

**Lectures on the gravid uterus, and midwifery : as taught and practised by the late Dr. Hunter : (with the medical terms in midwifery explained for the benefit of female practitioners) / by One who studied under him.**

**Contributors**

Hunter, William, 1718-1783.  
Bath Medical Library  
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**Publication/Creation**

London : Sold by William Flexney, 1783.

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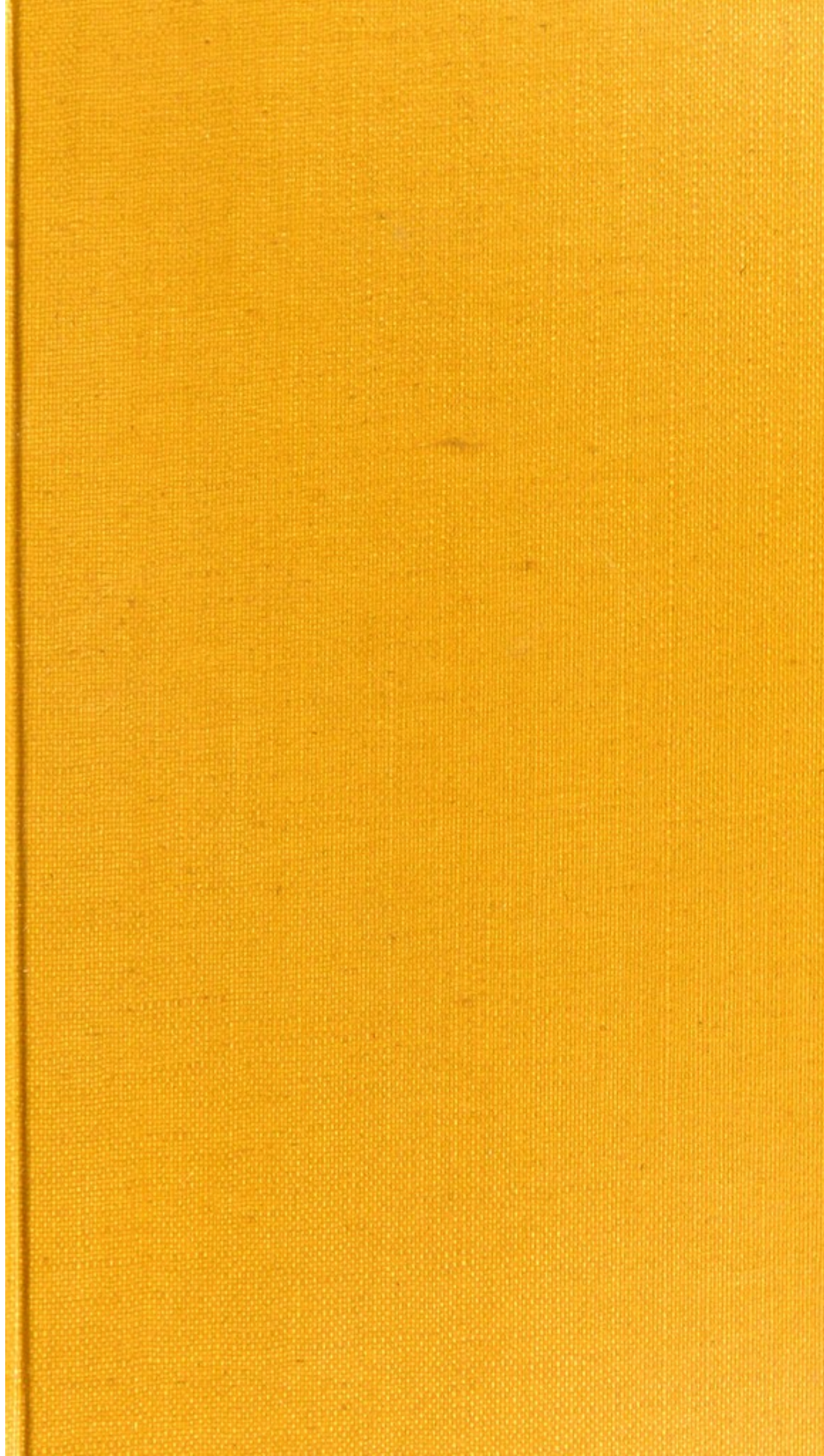
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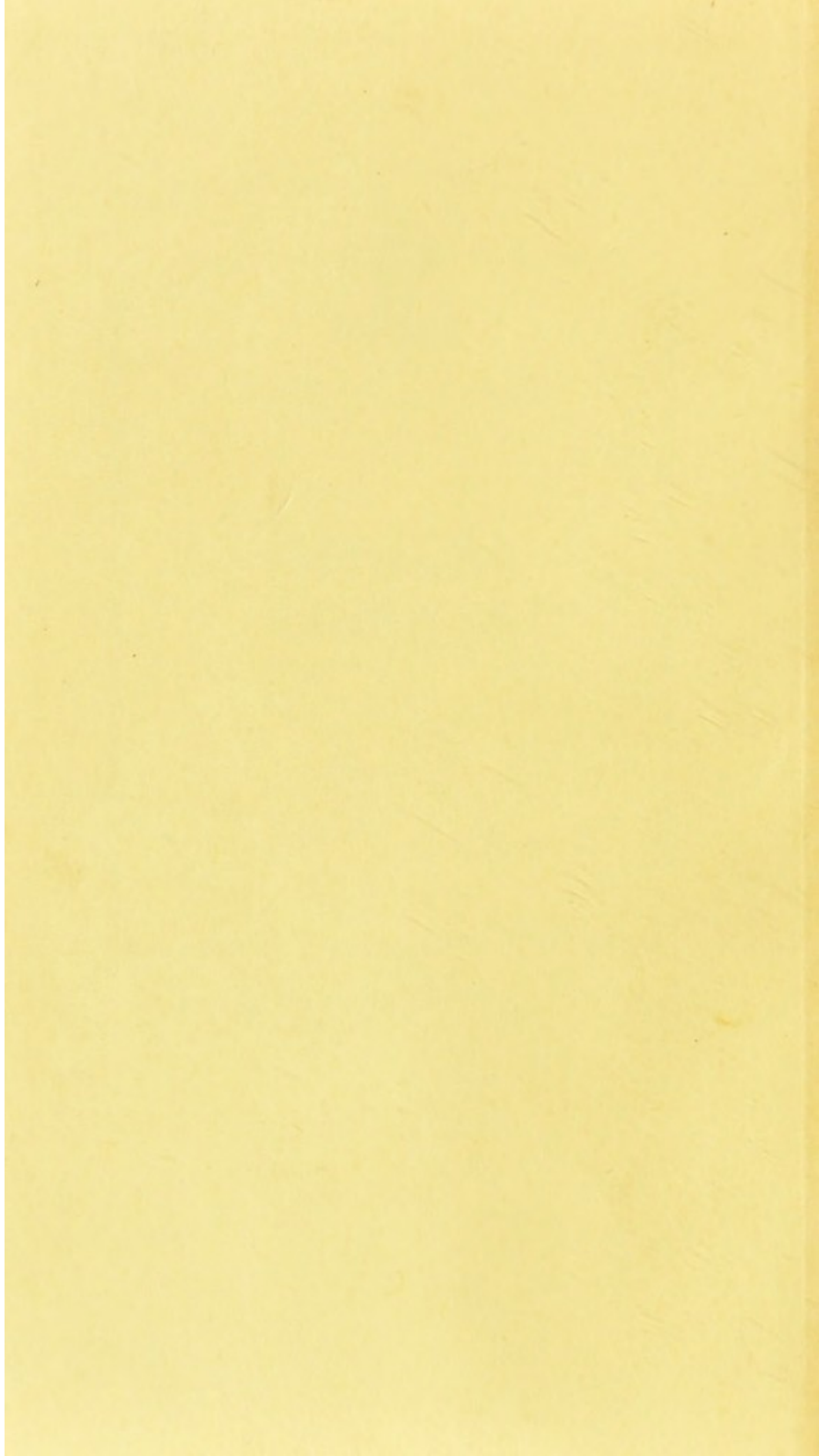
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LECTURES  
ON THE  
Gravid Uterus, and Midwifery;

AS TAUGHT AND PRACTISED

By the late Dr. HUNTER;

(With the Medical Terms in MIDWIFERY explained  
for the Benefit of FEMALE PRACTITIONERS;)

BY ONE WHO STUDIED UNDER HIM.

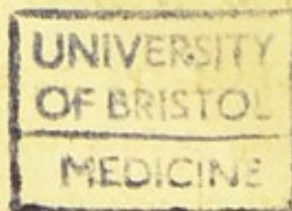
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THE  
JOURNAL  
OF  
THE  
AMERICAN  
MEDICAL ASSOCIATION

Published weekly, except on Sundays, and on the last day of the month of December, when it is published on the first day of the following year. The subscription price is \$5.00 per annum in advance. Single copies are sold at 15 cents. The journal is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610. Entered as second-class matter, May 2, 1902, under post office number 384, at Chicago, Ill., under special agreement. Postage paid at Chicago, Ill. Postmaster: Send address changes to JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, Ill. 60610. Acceptance for mailing at special rate of postage provided for in Act of October 3, 1917, authorized on July 1, 1968. Postage paid at Chicago, Ill. Postmaster: Send address changes to JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, Ill. 60610.



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L E C T U R E S  
O N  
M I D W I F E R Y, &c.

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O N T H E B R E A S T.

**T**H E Breast itself is a gland, and called *mamma*; the nipple, *mammilla*, and the circle round the nipple, *areola*.

The gland is full of milk in children, male or female, till about the eighth day, and will sometimes inflame.

In girls, about the time of puberty, the gland grows apace, and when with child still more, owing to an increase of the blood vessels which produce the milk. After child-birth, and in old persons, it shrinks and shrivels very much.



The inner surface of the gland is adapted to the outer surface of the pectoral muscle. The substance is in some places softer, in others harder. By cutting under the skin we find a mixture of fat and gland. Between the skin and gland is nothing but the adipose membrane. The adipose membrane feels soft; the glandular part hard; and consequently, when the fat wastes, the breast feels lumpy.

The gland is not bounded by a regular line, but is fringy, having fine slender processes shooting into the cellular membrane.

The substance of the gland itself in old persons appears to be of a pale white colour, and very hard, tough as gristle; but in a Breast giving milk, is reddish with blood, and the flesh tender, the vessels being all enlarged. *Note.* The vessels enter the Breast from the neighbouring vessels.

The excretory ducts begin in small branches in every part of the Breast, collecting



collecting themselves together at the nipple.

The orifices of the tubes are in the nipple, about thirty in number, just large enough to admit a bristle. These tubes run to the root of the nipple nearly of the same size; they are then sensibly larger, and shoot somewhat in a radiated direction to the extreme parts of the gland. *Near* their extremities, they are as large as a quill, but at the *very* extremities they are small again. In these canals the milk is lodged.

How the tubuli begin from the arteries, we cannot presume to say, neither in this gland nor in any other.

The nipple, with its areola, is made up of the common integuments, but thinner and more vascular like the prolabium of the lips. The rete-mucosum of the areola not only spreads vastly, but, in women of dark hair and dark complexions, when they give suck, will be of a dark colour; others quite black. When the woman gives over



suckling, the nipple and areola gradually assume their virgin colour. Indeed, in some they never do. On the areola are seen often a number of tubercles, called glands, especially when the breast gives suck.

If the Breast gets heavy, full, and large, we may conclude the woman is with child; this may be known at the third or fourth month. We judge the same from the largeness of the visible veins, and also from the breadth and colour of the nipple and areola. But should these last be of their *natural* colour, we cannot say she is *not* with child; but, if there be a visible difference in colour, we may safely conclude she *is*. It is a strong mark of having had children, or being with child.

#### PHYSIOLOGY OF THE BREAST.

There is no milk in any breast but when the woman is with child. As soon as the child is born, the full flow of milk comes on, that is on the third  
or



or fourth day; but the child's sucking will bring the milk in twenty-four hours, or sooner. When women don't give suck, the milk will either run out, or about the fifth day will be absorbed into the blood, and carried off by some of the excretions.

There is a strict connection between the Uterus and the Breast, brought on by nervous influence, that we cannot account for.

The milk is a secretion of part of the blood from the rest, attended with a chymical change. Of this kind are all glandular secretions.

Milk, in its nature, is sweet, oily, and coagulable.

#### THE GRAVID UTERUS, TAKEN AT THE LAST TWO MONTHS.

The size in the last month is very different from the different size of children, and the different quantities of water in the womb.

The figure is a mixture of the ovi-form and pyriform, something like an  
an



an egg a little flattened. The fundus is larger in proportion to the smaller end, than the fundus of an egg.

But the Uterus is capable of holding more than it does; consequently is never tight stretched. It will adapt its form to the situation of the mother, either standing, lying, &c. and also to the situation of the child.

The Uterus lies in contact with the parietis of the abdomen internally. The fundus lies up as high as the middle, between the navel and scrobiculus cordis; in short, it takes up the whole anterior part of the abdomen. If the mother lies on her back, the Uterus lies a little to one side, owing to the projection of the spine. In crooked women, this obliquity of the Uterus is greater. The neck of the Uterus lies down in the cavity of the pelvis.

The fundus of the Uterus in the belly of the mother lies forwards and upwards; the neck downwards and backwards. This obliquity of the



axis of the Uterus differs a little in different positions of the mother, and different sizes of the Uterus, as the increase must be forwards on account of the spine. The younger the mother, that is, the less pendulous the belly, the more perpendicular the axis of the Uterus is. In very pendulous bellies, the Uterus lies almost in the lap, and the axis, in this case, is nearly transverse. But this obliquity never affects the labour.

In the latter month there is no broad ligament; and the round ligament (which is a plexus of vessels, but whose use is unknown) is lengthened, and runs down before the Uterus; for as the Uterus swells, it divides the laminae of the peritonæum, which form the broad ligament. The round ligament before this ran down on the broad ligament.

The child's head, in common, lies in the neck of the Uterus, in the pelvis, and girds part of the bladder, which expands it, as it were, over the  
child's



child's head. Now, as the bladder cannot be extended, the mother will have frequent calls to make water. In this state one pint of water will distend the bladder more than three pints, could it take on the round form. Therefore it is dangerous to hold their water long.

The thickness of the Uterus does not differ much between impregnation and the birth; if it alters at all, it grows thicker rather than thinner. It is about half an inch thick. After delivery, it contracts and becomes an inch and a half thick.

Impregnation occasions a laxity in the substance of the Uterus (this is occasioned by an enlargement of the blood vessels), so that it may be stretched to be three inches thick.

The vessels of the Uterus get presently enlarged after conception, from an additional quantity of blood being brought to them. The hypogastric run up from the vagina, and meet the spermatic coming down, anastomosing  
and



and spreading over the Uterus, behind and before, and running through the substance of it. The vessels are largest where the placenta adheres, which is generally at the fundus uteri; some of the veins are large enough to admit the end of the little finger.

All the uterine arteries are very tortuous in their direction, during the time of gestation.

In gestation, the Uterus swells gradually towards the cervix, which, at the full time, is so much dilated as to be obliterated, and the os tincæ to disappear. In labour, the os tincæ becomes large, loose, and open, which all the time of pregnancy is glued up by a mucus, in some measure, like horny jelly.

The muscular fibres of the Uterus cannot be traced on the outside, on account of the large vessels. On the inside, the fibres are circular round the cervix, and there are other circular fibres, having the mouths of the fallopian tubes as centers.

The inner surface of the Uterus corresponds with the ovum, or egg.



The contents of the Uterus are the *Fœtus* and the *Secundines*.

### THE NAVEL-STRING.

I. The *Secundines* consist of the *Navel-string*, which floats in the water between the child and *Placenta*; the *Placenta*, which is a fleshy cake full of vessels, smooth and polished, as it were, on one side, that next the fœtus, and lobulous on the other which sticks to the Uterus, but comes away after birth; and the *Membranes*, that spread from the *Placenta* forming a bag, and inclosing the fœtus, something like the skin within the egg-shell.

This bag contains the fœtus, navel-string, and water; it bursts at the birth, at the orifice of the womb, the water then comes away, and the child follows. Thus, if this membranous bag bursts near the *Placenta*, which may be known on examining it, it is evident that the *Placenta* adhered close to the mouth of the Uterus; in this case, there is danger of fatal flooding.  
But



But there is little or no danger of this when the Placenta adheres high up *in utero*.

The substance of the Secundines is made up of a gelatinous matter, without fat or fibres. It is to serve a temporary purpose only, and is therefore readily made, by the constitution, strong enough to endure nine months.

The Navel-string is composed principally of two arteries, attended by a vein, which run together more or less twisted. Its length cannot be determined, some being longer than others. Some are five feet long, some not two.

The arteries being longer than the vein, are more twisted.

When the Navel-string is very long, it is common to find the child entangled in it. Difficulties in labour are supposed to arise from very long, or very short navel-strings.

That part of the string towards the navel of the child is, generally speaking, most irregularly twisted.

The thickness of the string is very different in different children. Its



texture is gelatinous and ropy, this matter filling the interstices of the vessels. By keeping, it will turn to a fluid, like the jellies of the eye.

The outside of the Navel-string is covered with a coat, a continuation of the membrane of the Placenta.

The arteries, &c. of the Navel-string are defended with this gelatinous, gristly substance, to prevent their being compressed by the motions of the child *in utero*. Dead children, *in utero*, generally happen from compressions of the navel-string, which terminates in the Placenta.

#### THE PLACENTA.

The trunks of the navel arteries anastomose at the Placenta.

The Navel-string is inserted sometimes in the middle of the Placenta, sometimes near the edge, and sometimes on the *very* edge. The insertion is generally the centre of ramification, the navel arteries spreading over the Placenta.

The



The fleshy part of the Placenta is exceedingly vascular, made up principally of arteries and veins branching through it innumerably, and anastomosing with each other. So that, except in little alterations, the same blood is brought back and carried to the child again. The whole system, venal and arterial, may be quite filled by injecting the vein.

The blood of the child and mother do not communicate reciprocally.

#### THE MEMBRANES

are three. 1. *Amnion*. 2. *Chorion*, and 3. *Decidua*.

The Membranes appear to be a continuation and extenuation of the Placenta.

1. The *Amnion* is of a gelatinous texture, very thin, uniform, firm, transparent, and smooth, without fibres. Its inner surface is in contact with the waters; its outer adheres to the other Membranes by a jelly.

It lines all the membranes and Placenta, adhering to the Placenta loosely



ly by this jelly. It is also continued over the Navel-string, quite to the body of the child. On the Navel-string it adheres very firmly. Thus the waters can touch nothing but the Amnion, except the child's body.

2. The *Chorion* is a thin, transparent, Membrane, finer than the Amnion, and, consequently, weaker. There are some fine vessels without blood, that issue from it, and enter, and are lost in the Decidua.

The Chorion is co-extended with the Amnion, and united to it. It adheres to the Placenta firmly. *Note.* The vessels of the Chorion, in quadrupeds, carry red blood, but not in the human body.

3. The *Decidua*, or what is called the *spongy Chorion*, is all rough, being a kind of very tender cellular substance uniting the Placenta to the Uterus, and is a temporary substance only. It grows thicker and thicker, as it approaches the edge of the Placenta; on which account, the Placenta seems to grow thinner and thinner to form the membranes.

The



The Decidua sometimes has vessels large enough to carry red blood, and sometimes such only as will carry serum. It is vascular from the mother.

Part of the Decidua, that is, one lamella of it, adheres to the Uterus, and part, that is, another lamella comes away with the cleanings, or Secundines.

The size of the Placenta is always in proportion to the child. The Placenta adheres to the Uterus by the Decidua. Thus, the Decidua is a complete lining to the Uterus: as the true Chorion lines the inside of the Placenta, the spongy or false Chorion (*i. e.* the Decidua) lines the outside.

In the human body is but one Placenta; in quadrupeds there are many, and in cows, sheep, deer, &c. seventy or eighty, called *Cotyledons*, from their resembling little dishes. These Cotyledons are a fungous excrescence from the Uterus, like a honey-comb, the cells of which are filled with folds of the Chorion, which adhere to them.



These Placentulæ, though different from the human Placenta, are analogous to it. The Placenta, in animals, furrounds the fœtus like a zone.

The Placenta of animals consists of two parts, one of which receives blood from the mother, and it appears, on injection, as if the whole Placenta did; but on examination, we find only half of it injected. The inner-part, connected with the fœtus, will not be injected, by injecting that part next the Uterus. Dr. Hunter conceived the human Placenta to be of this kind. For the human Placenta, besides being vascular, is spongy, and this spongy part will be filled by the vessels of the Uterus. Thus the uterine vessels in the Placenta, and the fœtal vessels in the same, lock in among one another, but do not communicate. The uterine vessels run curling, and terminate in the cellular spongy substance. Wherever, therefore, the Placenta is broken through to come away, an innumerable quantity of fine veins and arteries are torn through.



## II. BODY OF THE CHILD IN UTERO.

THE SIZE OF THE CHILD AT THE  
FULL TIME.

Children will live from four pounds weight to twelve pounds. The common run is about six, seven, or eight pounds. The weight principally depends upon the fat.

The figure and proportion of the child, at the end of the ninth month, are very different from that of a full grown subject. The head is vastly large in proportion to the rest of the body; the cranium large in proportion to the face. It is of the tadpole shape; and this is owing to the size of the brain.

The upper part of the trunk is larger, in proportion to the lower, than in the adult; the same rule is preserved throughout; the upper part prevailing over the lower.

The position of the child *in utero*, is a little different in different women;



but the general position is this: The parts of the child are so disposed, as to be as compact as possible, and to lie in the smallest compass: its head and knees approach each other. The precise situation of hands and feet is undeterminable, as the child is continually moving its limbs *in utero*.

We observe, that the child's head is commonly downwards from the beginning, but sometimes it is otherwise.

The centre of gravity of the child is about the middle of the breast.

Very commonly, in the last months, there is but a small quantity of water in proportion to the child; but in the earlier months, there is a great quantity, so that the child has a great deal of room; and the child being heavier than the water, the heavier or depending part of the child (*i. e.* its head) will be downwards. In the early months, the child will roll about in the water, but near the ninth month, its head will generally be in the most depending part of the uterus, (*i. e.*) in the cervix. In the last months, the child has so



taken its situation, that it cannot be altered.

The child commonly lies upon its side, with its back rather turned forwards. The part of the head that presents itself in natural labour, is the tuberosity of the parietal bone, (*i. e.*) the vertex, where the hair turns. In the birth, the head turns a little to get through the pelvis; thus, one of its ears is forwards. In women with very pendulous bellies, the child will lie almost upon their thighs.

Sometimes, for want of sufficient water in the Uterus, the feet or hands will be pressed out into uncommon forms; but they may be easily be drawn into form again.

The peculiarities of the *fœtus in utero*, among others, are, in the thymus gland, lungs, and state of the blood vessels.

The thymus gland lies from the lower part of the neck to the upper part of the heart, and is divided by a fissure into two lobes, right and left. It is called a gland, though no secretory



duct has been found. From the moment of birth it shrinks, and, as we grow up, is lost.

The lungs are exceedingly vascular and red; when they have received air, they lose their red colour, and before the child has breathed, the lungs will sink in water: when once air has been admitted, they will swim. Before the admission of air, the lungs are very small, in proportion to what they are afterwards. This will declare whether the child was born alive or not. If the lungs are diseased, this observation will not hold always good; or, if the child was dead born, and the mother was to blow down the throat, the lungs would swim, if taken out of the body. If the child is emphysematous, other parts of the viscera will swim as well as the lungs.

Before birth children do not breathe. Circulation is carried on by the placenta and navel-string.

There are two peculiarities in the arterial system, and one in the venal system.

Whereas,



Whereas, in the adult, there are two arteries going from the heart, *viz.* Aorta and pulmonary; in the foetus, the trunk of the pulmonary artery, where the branches go off to the lungs, is continued on in a canal, called *canalis arteriosus*, anastomosing with the aorta descendens; which canal, after birth, contracts into a ligament. Thus all the blood, before, birth is not carried through the lungs.

The other peculiarity is made for the sake of the circulation by the Placenta. Along the navel-string run two arteries, called *umbilical* arteries, but *hypogastric*, at their rise, while in the abdomen of the mother.

The bladder in women with child rises almost as high as the navel; on each side of the bladder run the two arteries from the internal iliacs to the navel, which are continued on to the Placenta. These arteries, after birth, degenerate into cords.

The next thing in the vascular system is, the *vena umbilicalis* entering the navel of the child, and running



ning up into the fissure of the liver, making, after birth, the edge of the falciform ligament. In its passage to the heart, it anastomoses with the left branch of the vena portarum, and thence the blood is carried in ductus venosus, a canal peculiar to the fœtus, between the left lobe of the liver and lobulus pigelii, to the vena cava hepatica sinistra, and thence into vena cava ascendens.

The last peculiarity is in the heart, in the foramen ovale, with its valve; by which we suppose that great part of the blood passes from the right auricle, through the septum of the heart, into the left auricle, without passing first into the right ventricle; the valve preventing the return of the blood into the vena cava.

Thus the foramen ovale, and the canalis arteriosus are designed to prevent the whole of the blood passing through the lungs, which would be unnecessary.

The circulation then in the fœtus, is carried on from the vena cava ascendens,



ascendens, through the foramen ovale, into the vena pulmonalis, which carries it into the left ventricle, and this throws it into the aorta, to be distributed through the body: but the blood which comes down the cava descendens, is diverted by the isthmus of the cava from the foramen ovale, and falls into the right ventricle, which thrusts it into the arteria pulmonalis, from whence part of it is immediately carried by the canalis arteriosus into the aorta.

When the navel-string is tied, this part of the vascular system is obliterated.

*Note.* The arteries and veins leading to the spungy part of the Placenta, are, as soon as they emerge from the Placenta, of so tender a texture, that they are easily broken through, and have not the appearance of vessels.

As the orifice of the Uterus relaxes and opens in labour, the membranes that adhere to the Uterus are forced out at the mouth, as a bag, which, by extension, bursts. Sometimes, in  
the



the membranes tearing from the Uterus, which must be the case as they are forced out, a hæmorrhage will ensue, and may prove fatal. When the child is born, and the Placenta is thrown off (in which case the vessels are naturally torn through), great quantities of blood will follow.

After-pains arise from coagula of blood, sticking to the inside of the Uterus, which the Uterus endeavours to squeeze off.

The Placenta should be left, in a great measure, to come away of itself; for the Uterus, rudely handled, or wounded, has often proved fatal by the effusions of blood following. If, indeed, it does not come away in half an hour, and the Uterus is contracted into a ball, as may be felt in the belly; nature may be helped, by pulling gently by the navel-string, and dilating the orifice of the Uterus with the fingers. Women, after birth, are very faint, as after tapping, owing to the laxity of the abdomen. If the Uterus does not readily contract,



tract, it may be assisted by compressing the belly with the cloaths.

When the Placenta adheres to the Uterus near its orifice, as the mouth dilates, great part of the Placenta will be torn from the Uterus, and forced out of its orifice. In this case the mother will flood much before birth, and is in a very dangerous way. There is no help here but what nature gives, unless it be to draw the child away with the Placenta, and give the womb liberty to contract, before she bleeds to death. This, and the faintness of the mother, which coagulates the blood, will often help to save her life. This done, we compress the belly with cloths, to assist the Uterus in contracting. Much blood will flow, but the mother may be saved.

#### HÆMORRHAGES FROM THE NAVEL- STRING.

While the child hangs to the Navel-string, the string pulsates, and the circulation is carried on as before  
E birth.



birth. In cutting away the child, the string will bleed. If you cut the string without tying it, the child will probably bleed to death.—With respect to quadrupeds, where the Navel-string is not tied, its not bleeding proceeds from the mother's gnawing of the Navel-string afunder.—The tearing of such Navel-string, Dr. Hunter believed, would prevent its bleeding, though he never tried it; as for instance, when a cow drops her calf as she stands, and the string is torn through with the weight of the calf. Dr. Hunter has found that tearing the human Navel-string stops the bleeding; but it always bleeds when cut. The general method is to make two ligatures, and cut between them, though very little blood will follow from the Placenta, if that part of the string is not tied, namely, none but what is in the vessels of the Placenta, (*i. e.*) about two or three ounces; but the part of the string left with the child *must* be tied.



## OF CIRCULATION BETWEEN THE MOTHER AND THE CHILD.

That there is no anastomosing of the arteries and veins in the Placenta of the foetus with the Uterus of the mother, is proved by injections; consequently there can be no communication between the mother and child but by absorption; for after cutting the navel-string, no blood runs from the Placenta but by the veins, and such only as is in the vessels; whereas, was there a communication, the mother would bleed to death by the navel-string.

The child is nourished by the navel-string from the Placenta, as a plant from its root in water. The venal system, by some absorbing power, receives from the cellular substance of the Placenta, such juices from the mother as are necessary to support life; in the same manner as the plant receives juices from its roots.

In quadrupeds, there is a duct from the bladder of the foetus to the secun-



dines, called the urachus, carrying the urine of the fœtus into a bag called allantois: but this is never found in the human fœtus.

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Liquor amnii is the water in which the child swims: its quantity is different at different times. Till near the time of labour, it is a clear, bright fluid; but near labour, takes on a yellowish colour, and is more foul. Sometimes it is very foul, from the child's having a stool before birth. In this case the *meconium*, or the stool of the child, makes it greenish.

This liquor is never ropy, but, like other water, of a saltish taste, and on evaporation gives a quantity of sea-salt, which arises from what the mother takes and mixes with her blood, and is here deposited. It adds nothing to the nourishment of the child, but serves to keep the Uterus properly distended, that the tender body of the child may not be hurt by pressure. As the child grows stronger and larger, this liquor is, in a great measure, absorbed.



OF THE FOETUS AND ITS INVOLUCRA  
IN THE FIRST MONTHS.

## THE SECOND AND THIRD MONTHS.

In the second month, the navel-string is very short, and not twisted. Earlier there is no navel-string, but the navel of the child is close to the Placenta. As the child grows larger, the string grows longer and longer.

The head of the child, at this time, is as large as the whole body, the eyes are like two black dots (this is the iris that is seen; the mouth and ears may be seen with a glass), and the arms and legs begin to bud. Glasses shews us, that the limbs are now formed, but not detached from the body. At this time, it is as big as a horse-bean, that is, about the seventh week. When very little older, the arms and legs are detached, but very small, and the chrystaline humour of the eyes may be seen.

The outside of the Chorion, in the second month, is shaggy with floating vessels,



vessels, like an unravelled Placenta. It may then be said to be all Placenta. In the future months, these floating vessels shrink, and are lost in the opake substance of the false Chorion or Decidua.

There is a membrane that sometimes comes from a woman, that has something of the lace appearance on the inside, but whose outside is rough. This indicates that the woman has either miscarried, or will inevitably miscarry. It is a part of the Decidua that lines and clings close to the Uterus, except where the Placenta adheres. This is never found but in the second, third, fourth, or fifth months. It will be bloody when it comes away; but, when washed, it may be readily known. This lace-like Decidua, is the membrane next the Uterus, between that and the other Decidua. It is a loose, tender efflorescence, that falls from the Uterus in miscarriages, or when the child is born. It comes away at birth with the secundines, though it is a membrane



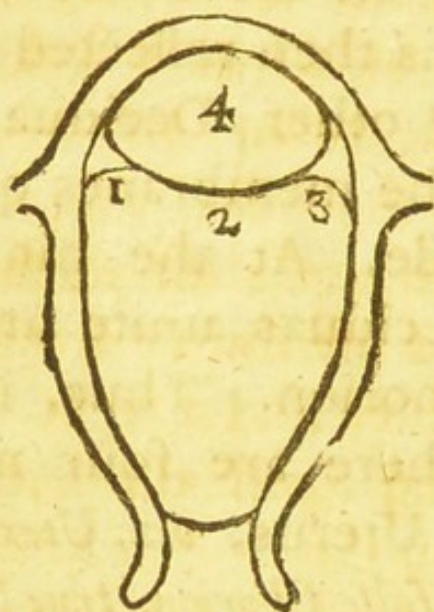
brane of the Uterus. This membrane, at the edge of the Placenta, divides into two strata, one of which passes between the Placenta and the Uterus, dipping its vessels into the uterine part of the Placenta, the other passes a little way on the inside of the Placenta, and is then reflected back, and round the other Decidua; that is, round all the membranes quite to the opposite side. At the ninth month, the two Deciduas unite and become the false Chorion. Thus, in the early months, there are four membranes within the Uterus, *viz. Uterine Decidua, Decidua or false Chorion, true Chorion, and Amnion.* The last three are membranes of the foetus; the first, that of the womb which lines it, before the ovum is lodged in it.

#### THE FIRST MONTH.

The first appearance of conception is at ten or twelve days, in the cavity of the Uterus, and is a jelly. At this time, the fundus uteri begins to be shaggy, having a fine down upon it, begin-



beginning to form the secundines. The following figure describes the ovum, lodged within the Uterus, and the Uterine Decidua, which it forces down, as it grows in bulk, to meet the lower part of the same membrane.



Explanation of the Figure.

4. The ovum.

1, 2, 3, The Decidua forced down.

Dr. Hunter was of opinion, that conception is brought about by the male and female seed meeting in the cavity of the Uterus, where they unite and form a jelly, into which the Uterus throws out an efflorescence, and makes a compound which forms a membrane; and that the Chorion

is



is an invifible bag, that comes into the Uterus with the female feed. Thus the Chorion lies between the Uterus, and the membrane of the Uterus made by the femina.

*Note.* 'Tis the fundus uteri only that contains the fœtus.

Whilst there is no Navel-string, but while the belly of the fœtus is tied close to the Placenta, there is a little bag containing a fluid, hanging at the navel of the child, by a peduncle, with an artery and a vein. This bag is placed between the Amnion and the Chorion.

[Thus it appears, that the Amnion and Chorion are not in contact with each other. The Amnion lies close round the fœtus, the Chorion is at some distance from it, and the interstice filled with a gelatinous liquor.]

This bag of fluid is loft in the future months. Its use is not known.

The corpus luteum, after conception, has a cavity in it, made by the ovum's leaving it. If there are two children, there are two corpora lutei.



## ON MISCARRIAGE.

A woman with child may miscarry at any time, as the fruit of a tree may blight and fall at any time; but as there is a particular period when fruit is apt to blight, so is there a period when the foetus is liable to die. It must then come away by miscarriage.

Most women miscarry at the sixth or seventh week, which begins with a show or flooding, and some pain before. After flooding, pain returns, and the miscarriage comes away, and in a week or two it is over.

Sometimes the symptoms of miscarriage will go on to the sixth, seventh, or eighth month, but in this case, the foetus is no bigger than a horse-bean, that is, the foetus of the seventh week; the seventh week being generally the time when the child blights and dies, and yet the mother shall have all the regular symptoms as if things were going on well, till the eleventh or twelfth week, when  
nature



nature separates the child, and then the symptoms of miscarriage come on. This sometimes will not happen till the eighth month, though the child died at the seventh week.

Sometimes the child will dissolve, but in opening the bag, the Navel-string may be found, and the curd of the child discovered.

Bleeding or confinement is of very little use at the eighth or ninth week; but if any caution is taken, it should be at the fifth or sixth week.

#### THE FUNCTIONS OF THE UTERUS IN WOMEN NOT WITH CHILD.

The Catamenia or Menfes, come on with puberty, about the age of fifteen, sixteen, or seventeen. Sooner in some countries; consequently, some women will have children two or three years earlier than others.

Women may have children before they have their Menfes. Dr. Hunter knew instances of this, but it very rarely happens.



So women sometimes will have no return of their Menfes between child and child.

The Menfes, in this country, go off at about forty-five years of age, or a little sooner or later. Those who begin late, generally menstruate late; those who menstruate early, leave off early.

As to quantity, some discharge more than others. Some will discharge for two days only; some for seven or eight days; in the whole, generally about seven or eight ounces in healthy persons. Consumptive women have no Menfes. They do not menstruate, because they are ill. Thus, cessation, or irregularity of Menfes, is the *effect* of illness, not the *cause*.

The source of the Menfes is from the vessels at the fundus uteri, not from the vagina.

A full bearing down is when the os uteri is forced down through the vagina. It will shew itself sometimes out of the body. In this case, as it is united



united to the end of the vagina, the vagina must be turned inside out.

The cause of the Catamenia is not understood. It is supposed, that when the woman is able to bear children, her chylo-poetic viscera are disposed to make more blood than is necessary for herself, and therefore, the redundancy must be thrown off. Now, other animals do not menstruate (except it be one sort of the monkey tribe), and yet their viscera dispose themselves to make up blood for the foetus.

The Menfes have no connexion with the moon. They are generally once a month; but some women have them once in three weeks, others only once in five. They are generally interrupted after conception. Women will never menstruate regularly when with child.

Many will be regular when giving suck; others will be obstructed for three or four months: however, the greater number of women are obstructed the whole time of suckling, though it be fourteen or fifteen months.



## ON GENERATION.

As to generation, Dr. Hunter refers to books, it has never been rightly made out.

Aristotle says, that the male and female co-operate, and make a young one by the femina of the two: the female semen affording the nourishment, the male containing the animal potentially, without animalcula.

All the philosophers since have been in the dark, till Aquapendente, and Harvey who published a quarto volume on the subject. He says, after examining animals at all times, that the male semen does not enter the Uterus, but that it appears, that the womb has a power from God of making the animal immediately after Coit; which Coit, says he, gives the Uterus that power; and further, the Uterus makes the child, as the ventricles of the brain make thought. Thus it appears, that Harvey is as much in the dark as others. He, however, found, that during the time  
of



of the heat of the animal for the male, the Uterus is very fenfibly changed, from the great quantity of blood brought to it.

After this, the thought arofe of the female egg impregnated by the male.

After this, again, Lewenhoeck propagated the opinion of the animalcula inherent in the male feed.

Upon the whole, the theory of generation is unintelligible.

With refpect to monfters, Dr. Hunter was of opinion, that they were formed *ab origine*, not brought about by any compreffion, or any thing accidentally taken from them, or added to them. And he took up this opinion from obfervation.

He was of opinion alfo, that the foetus is nourifhed entirely by the Navel-fting.

#### ON SOME DISEASES OF WOMEN.

Every now and then, the hymen is unperforated. This is fometimes not difcovered till the age of puberty, when



when it stops the discharge of the Menfes, and occasions complaints. In this case, the operation is to be made by a crucial incision.

When young women are supposed to begin to menstruate, and do not, though they are sixteen years old, but complain of head-achs, &c. the Menfes must not be attended to, but their health must be amended, by bleeding, purging, &c. and this done, when well, the Menfes will follow of course.

In the time of menstruating, women will have them sometimes too much, sometimes too little, and sometimes with great uterine pain, (*i. e.*) pain in the lower part of the joining of the back, all round the pelvis, and down in the thighs, and this attended with head aches, pain in the breast, &c. attend to this woman's general health, make her well, and the Menfes will of course become regular. The Uterus is under the influence of the nerves, consequently strengthening things will be of service, such as cold and sea-bathing, steel, bark, riding  
on



on horse-back, steel waters, particularly those of Tunbridge. If the Menfes are irregular any way, either too much, or too little, the Tunbridge waters are beneficial, as they establish the nerves and the health, and then the Menfes get regular of course. Very few things in the generality of women, either very sensibly promote or lessen the menstruous discharge: but particular cases will happen sometimes to destroy this general maxim.

When the Menfes are going off, it will be absurd to try any means of continuing them, or to bleed occasionally by way of substitute. Nature should be left to herself. If the woman is unwell, the only attention should be to her general health. Attributing disorders to the ceasing of the Menfes is idle and ignorant.

The fluor albus is a common complaint with delicate women in this kingdom; if moderate, 'tis no disease, but harmless, if the woman be  
G cleanly;



cleanly; but if immoderate, it should be remedied.

It is generally attended with a relaxed habit, weak back, and uterine pain in the back. The discharge here is the *effect* of weakness, not the *cause*. If the woman is unhappy, the fluor albus increases. So in moist muggy weather it is worse; in dry cheerful weather, better. It arises from weakness; of course, the only cure is to strengthen the patient by bark, steel, cold bathing, &c. No styptics make a lasting cure, they only cure for the present; but strengthening the body will radically cure. Wash the part with green tea as a styptic.

Sometimes in a uterine discharge, something sharp is carried off, and if the discharge is stopped, the woman grows ill.

Procidentia uteri is, when the Uterus is very low down in the pelvis. Its first appearance is an attempt to invert the vagina. It will sometimes push quite out of the body, so that the tumour



mour which is made by the bladder and Uterus, will be covered by the vagina. The bladder, in this case, will be above, and the os tincæ at the bottom. In these bearings down, the woman cannot make water but by comprefure. This happens in weak women. Nothing can be done here, but by bracing the patient, or keeping up the womb with a peffary, or wooden ring, introduced into the vagina, fo large as to require fome little force to prefs it in. This will keep the womb in its place. The peffary made of fpunge is eafiest to be worn, and it may be taken out at night and kept clean.

#### ON PREGNANCY,

1. Cæteris paribus, children of prolific parents will be moft likely to have children.

2. Those who are in uterine health, and who have their Menfes regular.

3. Such as are in good, general health, leading a sober temperate life in the country.



## SYMPTOMS OF CONCEPTION.

1. Obstruction of Menfes.

2. Sicknefs at ftomach, (*i. e.*) morning ficknefs, when they rife. Sometimes women will only have a great naufea ; often a great vomiting.

3. Fulnefs and tendernefs of the breasts.

There are many others lefs certain ; as,

1. Uncommon fleepinefs, particularly after eating.

2. Heat. A fort of fever, with the fleft hot, and a defire to be cool.

3. Heart-burn. This is very common.

4. Colicky complaints, and little purgings.

5. Longings: but this leaft in fenfible women. Thefe happen from the fym-  
pathy of the Uterus with the nerves,  
which will affect the ftomach, that  
being very nervous.

Women are not fenfibly bigger, till  
the end of the third month, nor are  
their breasts much fuller.

About



About the time that they are sensibly bigger, they will quicken; but sometimes not till the twentieth, or twenty-second week.

The motion of the child comes on gradually. It cannot move its limbs in utero, as when born. Its motion is, at first, in jerks.

About the fourth or fifth month, there is generally a watery milk in the breasts of women, and generally, about this time, the oppressive sickness goes off, and the nipple gets a brown colour.

We may judge whether a woman is with child, by introducing the finger into the vagina, and feeling (round the os tinæ) the bulk of the Uterus. If pregnant, the Uterus feels fixed, if not, it is loose. This power of judging must be attained by experience.

#### ON THE TIME OF RECKONING.

The generality of women, living with their husbands, cannot tell the precise time of conception, consequently, they reckon from the obstruction



struction of the Menfes; some from the last Menfes; some from a fortnight after.

They generally go nine calendar months. Dr. Hunter reckoned always three months back from the time the woman was last regular, allowing one fortnight after the Menfes for conception.

A woman may bear a child, to live, any time between seven and nine months.

Children born at eight months, stand a better chance of living than such as are born at seven. In short, the longer they are in utero, the stronger they are. None will live, born at six months and a half. Indeed, once Dr. Hunter knew a child born at six months and a half, that lived fourteen months; but it was a puny, frightful object. Thus, none can be supposed to live above a day or two, if born under seven months.

The law of England says, a child shall inherit, if born within eleven months after the death of its father; but



but this is, if corroborating circumstances appear in favour of the mother. The law of France allow eleven months and a half.

Dr. Hunter was convinced, that he saw a healthy child, of a healthy parent, born after ten months after conception.

Breeding women should live nearly as at another time, taking moderate air, exercise, food, company, &c.

Any particular complaint should be managed also, as at another time. For sickness at stomach, which is natural to the woman's situation, nothing should be done. Gentle purging will give most relief; such as lenitive electuary, fenna, &c. to keep the body open. If the heart-burn is troublesome, try roasted coffee-beans, magnesia, &c. If feverish, bleed her;—all as at another time; but avoid all great bustles, or any large evacuations.



ON THE GENERAL MANAGEMENT  
OF WOMEN.

## IN MISCARRIAGE.

When the woman is taken ill, nothing should be done; only, if she appears too full, with a head-ach, or bleeding at the nose, take a little blood away, but without any hopes of preventing a miscarriage. This must not be done, if the patient be nervous.

No application should be used to stop flooding. Let the patient grow faint, and the flooding will stop of course. Give no caudle, or cordials, lest the patient bleed again.

Women are liable to a retroversion of the Uterus, owing to the weight of the bladder on the neck of the Uterus, by which means the fundus is turned forwards and downwards, and if left to itself, the patient will inevitably die. She cannot make water. In this case, draw off the urine; give a clyster to empty the bowels;



this done, lay the patient's shoulders low, her pelvis high, and with the fingers in the vagina, or rectum, raise up the fundus uteri, and you will easily put it into its place, if it is not very bulky.

#### IN LYING-IN.

Premature labours, at seven or eight months, are to be managed the same as at nine months.

The first symptom of labour is uterine pain. Some women have it more in the back, some more at the bottom of the belly, but principally all over, and in the thighs. They have these pains frequently during the last month, but they come on most, approaching labour. They will often come on and go off again. If these pains are attended with a slimy show, or discharge, it is the jelly that closed the mouth of the womb. If the waters break, labour will come on in less than forty-eight hours; though it has sometimes happened

H

not



not for a fortnight afterwards; but this is rarely the case.

After this, if there be a sensible bearing down, labour is begun. But should this continue any time, it must not be called *labour*, but *preparatory pains*.

If women bear their first child late in life, their labour pains will be long; perhaps forty-eight hours.

Labours should be treated naturally, (*i. e.*) left almost to nature. Therefore, when pains come on, let the woman amuse herself by walking, sitting, &c. When the womb dilates, the grinding pains will be soon over, and the forcing pains succeed. Then the woman should be put to bed, that she may be prepared for the event. But let her not go to bed, till the forcing pains are come, or coming, on.

Things should be contrived to keep the woman dry. The common skirts are bad things; a double sheet is best, and put between her and her shift.



shift. Let a sheet also be put over her, and pinned to the upper sheet, and turned over the upper cloaths at the side of the bed. This will direct the hands of the midwife, and may readily be taken away if wet. She must be kept quite dry.

Cold must be prevented getting to the Uterus. Thus, by letting the patient lie with her back to you, doing what is to be done at the side of the bed, her legs not open, but the perineum only exposed, you prevent much cold air getting to her. The child is to be taken away behind.

Nothing is so good as inventing a number of things to say, to keep the woman patient, and support her spirits.

Holding and rubbing the back amuses the pain. When the pains are coming on, the midwife has little to do than to watch; but when the pains are strong, and the child in its passage, a finger or two should be gently applied to dilate the passage.



The grinding pains are owing to the cervix uteri resisting dilatation. This may be helped by art. By lifting the mouth of the Uterus over the child's head, you will bring on a forcing pain, and the child comes on.

When the child's head is large, and at the vulva, and violent pains come on, no hurry should be used; for if you help to dilate, the perineum and rectum may be torn. The woman should be advised to patience; just, at last, she should take all the time she can, and rather resist the pains than bear down. The greatest stretch is, when the child's forehead is coming into the world.

If, in tearing, the laceration does not run far up into the rectum, there will be little danger; but if it does, it leaves an incurable wound, and the woman miserable all her life. Lacerated wounds are not apt to grow together; sewing them up, therefore, is useless; they must be left to suppurate.

When



When the child is in the world, cover it with a cloth, tie the Navel-string, and cut it. Press the abdomen of the woman, by tucking the cloaths tight round her, to help the Uterus to contract. Feel if there is another child, if not put warm cloths to the mother. After ten minutes, feel along the Navel-string, if the Placenta is in reach; if not, wait a little: we may pull the Navel-string, but it must be very gently, lest we should bring on a flooding, or lest the membranes should not come away with the Placenta.

If the Placenta be left to itself, it will not come away perhaps for four or five days. Dr. Hunter was of opinion, it should not be left above an hour. But, it will always come away by nature, or a little assistance.

Some women are sick after labour; a basin, therefore, should be always ready, as the sickness is very sudden.

Purgings frequently attend labour: a good symptom. Women should be  
told



told this, and that it will stop after delivery.

Shiverings often attend labours, and that before every pain. This is not a bad symptom. If the woman is cold, give her a little warm caudle.

Violent cramps sometimes will attend labours. These go off after delivery.

Faintness frequently attends the grinding pains; but this goes off with the forcing pains.

Considerable floodings sometimes attend labours. This is alarming. In this case, if the waters are not broke, we break them; then the Uterus contracts, and the flooding often stops.

It is a bad practice to give women too many warm things to drink; they will be always strong enough to go through it. Give no cordials, but keep the patient cool. Administer a little gruel, or toast and water.

After the Placenta is come away, and the labour finished, women, with their first child, or if the child is large,



large, will complain of forenefs; no matter, it will go off in half an hour.

If they are faint afterwards, let them lie fo. If they must be refreshed, give them a bit of bread dipped in cold port wine, or claret, and a tea spoonful of wine after it.

The child should now be examined, to see if it be perfect. Then let it be washed and dressed. The mother now may take a little warm broth, or warm wine and water; caudle will often load the stomach, and make women sick.

In about an hour after delivery, the nurse may shift her; then advise her to take some little nourishment, and go to sleep.

#### ON DIFFICULT LABOURS.

In the beginning, leave nature to herself, but help a little by dilating. There is no danger in being in strong labour two days, and two nights, These cases, in general, recover best,



owing to the woman's being alarmed, and doing all that is right. In easy cases, women are apt to take freedoms, which too often bring on fevers.

If the child does not present right, but comes with its face forwards; leave this to nature, it will be only more painful to the mother; never think of turning the child; if you endeavour to save the mother's pain, you hurt the child.

If a child presents by its breech, leave it also to nature, with only a little gentle assistance: the labour will be more severe, but all will do well. It is a bad practice to think of making any alteration in the situation of the child, as it will injure the Uterus, and may prove fatal to both mother and child; as if the legs of the child come first, and the head is left but a few minutes in the passage, the Navel-string will probably be pressed, and by that means, the child will be suffocated. Let it come by the breech, and all will be well.

If



If the hand presents, never pull by the hand, if you do, you destroy the birth. In this case, the child must be turned by introducing the hand, catching hold of the feet, and bringing the feet down. This is the only cross birth. This introduction of the hand, must not be done too late, nor too soon, but rather sooner than later, lest the Uterus should be much contracted. The hand should be introduced when the woman is free from pain, stealing in slowly. When pain comes on, keep the hand quiet; when the bulk of the hand is within the vulva; the mother is easy. The operation must be done, as if the mother was asleep, and you would not wake her. If she stirs, (*i. e.*) if a pain comes on, keep the hand still till she is composed again, then steal on.

If the Navel-string presents, it may be pressed, and kill the child. However, this should be left to nature. The child will, in this case, stand an equal chance of its life, and if you offer to turn it, you lessen that chance.



If violent floodings come on, from the Placenta's adhering near the os uteri, hasten the labour by stretching the os uteri, or break the waters, and by introducing the hand, take hold of the child's feet, and bring it away: but this is a fatal case.

So are convulsions. These will take away the mother's senses; she soon recovers, and relapses again. If labour comes on at this senseless time, nature will frequently do its office, and kindly. Labour should here be hastened. After it is over, the convulsions will cease, if not, they will often prove fatal. In this case, an equal number will die. Women should be largely bled when the convulsion first takes them, to ease the brain by a derivation of blood there, treating it as an apoplectic case. This is owing to a great nervous uterine irritation, not from a dead child; therefore, when labour is over, the convulsion ceases. Sometimes a fit or two will continue afterwards, but without danger. They should have a grain of opiate given them to stupify the nerves;



nerves; nothing more can be done. After this, you may bleed again, if necessary. The sooner the labour is over the better.

When a woman's pains grow less and less, and the head is properly presented, the labour may be well finished by the forceps, which answers the purpose of hands; but this should be done very cautiously, and gently. For one woman and child that the forceps has saved, it has destroyed ten.

When a child cannot be brought away with any management, owing to the largeness of the head, and the weakness of the mother, the crotchet must be used, to open the child's head; but this, in common practice, will not occur once in six or seven years. This should never be done without the advice of a fresh person. The operator may be low-spirited from fatigue, and may not judge properly.

In the case of twins, generally speaking, the pains come on, and bring the other, half an hour after the first; but every now and then the pains will



will not come on at all; in this case, introduce the hand, break the waters, and bring away the child by the feet; it will be small, and no danger will ensue.

A dead child is to be managed as a living one. But when you are *sure* the child is dead, if you can save the mother any pains by opening the child's head, and bringing it away, you may.

Should the womb be ruptured, as it sometimes is by nature, and sometimes by turning the child; nothing can be done.

If the Uterus is inverted, as often happens, instantly take off the Placenta, and push the womb into the abdomen, following it with the hand quite to the top. If this be not instantly done, it will contract, and cannot be put back, and the woman will die two or three years after dropical, from a continual drain. This inversion happens from pulling away the Placenta hastily by the Navel-string.

Sometimes an extra uterine foetus will be found in the fallopian tubes,  
or



or some other pouch, but not in the Uterus. Nothing here can be done.

When a mother is to be a nurse, the sooner the child is put to the breast, the better. Within the twenty-four hours she will bear the drawing best.

If after-pains are *very* violent, give an opiate; but not else.

Suppression of urine should be prevented by drawing it off, either before labour, or after.

When the bladder bursts, 'tis incurable.

The child-bed fever, before the coming of the milk, is always dangerous. Every great fever in child-bed will generally destroy the mother. Such as the small-pox, &c.

Madness in lyings in, does well, in general.

After child-birth, suppurations will sometimes burst out about the groin. The greatest number of these women are lost.

Swellings in the limbs, after lying-in, always do very well. Bleed in  
this



this case, foment and rub the part well with oil.

Other disorders are to be managed, as at other times.

Marks of children are in no ways dependent on the imagination of the mother. They rise from other causes.

Jaundice, in children, goes off gradually. No occasion to do any thing. A little manna purge, if any thing.

Swelling of breasts require nothing.

Red gum, and white gum, are healthful. Do nothing.

Nothing can be done for sore eyes. but to keep them clean with breast milk.

Gripes, to children, are common. Give them gentle physic.

Scabby face. Nothing will do good here. It will heal of itself.

The best time to wean, is from seven to ten months.

Wet nurses are adviseable.

The rickets are to be cured by the cold bath, &c.



In the choice of a wet nurse, employ one that is experienced, whose breasts are full of milk, and that does not menstruate when she suckles, as this gripes the child.

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For the benefit of FEMALE PRACTITIONERS, the following few Terms in MIDWIFERY are explained.

<i>Abdomen,</i>	- -	The belly.
<i>Cæteris paribus,</i>		All other things being alike.
<i>Cervix uteri,</i>		The neck of the womb.
<i>Chorion,</i>	- -	A membrane of the cleansings.
<i>Crochet,</i>	- -	An instrument to open the head of the child.
<i>Fluor Albus,</i>	-	The whites.
<i>Fœtus,</i>	- -	The child.
<i>Forceps,</i>	- -	An instrument to take hold of the child's head.
<i>Fundus Uteri,</i>		The bottom of the womb.
<i>Hæmorrhages,</i>		Bleedings.
<i>Nausea,</i>	- -	Sickness at stomach.
<i>Os tincæ,</i>	}	The mouth of the womb.
<i>Os uteri,</i>		
<i>Pelvis,</i>	- -	The hips and their contents.

*Perineum,*



- Perineum*, - - - The under part of the backside.  
*Procidentia Uteri*, A falling down, or projection  
of the womb into the vagina.  
*Placenta*, - - - Part of the cleanings.  
*Rectum*, - - - The passage through which the  
excrements are voided.  
*Secundines*, - - - The cleanings.  
*Vagina*, - - - The sheath, or passage to the  
womb.  
*Vulva*, - - - The mouth of the vagina or  
passage to the womb.  
*Uterus*, - - - The womb.

F I N I S.

