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THE WRITINGS OF MAURICEAU.

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[Read before the Johns Hopkins Hospital Historical Society, April 8, 1895.]

François Mauriceau, Master of Arts, an ancient provost and guard of the company of sworn Master Surgeons of the City of Paris (for these are the titles which follow his name on the first page of his principal work), was born in the year 1637 and died in 1709. The accounts which we have of his life are very meagre, and it is quite possible that had he not lived at a time when the number of illustrious names added to the history of medicine was very small, he would have been almost unknown to posterity. Levret, however, says that Mauriceau "drew from the cradle" the art of midwifery.

In any case, when considering the principal works on midwifery and on the diseases of women which appeared during the 17th and 18th centuries, it would seem that his writings could hardly be passed over in silence.

Besides his 283 aphorisms, to some of which I shall refer later, he wrote a work on midwifery which passed through many editions. The title as it appears in an English translation by one Hugh Chamberlen, is as follows: "The Accomplisht Midwife, treating of the diseases of women with child and in child-bearing, and also the best directions how to help them in natural and unnatural labor, with fit remedies for the several indispositions of newly born babes, illustrated with divers fair figures and very correctly graven in copper. A work much more perfect than any yet extant in English,

being very necessary for all teeming women, as also for physicians."

The edition which I have been reading was published in 1682, but the book appeared first in an incomplete form, as the author himself tells us, in 1668. It is dedicated with a great many stereotyped polite phrases to Antoine Daquin, who was the chief physician of Louis XIV. After the dedication we have the usual page of epigrams, one to the envious critic, another to the jealous ignoramus, both of which are by the author. The third, written by Dulaurens, is in praise of "François Mauriceau, the writer of a most useful book on child-birth."

In the preface the reader is recommended to approach the study of the work in a teachable spirit, for the author says, "As purgatives though excellent in themselves will not profit a body that has not been prepared for them, so books cannot instruct those who are not ready to receive instruction." He then goes on to compare the authors who had written on this subject before his time to geographers who have never seen the countries which they describe, and adduces his sixteen years practical experience as a proof that he knows of what he writes.

Possibly as a sort of bribe to his readers, he promises that in the last part he will reveal all the most profound secrets of the art, and while humbly acknowledging that there may be

some chaff among the wheat, he thinks that those who look for it will find in the book a sufficiency of good grain to reward them for their labors.

The work is divided into three books, which are preceded by an anatomical treatise on the female generative organs.

The first book treats of the different diseases of pregnant women from the time of conception to that of labor; the second book deals with labor itself; the third is devoted to a consideration of the puerperal state, and to the diseases of newly-born infants.

Perhaps the most striking thing about his anatomy is the mistake (which he persists in emphasizing more than once) in calling the ovarian ligaments "the true ejaculatory vessels which go from the testicles to the uterus." The Fallopian tubes also appear in his figures, but he takes pains to describe them as "the vessels which many esteem to be the only true ejaculatory vessels described by Fallopius under the name of tubes, or trumpets."

To the ovaries he ascribes functions analogous to those of the testicles in the male, but he says that they are formed differently, being made up of vesicles "which some moderns concede to be eggs without shells, which, after being fructified by coitus, some days later fall into the uterus."

He especially criticises the views of Graaf and his followers for saying that the human female possesses ova, and adds, "This sentiment ought not to be followed by other wise men for the reasons as well known to them as to me."

He incidentally mentions ovarian cysts and believes them to be due to some congenital malformation of the ovaries.

As I said just now, he believes that the ovarian ligaments are the real vasa deferentia because they go straight from the ovary to the uterus. The fact that they are solid tubes and not canals does not seem to have caused him any difficulty, since he argues that this will not at all prevent the sperm from trickling through. Believing as he did most thoroughly that the female contributes semen as well as the male, and being utterly opposed to the idea of the existence of ova, he could not see how the fluid could pass from the ovaries to the fallopian tubes, "seeing that the two are not connected."

He divides the uterus into four parts, the body, the internal opening, by which he meant the external os, the neck of the uterus or vagina, and the external orifice or vulva.

He corrects the measurements of Galen and other anatomists, and says that the length of the uterus from the vulva is not four but eight inches. He condemns Bartholini for saying that the uterus during pregnancy becomes thicker as well as longer, and quotes Galen and Vesalius to show that the pregnant uterus develops at the expense of the thickness of the walls, just as happens when the bladder expands as it fills with urine.

He did not understand that during pregnancy there is an actual increase in the number of muscular fibres in the uterus. He says that if an ewe be opened in the last days of pregnancy the fœtus can be seen through the transparent walls of the uterus.

In aphorism xxiv Mauriceau states that the vessels in the uterus develop in size during pregnancy. "If this be so," says Boivin, "and if the calibre of the vessels is aug-

mented, why should the walls of the uterus become thinner? As a matter of fact the uterus loses little or nothing in thickness; this is a phenomenon of pregnancy which is most astonishing and admirable. It is true that the uterus can become thin at certain portions, especially those which are in contact with a prominent angle of the pelvis. Many causes may give rise to rupture of the uterus, and the viscus is not always distended in proportion to the size of the child."

Believing that the menstrual fluid was meant to nourish the child, he thought that blood came from pregnant women, whenever the supply to the uterus was more than was required to nourish the fœtus. He accounts in this way for the exceptional instances of menstruation during pregnancy.

He held that the uterus was supplied to a very great extent by the sixth pair of cranial nerves, which also went to the stomach, and thus finds an explanation for the various gastric disturbances occurring in pregnancy.

He bases the signs of virginity on the disposition of the four caruncule, and says that "the membrane which some describe as lying within and across the vagina, and call the hymen," is pathological. He ridicules the idea that it is always possible to tell for certain as to the virginity of a woman, and quotes in support of his position certain verses from Proverbs, chapter xxx, interpreting them perhaps correctly, but upon this point I must plead ignorance.

He had evidently dissected animals, since he describes the uterus of some as containing several different cavities. Aphorism xx says "the uterus of a woman possesses only one cavity, and is different from that of most other animals, in which this organ possesses several small cells." Boivin's footnote is as follows: "Several cases of double uterus in women have been reported; I saw at an autopsy of a newly-born female infant a double uterus; each uterus possessed an orifice corresponding to a separate vagina; these two vaginæ ran together and terminated in separate orifices at the inferior commissure of the vulva; the same infant had several supernumerary fingers and toes."

The semen of a woman he holds to be an extract of the purest arterial blood elaborated in the ovary and containing a quintessence of all the parts of the body. He is highly indignant with those who deem the semen an excrement, when in reality it is the "master fluid of the body."

On generation he says, "Sperm from the male and female is necessary for generation, and both secretions must be prolific, that is, they must contain the idea and form of all parts of the body."

Aphorism lxiv says, "Sterility is usually due to some imperfection in the woman; for thirty sterile women one sees only one sterile male."

In speaking of sterility he lays much stress upon atresia as a cause of this condition, and recommends operation if constitutional measures are not successful.

He considers birth-marks to be due to some malformation in the blood-vessels, and ridicules the idea that the so-called strawberry marks are caused by drinking red wine during pregnancy, since "it is well known," he says, "that such things are seen in countries where nothing but white wine is taken."

He mentions an interesting case of a pregnant woman who nursed a child who had smallpox and afterwards bore an infant who had also the marks of smallpox. He fails to explain this phenomenon satisfactorily, but does not believe that it was simply due to mental emotion on the part of the mother.

Speaking of the signs of conception, he considers a slight pain in the region of the navel as of importance, and thinks that it is caused by tension upon the urachus.

The flattening of the abdomen in the first few weeks of pregnancy he attributes to the loss of flesh at this time.

He maintains that dropsy, although it may be mistaken for pregnancy, does not necessarily exclude the latter condition, and quotes the case of a woman who had dropsy for nine years and yet bore four children during this time. He speaks of the "incomparable science" of Democritus, who, judging only from the expression of the face, on one day saluted a girl as virgin and on the next day as woman, not knowing that in the interval she had been seduced; but later on he modifies this expression and says that it was probably more of a lucky hit on the part of Democritus than a scientific diagnosis.

He questions the statement of Hippocrates that while the male child is fully formed at the end of thirty days, in the case of a female child forty-two days are necessary, and thinks that both sexes receive a perfect form within the same period of time.

In aphorism lxxviii he says that "the whole body of the fœtus is formed from the first day of conception, and is then not larger than a millet seed; the remaining time of pregnancy serves only to give it the necessary growth."

He does not agree with Aristotle, who says "that the heart is formed first, but rather with Hippocrates, who says that no starting-point can be distinguished in the fœtus any more than in a circle which has no beginning."

He criticises Tertullian, who thought that the soul was evolved from certain essences in the semen, and, like a good churchman, believes that "the soul comes from without, and is fixed in the body of the child after it is fully formed."

The question of extra-uterine pregnancy gives him another opportunity for inveighing against Graaf and Fallopius. He gives an account of a case which was reported by a surgeon named Vassal. He claims to have made a drawing of the fresh specimen, asserting that the one usually accepted was made a month later, when the parts were much decomposed and mutilated by handling. According to his account the case was strictly speaking not one of extra-uterine pregnancy, but the fœtus had developed in a part of the uterus which had bulged out at the side, forming a kind of hernia. The picture which he gives would seem to favor his view if we could be quite sure that the round ligament was in the position in which he represents it to be (Fig. II).

Naturally on the subject of tubal pregnancy we should feel more inclined to take the views of men who knew which were the real tubes, and as we have said, on this point Mauriceau was not only mistaken, but has taken great pains to make it quite clear to us that he was in error.

In aphorism xxi he refers to this again. "The generation of the infant can very well take place near one of the corners

of the uterus where the ejaculatory vas deferens called the tuba joins it, but it is impossible that generation should take place in the vessel itself." Boivin's note is as follows: "Proofs are not wanting that pregnancy has taken place both in the tube referred to by Mauriceau and in the ovary, and that the infant has developed there."

He gives various signs for diagnosing the sex of the fœtus in utero, but concludes that it is impossible to make a certain diagnosis. On this point he refers to several old superstitions, such as the one which taught that if conception takes place with the waxing of the moon a male child is engendered, whereas from a conception when the moon is waning a female child is to be expected.

He thinks that we can be more certain as to the number of children which a woman will probably bear at one time. Although he says that four is generally the limit, he reports many instances in which more were born at one birth, and until the number reaches fifteen he seems to think that such records are just within the bounds of possibility. But when he arrives at the history of a certain dame Marguerite, Countess of Holland, "who in the year 1276 was brought to bed of three hundred and sixty-five infants at one and the same time, who all received baptism and died on the same day together with their mother," he confesses, and not without reason, that we have reached the domain of fable.

He defines superfœtation as a "reiterated conception," and holds that this, as a rule, is impossible, "because after the first conception the mouth of the uterus is closed entirely and will not receive the semen of the male; yet exceptions may occur after the sixth day, but not before, since the first conception is not complete until after this period of time has passed; then, however, if the woman during coitus be intensely excited the cervix may open and the semen again enter the uterus."

He holds that twins as a rule are not instances of superfœtation, since they are born about the same time, and must therefore have been conceived about the same time.

The fifteenth aphorism is curious. "One sometimes sees weak and infirm women produce fairly healthy children, because the infant has in itself a peculiar principle of life which often purifies the nourishment which it receives from the mother, just as we see that the graft rectifies and renders milder the austerity of the sap of the wild tree on which it is grafted."

For the production of moles he holds the corruption of the sperm either of the male or female to be responsible, but he says that those occurring in unmarried women are not genuine moles.

In speaking of the so-called gaseous moles he seems to think that they are instances of physometra. For the differential diagnosis he gives us numerous points. (1) a mole has no active movement but is strictly passive; (2) on feeling the abdomen when the uterus contains a mole it will be found harder but more tender, and increases in size rapidly; (3) a mole being a dead weight is more trouble to carry than a living fœtus; (4) the bladder is more involved, but the breasts are not so much tumefied and do not contain much, if any, milk; (5) scirrhus growths and the menstrual blood are quite different from moles; (6) when a mole is cast out before the

second or third month it is called a false germ; these false germs are membranous, while moles are fleshy; (7) the movement of a mole is only like that of a dead weight in the abdomen; (8) a mole does not come from the uterus at term, although it is possible for a pregnant woman to have at the same time a mole in the uterus.

Aphorism lxvii says "the generation of a false germ in a woman previously sterile is generally a sign that she will be fruitful." Boivin adds, "the false germ or mole being the result of a degenerated conception, nothing is more certain than that the woman is apt to conceive."

His rules for the care of pregnant women are principally hygienic, although some of us might be inclined to think it rather severe that the pregnant woman should not be allowed to take a bath.

In aphorism xiii he expresses an opinion which has often been disputed, but with which, with certain modifications, the best authorities now agree: "Cinchona can be given with as much safety for the cure of fever to pregnant women as to other persons."

In aphorism viii he says that any serious operation like that belonging to a stone in the bladder and other serious conditions should never be performed upon a pregnant woman. To this statement Boivin makes an exception. "A stone in the bladder, if voluminous, could on the one hand interfere with the progress of the head and irritate and tear the bladder, and on the other hand might occasion inflammation of the uterus and cause the woman intense pain. It is better therefore to extract the stone before labor comes on."

He gives an interesting story of a tremor in the hands of an infant whose mother received a fright during her pregnancy; the baby was born prematurely and had a peculiar tremor of the hands, but otherwise was perfectly healthy; he grew up, and in due time he married; when signing the marriage contract some of the bystanders noticed that his hands shook very much, and not knowing of his infirmity they conjectured that "he felt nervous lest he should be making an unfortunate bargain."

He starts out by saying that the pregnant woman should not be bled, but modifies this statement in subsequent chapters, although he makes a great point of the fact that contrary to the prevailing opinion it is much safer to bleed in the earlier months of pregnancy than when it is far advanced.

The vomiting during pregnancy he looks upon in most cases as reflex in origin, and recommends only simple remedies unless it persists for a long time, when he thinks that it must be caused by morbid material adhering to the coats of the stomach, which should be removed by laxatives after the woman has been bled.

He deprecates the use of strong purgatives for fear of abortion. In speaking of vesical disturbances he seems to recognize the frequency of pseudo-incontinence, since after trying simple remedies he employs the catheter. Were it not that he looks upon the menstrual fluid as a source of nourishment for the fetus, and consequently explains hemorrhages from the uterus and other parts of the body as being due to the fact that more blood is brought to the parts than the fetus needs for its nutrition, his remarks on the subject of varicose veins

and hemorrhoids, which he attributes generally to stasis in the veins caused by obstruction, are excellent.

He distinguishes three kinds of diarrhoea, (1) lienteric flux, (2) diarrhoeic flux, (3) dysenteric flux, and says that any severe attack may induce an abortion.

He recognizes severe hemorrhage as a sign of impending abortion, but notes that in some cases the menstrual flow appears during pregnancy without any bad results. He thinks that when it appears in the first months it is usually caused by some false germ of which the uterus is trying to rid itself, but that when it appears in the later months it is probably due to partial separation of the placenta.

Unless the bleeding is excessive he would leave nature to take its course, but if there are signs of convulsions or syncope he insists that labor must be brought on artificially, "otherwise the woman will breathe out her last breath together with the blood."

He tells us a sad story of the death of his own sister, which he says "is still so vivid that the ink with which I write it to make it known in order that the recital may profit the public, seems to be blood."

He then cites several cases in which, by turning and immediate delivery, the lives of several patients who were having severe hemorrhages were saved.

He holds that dropsy of the uterus occurs in general abdominal ascites by the passage of the water through the porous substance of the membranes of the uterus, and that water is engendered in the uterus itself when it is debilitated by cold, violent labor, or by suppression of the discharges. To differentiate such a dropsical condition from pregnancy, he tells us that in the former the breasts will not be swollen and will contain no milk; no fetal movements will be remarked at the proper time; the abdomen is generally distended; the color of the face will usually be bad; "these dropsies occur principally in sterile women, although it is possible for pregnancy to be accompanied by dropsy." He says, "When such women lose a quantity of water from the uterus it must not be mistaken for amniotic fluid, since the membranes will be found later to be unruptured."

He seems to use the term inflammation in the case of parturient women as synonymous with erysipelas; in fact he substitutes the word "inflammation" for erysipelas when quoting one of the aphorisms of Hippocrates.

It seems to have been a popular notion that a pregnant woman suffering from syphilis could not be treated for the disease until after the child was born. To this idea Mauriceau was strongly opposed, and quotes instances to prove that such cures had been effected, and that the only indication in such cases was not to carry the treatment beyond a mild salivation.

In speaking of the premature discharge of the fetus from the uterus he makes four divisions: (1) effluxion, that is, the discharge of the contents of the uterus within six days after fruitful coitus, when the sperm had attained no consistence; (2) expulsion of the false germ up to the second month; (3) abortion, a discharge of the perfectly formed fetus up to the beginning of the seventh month; (4) premature labor. "Whenever the fetus is expelled after the beginning of the seventh month it is a labor."

Among the other causes of abortion he puts the various acute diseases.

In the second book he treats of normal and abnormal labor. Four conditions are mentioned as requisite to make a normal labor: (1) the birth must be at term; (2) it must occur without any particular difficulty; (3) the infant must be born alive; (4) the presentation must be favorable.

With respect to a normal presentation as described by Mauriceau, Boivin says "the head does not take this situation, that is, with the face looking downwards, except in the case of a third occipital presentation or at the end of the first stage of labor; but in the time of Mauriceau and for some time afterwards the mechanism of normal labor was still unknown, so that a presentation of the head was considered bad in which the face was not downwards."

He corrects the erroneous opinion held by Hippocrates that an infant born at eight months was likely to be more feeble than one born at seven months. This opinion was founded upon the idea that it was necessary for the infant to make efforts in order to be born, and that these efforts were first made at the end of the seventh month, so that if the infant did not succeed in escaping from the uterus he was necessarily enfeebled by his futile efforts.

Mauriceau explains that the uterus is the active and the fœtus merely the passive agent in the act of labor. In support of his views he refers to a book written by one Bonaventure, which he says is larger than the Bible and is entirely devoted to the proof of this one point.

The figures in his table of statistics, of which there are three, given to show the duration of the natural pregnancy, vary a great deal. According to these, gestation may last for eleven months and six days. He does not attempt to answer the medico-legal question as to how late a child may be born after the death of its father and still be considered legitimate.

In aphorism lxxxvi he says "pregnancy rarely goes beyond the tenth month; scarcely one out of a thousand of children born at the end of seven months survive; but half of those born at the end of eight months do well, if carefully nursed."

Aphorism lxxxiii says: "Some pregnant women feel fetal movements after the end of the first month; many others do not feel them before the end of six weeks or two months; others again, only after four months." To this extraordinary statement Boivin objects that the smallness and the consistence that the embryo possesses at the end of a month and the quantity of water by which it is surrounded would render its movements imperceptible to the mother, and even at a later period she could very well confound the movements of the intestines with those of the infant.

He devotes a great deal of space to discussing the question whether the pubic bones separate during the act of labor, and throws discredit on the case of the celebrated Ambroise Paré, who at an autopsy upon a woman who was hung a short time after labor had found the bones separated to the extent of a finger's breadth.

In proof of his position he says: "If such a separation did take place the woman could not stand up immediately after

labor," and incidentally we learn that his hospital patients were made to walk from the lying-in room to their bedrooms immediately after delivery.

The difficulty experienced by elderly women in their first labor he rightly attributes not so much to the want of yielding of the pubic joint, but rather to the ossification of the joints between the sacrum and the coccyx.

He distinguishes between false and true labor pains, and mentions the dilatation of the os and the bulging of the membranes as a sign of approaching labor.

He understood the nature and dangers of cases of placenta prævia. He holds that those who would make three membranes, the chorion, the amnion, and the allantois, are mistaken, since there are in reality only two, and these are really separated only with difficulty, the allantois being never seen in the human fœtus.

He regards the idea that an infant born in a caul is lucky as a mere superstition, except from the fact that the labor must necessarily have been an easy one.

It had been held by many authors that the waters were composed of the urine coming from the bladder by the urachus; but this Mauriceau says cannot be, since the urachus in the fœtus is not pervious. He quotes a noted anatomist named Gayant as a supporter of his own view. He holds that the waters are necessarily an exudation from the membranes, since they occur also in the case of false germs.

He evidently understood the uses of the amniotic fluid and denies that it serves as a nourishment of the child, as also the statement of Hippocrates that the infant sucks by the mouth its nourishment from the uterus. In support of this he quotes Aristotle, and shows besides that the waters have no nutritious qualities.

He gives a very good figure showing the placenta and umbilical vessels of the fœtus (Fig. III). He understood, apparently, that the blood from the vessels of the mother did not pass directly to those of the fœtus, and says that any severe indisposition on the part of the pregnant woman can give rise to pathological appearances in the placenta. That the knots in the cord signified the number of children to be born hereafter he declares to be a simple superstition.

In three figures he presents the different natural situations of the infant in the uterus when labor is to be normal. "The infant changes his position in the uterus during pregnancy. Towards the end of the seventh or eighth month the head, which heretofore has been above, takes up its position below, the fœtus having made a sort of a somersault. This perhaps accounts for the idea of some authors that the fœtus attempts to leave the uterus at the end of the seventh month."

He is opposed to the idea that women approaching their term should take much exercise, and more especially condemns the advice of Liebant that they should go driving or ride a saddle-horse at a brisk trot, considering that such exercises, even when they do not cause miscarriage, are productive of malpositions.

He adds that baths are dangerous, not only on account of their too great humidity but also on account of the excitement which they cause and which may lead the mouth of the womb to open.

His directions for the conduct of a normal labor are on the whole excellent except those relating to the delivery of the placenta. They are about as follows: "When the symptoms of labor appear the rectum and bladder should be emptied. In strong women blood-letting may be practiced. An internal examination should be made from time to time in order to follow the dilatation of the os, and the genitals should be anointed with some emollient oil. Too many examinations should not be made. The woman should not be allowed to lie down too long in the first stage. Vomiting is not a dangerous symptom. The membranes should not be ruptured too soon. Many midwives, for fear of displaying ignorance, will not send for a surgeon sufficiently soon, and prejudice the poor women against them, calling them butchers and executioners."

"The woman should be allowed to choose her own posture for the second stage of labor. A feather-bed should not be used, and arrangements should be made to prevent the soiling of the bed-linen. Pressure on the abdomen should not be employed, though the os may be gently dilated by means of the fingers. No violence should be used in pulling upon the head, and direct traction should not be made, but rather a rocking motion from side to side."

"After the child has been born it is necessary to first see that there does not remain a second fetus in the uterus. Even before tying or cutting the cord the placenta must be delivered. To do this, the midwife, taking two or three loops of the cord around the two fingers of her left hand and advancing the right hand near the vulva, makes gentle traction on the cord. Too strong traction must not be employed for fear of breaking the cord, in which case there may be a dangerous hemorrhage. Meantime the woman should be told to blow hard into one of her closed fists, or should put her finger down her throat in order to excite vomiting. A competent nurse may at the same time press lightly with the flat of her hand on the abdomen, employing friction. If these measures do not succeed, the hand must be introduced into the uterus and the placenta seized and taken away. Care should be taken not to leave any part of the placenta, any clots of blood or any false germs in the uterus. In the case of twins the placenta of the first should not be delivered before the second is born." The false germs would of course be remnants of the placenta, although Mauriceau says particularly that he has seen false germs discharged after the placenta has been delivered entire.

It is possible that he had often seen rupture of the cord following this method, since he devotes a chapter to the method of manual separation of the placenta after the cord had been broken.

He advises against the use of powerful drugs by the mouth to assist the expulsion of the placenta, and prefers extraction by the hand. He recognizes the necessity of bringing away all the membranes.

Besides normal labor he recognized three grades, (1) laborious or tedious labor, (2) difficult labor which is accompanied by certain complications, (3) abnormal labor, which is due to some malposition of the fetus.

Of the last named he makes four main divisions, (1) when the anterior part of the body presents, (2) when the posterior

part of the body presents, (3) when the lateral part of the body presents, (4) foot presentations.

He devotes a good deal of space to the description of the physical and moral character of the good obstetrician.

In speaking of the question as to whether the foetus in utero is still alive, he says that all the signs must be taken into consideration together, since each by itself is equivocal; the most trustworthy, however, being the recognition of (1) movements, (2) pulsation in the umbilical vessels or in the radial artery.

He is unwilling to allow the use of the hook by the midwife. He seems to have understood very well the operation of internal turning. Boivin says that his ideas on the subject were not original but had been described by Louyse Bourgeois. The forceps was unknown in Mauriceau's time.

In convulsions which are not easily controlled he recommends the induction of labor, and digresses to tell a story in which the operation was indicated but was performed too late to be of any service to the woman because the two priests who were present spent a whole day in discussing the question as to whether or no the baptism of the foetus in utero was sanctioned by the church.

"Some authors," he says, "in foot presentations recommend turning on the head, but can tell us of no easy way of effecting this." He uses the hook in the extraction of the dead foetus, and recommends if necessary the reduction in size of the head or body by means of a curved knife.

He devotes a whole chapter to the condemnation of Caesarean section on the living woman, and says that it is always fatal. He explains away cases of reported success by saying that they exist only in the imagination of the authors.

Caesarean section on the dead woman he considers not only lawful but necessary, and prefers to make a median and not the lateral incision recommended by many other authors.

Boivin, remarking on the aphorism which forbids Caesarean section on the living woman, says "this operation has rarely been successful; nevertheless, since it has succeeded sometimes, one should try this method of saving the mother and infant when no more certain means present themselves."

In Book iii he speaks of the care of the parturient woman and of the new-born babe. He forbids all tight bandaging and nauseating medicines, but allows a comfortable bandage and a light but nutritious diet. He warns us not to allow the woman to partake of the various delicacies which are usually prepared for the collation at the baptism of the infant.

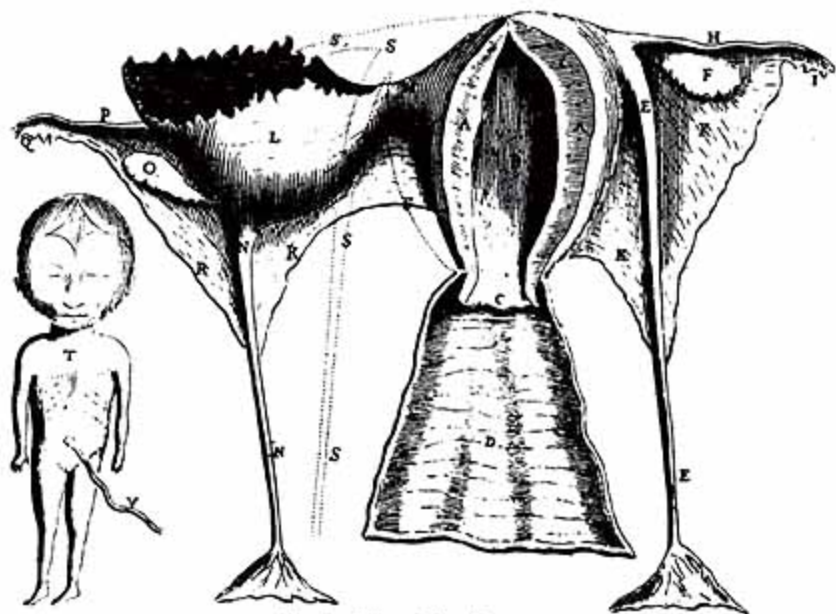
He considers it a superstition that the wearing of the husband's shirt will produce the drying up of the milk. About post-partum hemorrhage, beyond recommending perfect rest (unless it be due to the presence of faeces in the bowel, in which case enemata should be given) he has not much to say.

He gives pictures of pessaries to support the prolapsed uterus after it has been put back into position. He himself preferred the ring pessary. He recognizes the error of Rousset, who would have us introduce the pessary into the cavity of the uterus itself, and adds: "This absurdity of Rousset, which he backs up with ridiculous arguments as if it was an interesting fact, would lead us to believe that he allowed himself to be deceived in the majority of fabulous stories which he puts down in the same book respecting Caesarean section."

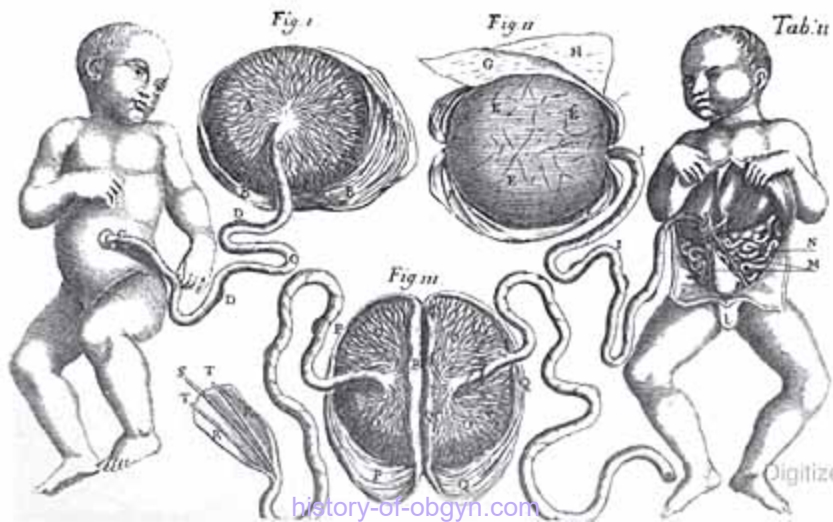


P.^{re} MAURICEAU
 (Chirurgien),
 Né à Paris le 17^{me} Mars
 Mort le 19 Octobre 1703

Tab. 8



No. 2. Extra-uterine Pregnancy.



He speaks of prolapse of the rectum as sometimes occurring during labor.

He recommends the suturing of ruptures of the perineum at once, but speaks also of a later operation when it is necessary to freshen up the cicatricial tissues by means of the scissors or bistoury.

After-pains, he thinks, are due to gas in the intestines or to the presence of some foreign body, it may be a kind of false germ, a portion of the placenta, or clots of blood remaining in the uterus, or finally, by the sudden suppression of the lochia or by the overstretching of the ligaments.

Boivin notes that in speaking of the suppression of the lochia as placing a woman's life in danger, Mauriceau has mistaken the effect for the cause.

He recommends a good warm bouillon instead of the nauseating oil which was usually given in such cases. "Some midwives, under these conditions, give the woman a few drops of blood taken from the placenta; this is a mere superstition."

He also recommends hot fomentations and, above all, the removal of the foreign body if any be present in the uterus.

He seems to understand the nature of the lochia and gives a more or less correct account of the reasons for the change in color which occurs. He says that those who believe that the lochia consists of the milk of the breasts are ignorant of their anatomy, "since they should know that there is no channel which connects the mammæ directly with the uterus, unless indeed they suppose that it comes through the mammary vein which is supposed to unite with the epigastric vein, whereas as a matter of fact the epigastric vein does not connect with the uterus at all."

He understood that after the detachment of the placenta there was left a wound in the uterus which must have time to heal.

The sudden suppression of the lochia he says is very prejudicial to the woman. He seems to think, however, that it is often followed, and not rather preceded, by an inflammation of the uterus. He prefers bleeding from the arm to bleeding from the foot on these occasions.

He believes that scirrhus causes trouble by blocking up the uterus and preventing the passage of the normal excretions. He adds that a scirrhus can turn into a cancer and then become very painful.

"Cancer of the uterus is incurable because it cannot be

taken away like a cancer of the breast. Cancer of the vulva can be cured by salivation, but when the growths are once in the uterus the treatment is of no avail." He probably mistook venereal for carcinomatous ulcers.

He understood that bad cow's milk was provocative of disease. He describes single and multiple abscess of the mammary glands, and gives pictures of nipple shields and general instruction about the nature and treatment of sore and retracted nipples. He condemns the custom of pressing back the blood from the cord into the infant's belly, since the blood, far from enriching that of the infant, is more liable to produce suffocation, since it is not vivified. He advises the placing of a compress over the fontanelle for several months.

His remarks upon the nursing of infants are excellent, except that he insists more than once that a mother should not be allowed to nurse her child for the first five or six days after birth.

He treats of the various diseases of young children in a very sensible way, and the chapters on indigestion, apthæ, teething, chafing, and the venereal diseases are excellent and show the soundest common sense and good practice.

He had the right ideas about the occurrence of syphilis in infants, whether congenital or acquired, although we must differ with him when he says that a syphilitic woman should not be allowed to suckle her own child who is already syphilitic, but that a new nurse should be obtained, "although she is very apt to acquire the disease from the infant." This doctrine would seem very much in contradiction of that which he promulgated before, namely, that a woman's life is of more importance than that of a young child; and if her life, why not her health?

He closes with a chapter on the rules to be observed in selecting a wet nurse. Throughout the whole book he shows an intelligent conservatism. He shows that he must have possessed the power of observation and was not afraid to act when occasion demanded it.

A criticism of his aphorisms is also found in Levet's works.

From his writings we may picture to ourselves an honest, upright man, who, if not particularly brilliant, could safely be entrusted with the care of difficult cases, and who never allowed his common sense to be obscured by the various superstitions which prevailed in his time, by the greed for gain, or by the gratification of his personal vanity.