger between, and continue to extract. As ſoon as the navel appears, ſhift the left-hand from the feet, and draw down an inch or two of the umbilical cord, to prevent its being torn or ſeparated; and with the ſame hand graſp the breech, and continue the circular motion till the ſhoulders are come down; when, with a finger of the right-hand, introduced to the joint of the elbow, bring down one arm, and in the ſame manner the other,

other, taking care not to break the humerus by preſſing upon the middle of the bone. The left hand is next to be applied to the ſhoulders, taking the neck between the fore and middle fingers, placing the thumb and other fingers under the axillæ, and introducing the fore and middle fingers of the right hand into the mouth of the child, turn the face into the hollow of the ſacrum, and finiſh the delivery.

The placenta is extracted by making two turns of the cord round the fore and middle fingers of the left hand, and drawing gently in a direction as low as the frænum of the perinæum will permit: at the ſame time introduce the right hand into the vagina, and with the ends of the fingers preſs the cord toward the ſacrum. This direction will favour the ſituation of the uterus (always thrown forward over the pubes, after delivery, by the inteſ-

tines falling behind it); and avoid an acute angle, bearing againſt the pubis at the hazard of breaking the umbilical cord. The funis is to be tied and cut with the caution already mentioned.

CASE II.

The Child preſenting one Foot.

In this caſe the toes are always to the os iſchium. If the leg is hanging out of the vagina to the knee, it will then be too late to ſeek for the other foot, as the breech is fallen into the brim of the pelvis, and will hinder the entrance of the hand; otherwiſe it ſhould be brought down by introducing the hand along the tibia, and with a very ſmall motion to the right and left, the leg ſought for, and its ſituation will be readily diſtinguiſhed.

The

The foot is firſt to be laid hold of, and reſting the thumb under the bend of the knee, bring it down carefully, for extraction. Turn according to the direction of the toes, and proceed as above.

CASE III.

The Child preſenting the Breech, filling up the Brim of the Pelvis.

HERE the child is in ſuch a poſition that its knees and chin approaching together, cover the breaſt; the heels are contracted to the buttocks, and the face is generally towards the belly of the woman, inclining to one ſide.

In this ſituation, the feet and legs take three principal poſitions. 1. With the ſoles of the feet flat together, and the knees ſeparated at diſtance. 2.

The legs croſs, and the knees ſepa-rated. 3. The knees and legs touch-ing laterally, the toes turned up, and the heels preſenting.

In the firſt caſe, the child has the external ancle too long, in proportion to the internal; and vice verſa. In the ſecond, the legs are curved late-rally internally; and in the third, the legs are curved anteriorly.

The ſigns of theſe ſituations are, 1ſt, The orifice is higher up than when the head preſents; 2d, Is di-lated in an oval form, the greateſt diameter from ſide to ſide.

In all the above caſes, the mem-branes ſhould be broke, as ſoon as the orifice is opened the diameter of half an inch; and paſſing a finger over the ancle, with the thumb to the bottom of the foot, bring the un-der leg into the vagina; and inſtantly, without taking away the hand, ſeek for

for the other foot, before the breech falls into the hollow of the ſacrum. Should this happen, the legs would be carried up upon the belly of the child, and the delivery muſt go on in this manner.

Note, the under leg is to be firſt brought down, or one or both may break; and it will be known when the upper leg is laid hold of by the difficulty and reſiſtance that will cauſe it to return when let go.

CASE IV.

The Child preſenting upon its Back,

Is diſtinguiſhed by two eminences upon the abdomen, formed by the head and breech; that occaſioned by the head will be the moſt conſpicuous. The orifice of the uterus is high up and difficult to be felt, of an oval

ſhape; and the vagina is large and empty. The ſpine of the child will be felt, whether there is a tumour upon it or not; when a tumour, the examination muſt be made at the extremity of the greateſt diameter of the orifice, the inſtant a pain is going off.

When this ſituation is certainly known, and the orifice ſufficiently dilated, break the membranes, turn, and deliver by the feet.

CASE V.

The Belly preſenting.

The ſigns are here the ſame as in the laſt caſe, with this difference, that inſtead of feeling the vertebræ of the ſpine, the funis umbilicalis will be more or leſs in the vagina.

The method of delivery is alſo the ſame; obſerving in this ſituation the child

child is ſeldom living. The reaſon is obvious.

CASE VI.

An Arm preſenting in the Vagina, the Membranes broke.

GENERALLY the ſituation of the child is known by the palm of the hand being towards the back or belly of the woman; and the thumb will denote on which ſide the head lays.

If the orifice is continually, and ſtrongly, contracted, it will be impracticable to turn the child; and the uterus is ſometimes ſo much inflamed that the hand cannot be introduced. Bleeding, ad deliquium, ſeems the moſt certain method to abate the contraction, and the moment of fainting ſhould be ſeized as a favorable opportunity to deliver; which

is to be done by puſhing up the head toward the fundus (when the arm will return into the uterus) and bringing down the feet.

CASE VII*.

The Head locked faſt at the Brim of the Pelvis.

In this caſe part of the head deſcends into the vagina, whilſt the baſe of the cranium is above the brim of the pelvis; and in this ſituation, remains

* Case VII. and Firſt requiring inſtruments; Let it be obſerved, in the following caſes the membranes are ſuppoſed to be broke, and the uterus contracted about the body of the child: That Mr. Levret uſes only one kind of forceps, curved, uncovered, perforated in the blades, and about eighteen inches in length: That women in France are delivered lying upon their backs, on beds ſeldom leſs than three feet high, often more, which gives the operator great advantages, as he always ſtands, and is not liable to the fatigue of ſtooping.

remains without yielding either backwards or forwards.

If the child be living, a tumour will be formed upon the head; which will continually increaſe, 'till the hairy ſcalp appears at the os externum; but when the child dies it becomes ſoft, and gradually diſappears. The evacuation of the waters ceaſe; and if they ſuddenly flow again, it may be ſuppoſed the head has yielded backward or ſhifted its poſition.

Whatever part of the head preſents, it may be locked faſt, though moſt commonly the face is towards the ſacrum, with, ſometimes, the orifice of the uterus covering part of the head.

When there is no tumour upon the head, it may be preſumed the child is dead, and was ſo before the enclavement.

To diſtinguiſh the true ſituation of the head, care muſt be taken, not to miſ-

miſtake the os occipitis for the frontis, or the ſutura lambdoidalis for the coronalis.

The forceps are abſolutely neceſſary in this caſe, eſpecially the curved; and to introduce them properly, in all caſes, the blades are paſſed laterally, and never under the arcade of the pubes, or upon the os ſacrum. The point or end of the firſt blade, is conducted low upon the fourchette, whilſt the handle is held, diagonally, high in the left hand, and lowered by degrees, as it enters under the pubes, 'till brought down with the joining part upon the fourchette; when the other branch is to be introduced in the ſame manner, locked together, the handles tyed, and the extraction performed with a circular motion.

If the introduction of the forceps meets with difficulty, it will be from the

the vagina, the blade paſſing upon the orifice of the uterus: withdrawing the blade, and a little addreſs, will avoid this obſtacle, and gain an eaſy admiſſion.

'Tis not unuſual for the os uteri to deſcend with the head of the child: In this caſe introduce the ſecond blade under the firſt, which will oblige the handles to be croſſed before they can be locked, and cauſe the orifice to retire.

CASE VIII.

The middle of the Sagittal Suture reſting upon the Pubes; the Face turned up towards the Fundus.

THIS caſe is very diſtinct from, and muſt not be confounded with, the one where

where the face is under the arcade of the pubes, in which the operation will be the ſame as in the laſt, No. 7. But here the chin is ſtrongly preſſed upon the breaſt, the manuel is much complicated, and without a particular attention to the manner of operating, the ſucceſs will be very improbable, or dubious.

Before the firſt branch of the forceps is introduced, a garter or fillet muſt be paſſed through the perforated blade, and likewiſe through the ſecond alſo before it is paſſed; and after having fixed the handles, tye the ends of the garter together, ſo as to hang down in a nooſe, about ſix or ſeven inches; then taking the forceps in the right hand, raiſe the handles, and bearing down, at the ſame time, with the left hand in the garter, the forceps will be converted into a lever of the third kind, the moving power being between the point of ſupport, (or

the hand) and the point of reſiſtance, (or the head of the child) which will be made to deſcend into the hollow of the ſacrum, and be delivered afterwards with eaſe.

CASE IX.

The Face to the Side of the Pelvis.

THIS ſituation is known by the direction of the ſutura ſagittalis, running from the protuberance of one iſchium to the other, or oblique. The intention in this caſe is to change the poſition of the head, ſo as to turn the face under the arcade of the pubes; and then the manuel will be the ſame as No. 7.

To effect this, if the face is to the right of the pelvis, introduce the ſecond branch

branch * inverted upon the occipital, on the left ſide of the woman, and by gently turning and ſawing, at the ſame time, the head will be carried into the hollow of the ſacrum, with the face under the pubes, and be often delivered without further aſſiſtance; but ſhould this not happen, the inverted branch, being now in its right poſition, will require only the application of the other to finiſh the delivery.

CASE X, XI, & XII.

The Face preſenting.

THE chin may be turned either to the ſacrum, the pubes, the iſchium, or oblique, whether upwards or downwards.

The

* The ſecond branch is the one held in the right hand, to be entered on the right ſide of the woman.

The ſigns are too obvious to need deſcription. The chin, reſting againſt the fourchette, will be exactly the eighth caſe inverted. The curve of the forceps muſt here be downwards, the handles held low, in the left hand, and the right will act upon the garter, pulling upwards; by this means the occiput will be brought from under the pubes, where it was ſtrongly compreſſed upon the ſhoulders. The child is generally loſt if it remains long in this ſituation.

With the chin to the pubes, the method will be the ſame as in No. 7.

Laterally ſituated, one branch of the forceps will often be ſufficient; and reſted upon the occipital, in the manner of a lever, the head may be turned out of the vagina; but ſhould this fail, which ſeldom does, the caſe may be referred-

ferred to No. 9, and the face turned under the pubes.

The oblique positions will always have affinity to one of the three preceding cases; and the genius of the accoucheur should direct him accordingly.

CASE XIII.

The Shoulders locked.

The head is generally free in the vagina, and may be moved about at pleasure. The face is turned to the side, and whilst one shoulder rests upon the superior, and lateral part of the os sacrum, the other passes over the side of the os pubis; so that the scapulæ, and back of the child, rest upon the psoas and illiac muscles on one side, and the knees and elbows, press against the same parts on the other.

The

The intention of the manuel, in this caſe, is to remove the ſhoulder on the ſide of the ſacrum, to bring them both to the wideſt part of the pelvis, and reduce the ſituation to that where the face preſents under the pubis; which is done by ſliding a blade of the forceps under the ſhoulders of the child, and as with a lever, raiſe the one ſticking at the ſacrum, and carry it over the projection, which, when properly executed, the head will deſcend, and the delivery be almoſt ſpontaneous.

CASE XIV.

The Head ſeparated, and left in the Uterus.

THERE are two diſtinctions to be made when the head is left in the uterus. The one, when the child is not arrived at its full growth, and the accident happens before the woman is gone her full time; in which caſe, it is not

impoſſible the head may be delivered of itſelf. The other, when the woman is left in this melancholy ſituation, at the full expiration of her time.

The right hand being introduced, paſs the firſt branch of the forceps into the uterus, and having placed the occipital downwards, upon the blade, requeſt an aſſiſtant to compreſs the abdomen upon the uterus ſo that it does not eſcape; then introduce the other blade, join them together, and make the extraction. But if, unhappily, the pelvis is diſtorted, and ill ſhaped; or that the above method will not ſucceed, we recommend the tire-têté a baſcule, (made upon the ſame principle, and much reſembling the embryulcus of Dr. Johnſon) to be uſed in preference to any inſtrument yet invented.

Theſe are the caſes Mr. Levret gives examples of upon his machines; and

to theſe he reduces all others that may poſſibly happen. He knows the preſentation of the infant may be varied to an almoſt infinity of poſitions, but inſiſts, there cannot be one, how ſingular ſoever it may appear at firſt ſight, that will not bear an affinity to ſome one of the preceding, and be ſubject to the ſame laws of treatment. Moſt, indeed, may be reduced exactly to the ſame circumſtances; but even where this cannot be, the accoucheur, after operating upon the leading capital caſes, can never be embarraſſed, or at a loſs, in the mere manuel of his buſineſs.

In this, as in every other art, the practitioner may tread the wheel of his profeſſion, and thence acquire the common level of reputation; but the genius will quit the round of beaten knowledge, to explore a ſtraighter path, towards the improvement and perfection of his art. To ſuch the general

axioms of a ſcience will ſuffice; a diverſity of occurrences will but exerciſe his talents, and throw, perhaps, a new light upon his ſubject: Mr. Levret therefore declines a more minute inſtruction as unneceſſary; and recommends the ſtudy of nature, with the laws of mechanics, as the moſt ſolid baſis to build upon; and earneſtly wiſhes, that every adept would not ſervilely imitate, or reſt entirely ſatisfied with a method, or opinion, though ſealed with the ſanction of the greateſt name: The field is ſtill large, in ſpite of reiterated improvements; and he confeſſes himſelf (for the encouragement of others) but little advanced on the way to excellence: from the ſtage he halts at, he would have others ſtart for the goal of eminence.

He is ſilent upon the diſeaſes incident to women and children, from a conſciouſneſs that his hearers, being

chiefly ſtrangers, from countries and climates where the Pariſian method may not eaſily be admitted, or followed with propriety, and therefore chooſes to refer them to the moſt reputed authors.

As we wiſh to convey the beſt idea in our power of the profeſſors of midwifery in Paris, we ſhall make a few curſory remarks upon Mr. Payen, and the difference of his courſe.

This profeſſor has roſe into notice, rather through intrigue, than merit, and was ſet up in oppoſition to Mr. Levret. The lectures he reads were penned by a very eminent phyſician and man-midwife, expreſly for that purpoſe. The ſpirit of cabal and party ſeems univerſally diffuſed through the medical tribes of every denomination; and was it the preſent mode of phyſical education, to dedicate a time to the continent, as formerly, we might expatiate upon the prevailing foibles of the

different ſects, and warn the traveller of the reigning prejudices; but the caution now would be impertinent. Nor do we aſſume the air of criticiſm: A plain deſcription of what we ſaw, relative to the title-page, is all that is meant. Proceed we then without deviation or apology.

Each courſe continues about three or four months; and as the expence is only one guinea, the pupils of both ſexes are ſeldom leſs than threeſcore. Here barbers, women, and regulars, promiſcuouſly aſſemble, and are preſent together upon all occaſions. A circumſtance very diſguſting to the gentleman, and frequently repugnant to the delicacy of a Briton.

The lectures, however they might read, very ſeldom fix the attention in the manner they are delivered; and we have not one note for obſervation. Every thing is conducted with ſo little decorum

decorum and reſpect, as to require a degree of patience to perſevere to the end. The machinery, indeed, is preferable to Mr. Levret's, being an improvement upon his invention; but the caſes to manœuvre are ſtudied, improbable, and the manuel often ridiculous and abſurd. When the reader is told of a pair of braſs callipers, for taking the dimenſions of the pelvis, which he firſt applies to the hips of the woman, and then taking the ſacrum and pubis between the points, concludes upon the ſtructure and proportion of her baſin; when he conceives the impropriety of making uſe of ſuch an inſtrument upon a living woman, with the gravity of a bombardier ſurveying the dimenſions of a mortar, we need not give a ſtronger ſpecimen of the genius of this profeſſor, and what might be expected of his abilities!

There are, however, advantages at-

tending this courſe, that induce many to begin with him before they go to Mr. Levret; ſuch as frequent opportunities of touching, and real labours.

The touching leſſons are duly once a week, and to each woman the ſtudent pays ſix ſous when he examines her, which is in his choice to do to the whole number preſent, (generally ten or twelve) or as few as he pleaſes, agreeable to his pocket or inclination. To a labour he pays one livre, and draws for his turn to deliver.

There are midwives alſo, who make it their buſineſs to procure patients for the ſtudents private delivery; paying as a ſpectator to each natural labour three livres, to deliver ſix livres. In preternatural caſes the ſum is double: and we will venture to pronounce theſe all the advantages to be reaped in Paris.

THE

THE CAUSE AND MECHANISM OF LABOUR.

THE cauſe and mechaniſm of labour ſeem, hitherto, not to have been ſufficiently explained, although very intereſting to be underſtood. It is preſumed a more perfect knowledge of this ſubject might elucidate the art of midwifery, perhaps furniſh matter for new precepts, and open a more extenſive method of practice; at leaſt we

we ſhall feel the importance of the inquiry, if we reflect, that the life of the mother, and of the child, will often depend upon the principles that govern the conduct of practitioners.

Previous to a reſearch of the cauſe of any action, it may be neceſſary to examine the phenomena that precede, accompany, or follow the execution; and the remarks ſhould be minute; for the ſecret of nature is ſometimes hid under circumſtances ſeemingly the leaſt worthy of attention; and we may miſs the diſcovery merely by not being perſuaded that, in phyſicks, nothing ſhould be regarded as trifling, indifferent, or unworthy of notice: In the preſent inſtance, therefore, Dr. Petit traces minutely what happens in the natural labour both on the ſide of the mother and of the child.

Parturition is the action by which the infant is brought forth; generally

toward

toward the end of the ninth month after conception, or very early in the tenth. But, although this is the common term, yet nature ſometimes deviates; and examples, in all ages, have proved women happily delivered in the ſeventh, eighth, tenth, and even in the eleventh month.

At whatever term, ſome days before the travail commences, the abdomen falls, becomes manifeſtly leſs, and the woman feels herſelf more light, and more eaſy than before; nature now ſeems to rouſe from her paſſive ſtate during pregnancy, and collects all her force to accompliſh the great deſign: The woman, on her part, uſes the utmoſt endeavours to this end; her efforts, almoſt involuntary, are accompanied with pain, more or leſs ſtrong. Theſe efforts are inconſiderately called pains; a better attention

tion will diſtinguiſh the cauſe from the effect.

The natural conſequence of theſe efforts, or, in the cuſtomary phraſe, pains, is travail; and the interval of the pains are longer or ſhorter, according to particular circumſtances; during which the woman finds ſome repoſe, and renewal of her ſtrength: without this providential indulgence, few, even the moſt vigorous conſtitutions, could ſupport the violent ſtruggles often incident to labour.

In the commencement of labour, the pains are ſlight, of ſhort continuance, with conſiderable intervals. The uterus begins to contract; and a mucous diſcharges from the vagina; but the pulſe, as yet, ſuffers very little alteration, nor is the animal œconomy much affected.

To this firſt period, ſucceeds a ſecond, in which the pains are more ſevere,

vere, quicker, and lasting; the woman feels their approach, appears to suffer much, and generally bears them with impatience. She describes them, beginning in the small of her back, and terminating about the pudenda. The pulse is now accelerated, the skin heated, the face reddens, and an universal agitation succeeds. The mucous is tinged with blood; the os tincæ opens, the edges grow thin, and the membranes, protruding with the waters, dilate and widen the orifice. The child, at the instant of a pain, is raised by the compressed waters, from the os internum, toward the fundus, whilst the uterus itself advances and descends by degrees into the inferior basin.

Every thing changes when the pain ceases; the womb then rises, but not to the same point of elevation, for after every pain it remains somewhat lower than

than before. The tumour, formed by the membranes, disappears; the os tincæ is relaxed, and the diameter diminished; the child falls, by its gravity, upon the lower part of the womb; and may easily be distinguished, thro' the relaxed membranes; as also what part of its body presents to the passage.

All these happen in the same manner when the child is dead as when living; and, some small differences excepted, the same whether the head, the breech, the back, the belly, or the side of the child presents.

Toward the end of labour, the succession of pains are rapid, the efforts violent, and the woman's sufferings truly great! Yet she supports them with less impatience, and even protracts the pain in hopes of relief: They now begin in the regio umbilicalis,

licalis, and die away toward the fundament; where they leave a ſenſibility of weight, complained of by ſome women more than others.

The amnion tumour, now conſiderably increaſed, dilates the parts, 'till, by repeated efforts, it burſts with impetuoſity, and ſometimes noiſe! followed by a diſcharge of waters. The infant, no longer buoyant in the fluid, precipitates upon the orifice, and when the head preſents, effectually ſtops the running off of the whole liquor, contained in the membranes; which would otherwiſe happen, if the part of the child next the orifice did not exactly cloſe, and fill up the circumference.

Sometimes the ſame pain which breaks the membranes, expels the infant alſo, and terminates the labour; at other times, a very conſiderable interval

terval fubſiſts before the birth of the child; and the waters evacuate by little and little, lubricating the parts, and diſpoſing them to yield.

We have obſerved, before the breaking of the membranes, the infant is buoyed up during the pain toward the fundus, by the preſſure of the ambient fluid; at this juncture 'tis otherwiſe: the child is borne down by the more intimate contact, and force of the uterus, as the waters are diſcharged.

The head, having paſſed the os internum, enters the vagina, which widens in proportion as it ſhortens; the perineum is vaſtly ſtretched, and the frænulum ſometimes torn, in the paſſage; the nymphæ are obliterated, and the labia pudendi are turned inward, and confounded in the general diſtenſion. At length the head frees the

the os externum, and the body readily follows, with the reſt of the waters, mixed with blood.

In this laſt period, the efforts are extreme, the cries of the woman piercing, her miſery touching; ſhe trembles, is convulſed, and her diſtreſs beyond deſcription! To this ſucceeds a calm, inexpreſſible, as the tranſition is great! a ſcene delightful to the beholders! a heart-felt pleaſure, painted in the face, often, breaks into tranſport, very neceſſary to be ſuppreſſed: But this happy ſituation is not permanent; after a time, freſh pains trouble her repoſe; and ſhe is again actuated, to the expulſion of the placenta.

It appears from what has been ſaid, that parturition is one of the operations of nature, demanding the concurrence of ſeveral agents; amongſt which is one, primitive, that moves,

and actuates the reſt: The cauſe and determination of labour then will be this firſt power.

After the membranes are broke, the child's head is felt reſting upon the orifice of the womb; and as it manifeſtly advances with the pains, it was imagined the true cauſe of labour was the efforts of the child: and this idea, appearing both natural and ſimple, the ancient phyſicians, as well as many of the moderns, adopted the opinion, and then ſought for the cauſe that might firſt operate upon the child itſelf. From this point phyſiologiſts departed, taking different routs, and forming various conjectures.

Like Hippocrates, all the ancients were perſuaded, the want of nouriſhment created an uneaſy ſenſation in the infant, which made it importunate, and ſolicitous to ſeek it elſewhere: But this pretended want of aliment

aliment muſt proceed either from the mother's inability to furniſh a ſufficient quantity of nutriment; or that the juices cannot be ſupplied faſt enough to the wants of the child, in its increaſed ſtate: Moſt women, we know, are able to ſuckle one child, and many, healthy and young, will give the breaſt to two for a conſiderable time after delivery; and ſurely, a child will require more nouriſhment ſeven or eight months after its birth, than whilſt it exiſted in the womb! Nor do we ſee the obſtacle to the nutrition of the infant; for as pregnancy advances, the communication between the mother and child increaſes; the placenta expands, and in the ninth month comes in contact with a greater ſurface of the uterus; the calibre of the veſſels are enlarged; and the number of ſanguineous and lymphaticks, that carry from the uterus to the pla-

centa and chorion, and from these back again, augment in proportion to the increment of the child.

Another opinion, as ill founded as the preceding, was the supposed acrimony of the retained waters; imagined to irritate the child, and put it in motion: But 'tis universally allowed, not any liquor in the human body is less capable of causing irritation; and was it even of a pungent quality, it might not sensibly affect the fœtus, as the cuticula would sufficiently guard the true skin from the impression of acrid moleculæ: and we feel no difference (excepting the degree of cold) in putting the hand into a strong solution of sea salt, nitre, or into pure water. Besides, the skin of the infant is still less accessible, being covered with a thick perspired matter, like suet, that defends it intirely from the action of a liquid; which otherwise, though of the most simple kind,

kind, would macerate, and totally deſtroy the fœtus. We need not refer to the familiar inſtances of waſherwomen, and others, whoſe hands are more frequently immerſed in water, to prove the effects.

Theſe opinions not continuing ſatisfactory, 'twas next pretended, the volume of the child, grown too big for the ſpace it occupied, was preſſed, confined, rendered very uneaſy, and ſolicited to breathe. Others, and far the greater part, believed the retained meconium, and urine, became ſharp, acrimonious, and produced cholick pains, which occaſioned a reſtleſs anxiety, the primum mobile of labour. But during the whole period of geſtation, the waters augment, the uterus diſtends, and the child ſwims in a fluid as much at eaſe in the ninth, as in the fifth or ſixth month; and altho' the cavity of the uterus, and wa-

ters do not increaſe exactly in the ſame proportion with the ſize of the fœtus, may be relatively leſs in the laſt month, yet the preſſure is not greater; on the contrary, perhaps, conſiderably leſs: The preſſure we ſpeak of proceeds from a tendency of the uterus to ſhrink or contract: which diſpoſition ſhould increaſe or diminiſh according to the thickneſs and force of the uterus: Now as the thickneſs is much the ſame throughout geſtation, the compreſſing power ſhould be nearly the ſame alſo, and at all times equal and natural to the fœtus. The only difference ſeems to be in the power of reſiſtance in the fœtus, which is leſs in the earlier months, as its body is then more delicate and weak; inſomuch that when the membranes happen to break in the third or fourth month, it will periſh, by the uterus cloſing upon its tender body, and ſtopping every organick

ganick motion. Which effect is by no means ſimilar in the laſt month: And if the confinement does not allow a free expanſion, and is really the cauſe of efforts in the child, to throw off the bondage, why are the firſt months of its exiſtence in the world, paſſed moſtly in ſleep and torpid indifference, except in the moments of hunger, or accidental pain from ill management?

The neceſſity of reſpiration is as invalid an argument as any of the former. Is it neceſſary, to continue the animal functions, that at the end of nine months the infant ſhould breath? Has it hitherto gone on ſo well, and can continue no longer? or muſt it abſolutely wait this period to draw the air? This being the caſe, why does the little ſojourner break its priſon, often in the ſeventh and eighth month, without any apparent diſorder

in the health of the woman? or how does it continue to the tenth, and eleventh month, without reſpiring? 'Tis well known reſpiration is neceſſary to carry the blood through the lungs to the heart; but in the fœtus there is not this neceſſity, it paſſes by a different rout, and circulates through the foramen ovale.

Some little time after birth, moſt children evacuate their urine, in ſmall quantities, and without acritude; and in a number of diſſections, the meconium has been found chiefly in the ſmall inteſtines; very little in the colon, none in the rectum, and void of acrimony alſo. Nor does the ſtercoral matter create any ſenſation, either in the infant or the adult, 'till it arrives in or near the rectum; and children often go the firſt twenty-four hours, and upwards, without purging, and without

without inquietude from that retention.

From the foregoing hypotheſes we reap no ſatisfaction to our inquiries; the ſimple expoſition of the phenomenon of labour, ſufficiently ſhews the power in queſtion requires qualities not to be found in the child; for this power may be exerted any time in utefine geſtation, or protracted beyond the ordinary period; and the child is quite at eaſe, feels not the leaſt ſenſation of hunger, or ſuffers any pain from the collected fæces, eſpecially in the early months, when its feeble limbs would be incapable of force to dilate and open the orifice, or produce the contraction of the uterus by any means. In fine, the ſame thing happening when the child is dead, as when living, in abortion, in the expulſion of the placenta, or of any foreign

reign ſubſtance, we are compelled to ſeek the primordial cauſe in ſome other agent.

If in the beginning of a pain, a hand be placed upon the abdomen, below the navel, the uterus will be felt contracting, and bearing downwards, aided by the diaphragm and muſcles of the lower belly: And, as it is frequently neceſſary in practice to introduce the hand to turn the child, or to detach the placenta, the contraction of the uterus is, ſometimes, ſo very ſtrong as to occaſion a numbneſs that obliges the operator to deſiſt till the effect ceaſes, and he recovers his feeling. In fact, the womb contracts, ſhrinks, cloſes upon, and compreſſes whatever it contains, in ſuch a manner as forces it to eſcape by the part making leaſt reſiſtance; which is conſequently by the orifice, through the vagina; and this

this effect will lead us to an inference, that the power is in the womb itſelf; the component parts of which we will juſt hint at, the better to explain what follows.

Before conception, or in the early part of pregnancy, it would be difficult to aſcertain the ſtructure of this organ, or define the diſpoſition, arrangement, and nature of its fibres; but in the laſt months, eſpecially towards the end of geſtation, every thing appears upon a larger ſcale; the tiſſue opens, the fibres develop, become ſenſible to examination, and their direction may be traced with the naked eye; 'tis now they are known to be muſcular, reticulated, ſome running uniform and parallel upon the inner ſurface of the womb, from the fundus to the neck, others diagonally croſſing upon theſe, and others again, horizontally interlaced; and ſo

clofely wove towards the fundus, as to have been taken, by Ruiſch, for a real muſcle, deſtined for the ſeparation of the placenta. In a word, this viſcus, capable of dilatation and contraction, is analagous to the bladder, and acts in the ſame manner, the diaphragm and muſcles of the abdomen co-operating to exclude the urine.

The prelude to labour are gentle efforts of ſhort duration; the womb eſſays her force, as it were; is exactly filled, and meets with equal reſiſtance from all ſides, except towards the oriface; where the ſenſation of pain firſt begins. The mere contraction of the womb, did it not act upon the orifice, and occaſion a diſtention of the fibres, would be no more ſuſceptible of pain, than any other muſcle of our bodies; and 'tis obſervable, when the orifice is ſufficiently dilated to let the head paſs, the

the pain ceaſes, as when the head reſts at the brim of the pelvis; but 'tis true, alſo, the pain is renewed when the head enters the vagina, and ſtretches the fibres of thoſe parts. Hence the degrees of pains may be accounted for, by the more or leſs extenſion of the orifice, &c.

It may eaſily be conceived, that however ſmall the above dilatation is, it will occaſion a ſeparation of the chorion from the uterus, and break the communicating veſſels; ſo that the lymph, &c. that circulated between them, will tranſude, and become the ſource of that mucous running by the vagina to the external orifice, in the beginning of labour: And this ſeparation, effected by gradation, will explain why the placenta retains its adherence 'till the laſt. The firſt pains having procured a diſunion round the circumference

ference of the orifice, the waters will form a bag, or protuberance, which will advance, in every ſucceeding pain, lower in the vagina, 'till the membranes break. Suppoſe, for inſtance, the firſt protruſion of the amnion tumour deſcends one line, and, at the ſame time, the uterus, near the orifice, retires as much, 'tis plain the diſtance from the point of union will be two lines; which repeated, the progreſſion will continue, when the membranes are ſtrong, 'till arriving at the borders of the placenta, where the ſubſtance, adheſion, and reſiſtance being greater, the bag generally burſts.

The irritation the womb ſuffers at the end of pregnancy, is undoubtedly what determines its action, and is the true cauſe of labour. The proofs are innumerable. The muſcular fibres irritated to a certain degree, are put into con-

contraction: The fibres of the womb are of the ſame kind, and the ſame effect will follow. Whatever is capable of ſtrongly irritating the womb will occaſion abortion, as concuſſion, a blow, fall, wound, inflammation, &c. and whenever the pains abate, or go off in the middle of lábour, the midwives are accuſtomed to give ſtimulating glyſters, which irritating the large inteſtines, communicate the ſenſation to the womb, by proximity, and bring on the contractions.

But whence comes this irritation? and how is it produced? It has been imagined, with much colour of truth, the womb is capable of extenſion to a certain point only; beyond which the fibres would break; and in this laſt degree of dilatation, the womb becomes ſenſible of pain, and exerts the utmoſt efforts to diſburden the cauſe, and expel the

the fœtus: but, if it be acknowledged the fibres of the womb are muſcular, where is the anatomiſt who will affirm them capable of extenſion ten or twelve times beyond their natural length, without loſing their tone or diminiſhing in thickneſs? which is really the caſe, when compared with the ſize of the uterus before pregnancy; and the teguments of the abdomen we find cracked and broken in women that have born children. To reconcile this ſeeming incongruity, let us take a ſlight view of the unimpregnated uterus.

Before conception, the cavity of the uterus is triangular, and flattiſh; the ſides of the triangle are curved, with their convexity inward; this renders the angles very pointed, and leaves the uterus more thick in the middle, and at the fundus, where eminences are formed. The neck of the womb alſo

alſo is very thick, and equals one third of its length; which together with the above eminences, may juſtly be conſidered as the magazine, or ſtore, in which nature hath ſhut up, and cloſely ſtowed the folded fibres; coiled and doubled, as it were in reſerve, to expand with the gradual development of this organ: As in the buds of trees are lodged the leaves and flowers, which to expand and blow, need only the juices of the circulating ſap.

In the two firſt weeks after conception, the cavity of the uterus contains the rudiments of the fœtus, and appendages, without difficulty; but as the egg increaſes it becomes round and oblong as the pregnancy advances. The embryon is too ſmall in the firſt months to require much nutriment, and the retained menſes humect, penetrate the tiſſue of the uterus, ſwell and diſtend

the fibres, to the end of the fifth month; when, and rarely ſooner, the cervix begins to ſhorten, and diminiſhes daily.

The expanſion once begun, continues with the increment of the fœtus, till the whole ſtock of fibres are unbent, and exhauſted. At this period the volume of the fœtus ſtill augmenting, the womb ſtretches beyond its limited dimenſions, becomes irritated, ſuſceptible of pain, and hence labour proceeds.

But as the neck of the womb has neither an equal length, or equal thickneſs, in different women; and as the development of its fibres may be retarded, or accelerated, by various circumſtances; in ſhort, as the operation goes on in proportion with the increaſe of the child, which may be faſter or ſlower, as well in the womb, as after its birth,

birth, it is obvious that ſome children may débouché (if we may uſe the expreſſion) before the ordinary time of nine months, or their birth be protracted 'till after this term.

THE END.