

PAUL PORTAL, HIS LIFE AND TREATISE ON OBSTETRICS, WITH REFLECTIONS ON THE SCIENCE OF THE OBSTETRICAL ART IN FRANCE FROM THE RENAISSANCE TO THE 18TH CENTURY.

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IN considering the state of early obstetrics in France it is useless to consult the writings of Guy de Chauliac, since he only repeats what the writers of the Greco-Roman period have written on the art of obstetrics, but at the time of the Renaissance this branch of medicine made immense progress. Podalic version, indicated by Celsus, but completely forgotten during the long night of the Middle Ages, was brought to light by Ambroise Paré, and the celebrated work from the pen of Rousset entitled "Hystérotomotoquie" caused the Cesarean operation, which formerly had been done only on the cadaver, to be performed on living women. From this time the science of obstetrics entered a truly scientific path and little by little rid itself of the old errors, and although its position at this time may seem miserable from the modern point of view, it cannot be denied that most important

changes had taken place. Obstetrics was still closely united to Hippocratic tradition during the entire first half of the 17th century until the excellent treatise on accouchements by Mauriceau broke this continuity and delivered forever this science from its fetters.

This great revolution had been prepared for and was seconded by excellent writings by several French accoucheurs of this epoch, who, although they may not have possessed the genius of Mauriceau, nevertheless rendered brilliant services to the art they practiced. In order to better understand the merits as well as the errors of the older authorities, I give a brief account of the condition of obstetrics in France from the time of the epoch-making treatise on surgery by Paré to the time of the publication of Mauriceau's treatise on labor. The chapters that Paré wrote on the practice of obstetrics in his immortal treatise are limited, but they possess a capital importance. We will not refer to what he has said relative to generation, because that was textually borrowed from the ancients, principally from the Galenic writings. He made, however, a great advance in the symptomatology of pregnancy, the subjective phenomena of which he describes accurately and at considerable length. Thus he describes clearly the pigmentation of the face, the condition of the breasts, the nervous disturbances, the uncontrollable tendency to sleep, the digestive disorders, toothache, salivation, congestion of the external genitals and varices.

Natural labor is studied in a most summary way for the reason that the great revolution in the customs which was to take place fifty years later had not as yet been accomplished. As in Greco-Roman antiquity, surgeons were called only in cases of extreme urgency and consequently they were summoned only to cases of difficult labor. On the other hand, Paré points out the principal obstacles which may complicate labor and indicates the means of overcoming them. Without speaking of podalic version, which he brought back into practice, as I have already pointed out, he made use, perhaps too frequent use, of the crochet, several examples of which are to be found figured in his work. He also employed the embryotome quite frequently, according to the practice of the ancient obstetricians; his own instrument consisted of a knife with a pointed end. He was a partisan of immediate delivery and he also describes puerperal hemorrhage and some of the infectious complications met with after labor. Like all the writers of the Greco-Roman period, he attributed these to

the retention or corruption of the lochia, to which he gave the name of "vidanges."

During the first few years of the 17th century there appeared a number of works of unequal value, one by Guillemeau and another by a surgeon of Angers, who wrote anonymously. Guillemeau fell far below his master, Paré; he did not possess the same piercing genius and the clinical good sense and it becomes evident in reading his work that, although he was the student of the true founder of French surgery, he had also followed the lectures of the doctor regents of the Faculty of Medicine of Paris, Gourmelin and Courtain. Like them, he made immoderate use of erudition and wrote numerous pages of his treatise full of useless repetition of the ancient doctrines of the Greeks, and their poor imitators, the Arabians. It would have been better had he given himself up to a healthy criticism of facts. Occasionally he lent a too attentive ear to the ignorant sayings of the matrons and sages-femmes, but one should not too greatly exaggerate this fault. These defects were in greater part those of his time, and very frequently, it must be recognized, he was inspired by the traditions of his learned master. Thus he studied in quite a complete way all those cases which can give rise to a hindrance during labor, and there are quite a large number of interesting cases reported from which his successors were able to profit greatly. To sum up, it may be said that the greatest criticism that can be made of Guillemeau is that he lacked originality. He rendered very great service to the progress of the art by continuing and popularizing the work of the great man whose student he had the honor to be.

The "Traité d'accouchement" by the surgeon of Angers is the work of a good practitioner who had had experience and was a good observer, and consequently a number of interesting remarks are to be found in its pages. However, the work contained nothing original and appears not to have exercised any very appreciable influence upon his contemporaries.

Quite the contrary is the very admirable work by Mauriceau, because he knew how to develop the ideas which were merely in embryo in the mind of Ambroise Paré, and because his eminently clinical genius discovered a multitude of new facts, which neither his predecessors, nor his contemporaries, had been able to perceive. Although he did not give any very special attention to the pelvis from the surgical point of view, one finds in the numerous cases which form the second part of his treatise very distinct principles of deformed pelvis, especially cases which unfortunately

caused him to reject the purchase of the forceps that Hugh Chamberlin wished to sell him. His researches of the soft parts, although they are not equal to those which relate to the practice of obstetrics, are certainly not without value and, in order to be convinced of this, one has merely to read his description of the gravid uterus. Mauriceau in fact was the first to show that the uterus became thinned instead of thickened during pregnancy, as Aranzi upheld, but, if he criticised the illustrious Italian anatomist on this special point, he knew how to utilize what this author had said regarding the placenta and he followed him even a little too faithfully when speaking of the urachus and the allantois. The disposition of the fundus uteri and its lower segment, the unequal development of its two lateral halves, its obliquity and torsion are very well studied. He partially developed a theory of the causes of labor which Puzos completed at a later date; he admitted that the distention of the uterus having attained its maximum, the cervix opened and, from this fact, became more and more incapable of bearing the weight of the child, so that the latter finished by making its escape outward. This is one of the first theories which attributed the end of pregnancy to the changes which take place in the cervix. In point of fact, Mauriceau was in no way dupe to the Hippocratic theory which attributed labor to efforts made by the child to escape from the uterus. Like Galen, he had been struck by the fact that many fetuses expelled appear in this world in a condition of death which certainly dates back several weeks. By reason of his foresight as a physiologist he appreciated that which Galen had guessed.

Pregnancy had been well written upon by this author, who had done away with a great number of errors transmitted from century to century and which were upheld by the honored name of Hippocrates. He also took little stock in the famous flat abdomen upon which matrons of this time laid so much stress; he demonstrated that the absence of menstruation and tumefaction of the abdomen are not absolute signs of pregnancy, and lastly it may be said that he certainly was the first to write an essay of some value on the pathology of pregnancy. This he has described with far more completeness and with far more rationality of mind than had been done before. Convulsions, varix, vomiting of pregnancy, and edema from renal lesions are discussed by him in a way which would make the modern obstetrician marvel. The essay of Guillemeau is, by contrast, so full of uncertain detail and of a credulity so blind that it is not even comparable to antiquity.

Antiquity had left precious material relative to the description of the organs of generation. Empedocles, Democrites, and especially Diocles, had commenced the study of this subject. Diocles had recognized the prolongations of the body of the uterus and compared them to animals' horns, but he overlooked the important details. It would seem that Herophilus and Erasistratus cannot be charged with the same fault. Galen recognized their researches, stating that they had been done on women more than on female animals. By the loss of their writings we are deprived of many curious details; however, an echo of their discoveries is to be found in Galen's writings and in the works of Soranus. The latter composed a work on the diseases of women, in which the principal facts relative to labor and dystocia are described, as well as some anatomical details of the female genitals. The description of the uterus appears to be more that of the human organ than what is found in Galen. It has been, perhaps, hastily thought that Soranus dissected female bodies, but it has also been held that he simply borrowed from the writings of the Alexandrians and, in point of fact, the famous treatise by his copyist, Coelius Aurelianus, entitled "de Morbis acutis et chronicis," does not prove that Soranus had any very great knowledge of anatomy and surgery. The dissection of human bodies must have been a very difficult matter in Rome during the second century.

In the description that Galen has given of the genital organs of woman, the traditional knowledge furnished by his predecessors and that which was obtained by his own researches are intermingled. Galen's erudition was great and his ardor for work incomparable. A great physiologist, anatomist, clinician and philosopher, his merit was highly estimated by his contemporaries. His description of the uterus is erroneous, inasmuch as it frequently relates to that of the dog, goat, or sheep, but he thoroughly understands the distinction of the corpus and cervix and the mechanism of labor, which he compares to that of the fecal mass. He removes from the fetus its active rôle in labor. He gives an excellent detailed description of the vessels and of the relationship, structure, form and size of the uterus. Led astray by his dissection of ruminants, he believed that the allantois was present up to the time of labor, but he described the amnion and chorion perfectly.

Many centuries passed before a worthy successor of Galen appeared. In the middle of the 12th century, while the rest of Europe was plunged in the darkest barbarism, there took place

at the Court of Frederic II of Hohenstaufen, an anatomical renaissance, of which Mundinus was the central figure. He had the opportunity to dissect several female bodies immediately after gestation, thanks to an edict of Frederic, and he repeated what had already probably been indicated by the Alexandrians, that the uterus was bicornate and possessed a single cavity. He was the one who compared the cervix to the mouth of a tench. Gabriel de Zerbis, Achillini and Béranger de Carpi made improvements on the descriptions left by Mundinus, but Vesalius did not have the same influence on this chapter of anatomy. He lost much time in noisily triumphing over certain errors committed by Galen and in proving that his descriptions referred to the uterus of the sheep, dog, goat, etc. However, he gave an excellent resumé of the researches of his Italian predecessors. His students, Fallopius and Columbus, made greater progress in the anatomy of the female genital organs, especially Fallopius, who found the prolongations of the uterus, which still bear his name.

It was certainly Aranzi, of all the students of Vesalius, who rendered the greatest services. In a very small book, entitled "de Formatione fœtu," he described most admirably the ligaments, relationship, vessels and structure of the gravid uterus. He denied the existence of the allantois, and demonstrated that the fetal circulation was independent of the maternal. On this account the placenta was considered for many years as merely a purifying organ, intended to filter the maternal blood falling into its cavities, and to deliver it afterward to the fetus.

Fabrice d'Aquapendente and Harvey made most interesting researches on this subject, and improved upon the work of Aranzi. Pineau showed that the hymen was in nowise an être de raison, and he proved undeniably that for a certain time there is a separation of the pubic symphysis, a fact already mentioned by Paré.

Finally, two capital discoveries were made, which excited, with good reason, the admiration of Dionis. I refer to the discovery of the ovisacs in the ovary, which von Graaf erroneously mistook for real ova, and that of the spermatozoa, by Leuwenhoeck. From this time on the old theory of the union of the two semens was thoroughly shaken, but it was not overthrown until some time later. But the discussion of these anatomical details, extremely interesting from the standpoint of pure science, led to the neglect of the science of obstetrics. For example, the external characteristics of the pelvis and the bones composing it were known, but a description of its cavity was not undertaken. Its axis and diam-

eters were ignored. All that was known was that the female pelvis was flatter and broader than that of the male.

Deventer gave the first description of flat pelvis. The contemporaries of Paré, Guillemeau and others, were not entirely ignorant of the fact that the pelvis might be deformed and give rise to very severe obstacles during labor, but it is an interesting fact that it was not to the promontory that the malformation was attributed. They believed that it was the pubic symphysis which was at fault, and imagined that it was flatter than normally. From this idea arose the term of barred pelvis, which was referred to by surgeons of the epoch, in order to explain certain difficult labors. Paré tells us that in Italy the pubes of women were broken, so that this bone would not be a hindrance to labor, and Pineau and others singularly exaggerated the relaxation of the pubic symphysis, to which they attributed a great part in the mechanism of the expulsion of the fetus.

The vagina was still generally considered as the cervix uteri, and the true cervix was looked upon as the internal os, while the vulvar orifice was termed "couronnement" by the midwives.

In order to lessen the absolute ignorance of these women relative to anatomy, an ordinance was issued by the Châtelet directing that all the midwives on the list of the senior surgeon of this prison should be notified each time that a dissection of a female body was to be made at Saint Côme.

The symptomatology of pregnancy was almost entirely based on subjective phenomena. Of the objective signs, one alone was known, the active movements of the child. The other symptoms of pregnancy were hardly mentioned except in Mauriceau's work. Much importance was attached to the phenomena accompanying the act of coitus, as in the works of Hippocrates. In Littré's translation of the volume on the Flesh, the following passage occurs. "Une femme qui a de l'expérience reconnaît ainsi quand elle a conçu. Elle éprouve aussitôt du frisson, de la chaleur, des grincements de dents, des spasmes." Paré makes the statement that women are warned of their pregnancy when they feel "un petit frisson et horripilation ou hérissonnement en tout le corps, et telle chose se fait à cause que la matrice se comprime et son orifice se clôt pour retinir les semences," and Guillemeau writes as follows: "Aussi qu'en même temps il lui soit survenu comme un baillement, allongement et frémissement en dedans, tel que nous sentons à la fin de pisser, lequel se soit communiqué par tout

épaules et dos, avec petite douleur autour du nombril et brouillement au petit ventre, ce qui advient à raison que son amary se remasse en soi pour retenir la semence qu'elle a attirée et succée, y ressentant quelque petit chatouillement."

Mauriceau believed that this opinion might be upheld. There certainly is some little truth connected with it, but it has been greatly exaggerated. He says that conception has taken place "si l'homme et la femme ont resenti pour lors un plaisir plus grand qu'a l'ordinaire, ce qui arrive à l'homme, parce que dans ce temps le vagin a serré davantage sa verge à cause que la matrice qui, s'ouvre pour recevoir la semence succe en quelque sorte le bout du membre viril qui, pour être doué d'un membre exquis, en est fort agréablement chatouillé et vanant elle-même à recevoir les deux semences dont elle est friande, et principalement de celle de l'homme, elle cause à la femme un tressaillement voluptueux et extraordinaire de toutes les parties de son corps. . . . Néanmoins, j'ai vu beaucoup de femmes grosses qui m'ont assuré avoir conçu sans s'en être aperçu, par les sentiments de volupté qui arrivent ordinairement dans l'émission de la semence." There was also the famous sign indicated by Hippocrates, namely, the retention of the male semen.

The desire to sleep was regarded as of certain symptomatic importance, and is thus mentioned by Paré: "La femme saura qu'elle a conçu si elle est forte endormie et si la compagnie de l'homme ne lui plaît comme auparavant." The writers who followed, excepting Mauriceau, did not insist upon this phenomenon, which, nevertheless, is interesting and rarely is wanting. The expression of the face was also a point of much importance with the ancients, and Hippocrates says that if one is desirous of knowing whether a woman is pregnant, one should look at her eyes. This sign is also admitted by Paré and Guillemeau goes a step further. Mauriceau says "Les paupières sont molasses et ont de la peine à se soutenir; elles sont fort obscures et il se voit tout autour un cercle d'un jaune livide; elle a les yeux battus, enfoncé; leur blanc est troublé et leur regard est languissant."

The changes in the cervix were also poorly studied and only the closure of the internal os was mentioned. The ancients knew that, in spite of the enormous size of the uterus, the cervix remained closed and Paré admitted this, but not absolutely, as is seen by the following quotations from his writings: "Les anciens ont laissé par écrit que la bouche de la matrice des femmes encientes était tant serrée que depuis la conception



jusque' à l'accouchement, la pointe d'un poinçon n'y saurait entrer. Toutefois on peut montrer que le contraire est véritable, témoin la superfétation qui ne pourrait s'accomplir si la matrice ne s'ouvrait." He also mentions the discharge of water and blood from the cervix, which is occasionally observed during pregnancy. Guillemeau upholds the ancient idea, while Mauriceau admits the closure of the cervix, but at the same time making the following remark: "La matrice peut être exactement fermée sans que la femme ait conçu; il s'en trouve qui ne s'entrouvrent presque jamais pour laisser passer les menstrues, et Galien remarque très bien au commentaire des Aphorismes que la clôture de l'orifice interne est un signe commun à la grossesse et aux tumeurs contre nature."

Not a word is said relative to the changes in the consistency of the cervix, and some authors even went so far as to state that the organ becomes very hard. Like Paré, all the authors of this epoch contributed a great importance to the changes in character occurring in pregnant women.

The importance of changes in the abdomen, known in all times, was exaggerated by the midwives. Hippocrates, however, had already said that in order that suppression of the menstruation should signify anything there must be absence of fever and malaise. Paré and Guillemeau had recalled the sources of error which might result from a blind confidence in the mere progressive increase in the size of the abdomen, because they were fully aware that the various abdominal tumors may give rise to an enormous development of the abdomen. Mauriceau rendered great service by particularly drawing the attention of practitioners to this point.

With such poor diagnostic means it is not at all astonishing that surgeons frequently made mistakes relative to the existence of pregnancy, which, at the present time appear very ridiculous.

The school of Hippocrates adopting an idea, which, it appears, dates back to Pythagoras, admitted a pregnancy of seven to nine months. While they were not at all ignorant of the fact that the exact term could not be rigorously fixed, they were fully aware that gestation could not go beyond the tenth month. Paré, in a rather confused chapter, recalls that the ancients were of the opinion that pregnancy lasted nine months, but contrary to Hippocrates he admitted with Aristotle that children were viable from the eighth month on. Mauriceau, who believed in nine months' pregnancy, made the following important remark: "J'avoue bien que le terme de la portée des enfants est

de 9 mois pleins, mais je ne puis pas demeurer d'accord que ceux qui naissent au 7e mois, vivent plutôt que ceux qui viennent au 8e, car au contraire j'ai toujours connu par expérience qu'ils sont d'autant plus robustes qu'il approchent du terme le plus naturel qui est celui de 9 mois." He explains that pregnancies apparently of ten and eleven months are due to the fact that the women had become pregnant at the end of two or three months of suppression of the menstruation, this absence being due to other causes than pregnancy. Little need be said regarding normal labor as it was understood by the obstetricians of the 17th century. I would simply point out that all the practitioners of the period possessed of a certain professional skill had recognized the principles that labor should not be forced, but should be allowed to follow its natural progress as much as possible, and that it was useful to preserve the membranes intact. On the contrary, the mechanism of expulsion, properly speaking, was completely ignored, and all that one knew was that labor was divided into two stages, mainly dilatation of the cervix and expulsion of the child. The presentations were multiplied far beyond any practical necessity, the obstetricians not having as yet recognized that there are only three principal presentations, all others being simple varieties, since they always end by transforming into one of the three. In order to allow the practitioner to recognize them the principal treatises of the epoch, those of Viardel, Mauriceau, Peu and Dionis contain a chapter given up to the anatomical particularities which characterize the various fetal parts.

Cases of dystocia were very frequent during the 17th century, because the midwives attended all natural confinements and were possessed of an ignorance which was only equaled by their vanity. The state had taken some measures to control their practice and an ordinance of the Châtelet, dated April 26, 1587, established the following rules:

"Que lorsqu'il y aura une femme ou une fille qui désirera être recue sage femme en cette dite ville et faubourgs d'icelle, autant que ce faire, feront annonce de leur demeure, de leur ville, conservation vertueuse, et sous quelle maîtresse ou mère elles auront appris l'état de sage-femme et ce par écrit ou verbalement, ou par personnes ou femmes d'honneur. Et la mort avenant de l'un des deux jurés du Châtelet ne pourront, le médecin ni les deux chirurgiens du roi en présenter qui n'aient été de long-

temps reçues et prêté le serment ainsi qui sera dit, et comme on a coutume de faire.

“Qu’elles seront tenues de se faire interroger par le médecin et les deux chirurgiens jurés du roi au Châtelet, de Paris, et les deux matrones jurés du Châtelet, mandées par ces médecins et deux chirurgiens jurés du roi audit Châtelet.

“Qu’étant examinées elles seront tenues de faire porter leur rapport, afin de prêter serment devant M. le Prévost, de Paris, ou M. le Lieutenant criminel sur ce au M. le Procureur du roi audit Châtelet, suivant la coutume.

“Seront tenues de retirer lettre dudit sieur Prévost de Paris, huit jours après le serment presté, du greffe criminel, et la faire signer du greffe dudit Châtelet et y faire apposer le sceau de la dite prévosté.”

These rules were generally void and the practice of obstetrics was marked by ignorance and carelessness. In the words of Peu :

“Je sais et je l’ai moi-même éprouvé, qu’il y a des accidents qu’on ne peut prévoir et d’autres qu’on ne saurait éviter, même après les avoir prévus. Je suis enfin persuadé qu’il y a des malheurs dignes qu’on les plaigne et des fautes qui méritent qu’on les pardonne. Mais aussi je ne puis dissimuler que l’ignorance, la rusticité, la suffisance et la témérité causent la plus grande partie des mauvais travaux cu après que nous avons fait tous nos efforts pour rétablir le désordre causé par les autres si nous manquons de succès, nous n’en rapportons que de blâme, comme si c’était un crime pour nous de n’avoir pu réparer les fautes d’autrui, qui souvent même nous sont imputées.

“Qu’un enfant présente le bras fort avancé au passage, une sage-femme judicieuse et prudente, qui ne se sent pas assez d’expérience pour se tirer d’un tel pas, commence par demander du secours et se contente de tenir cependant le bras enveloppé dans des lignes trempés dans de Feau-de-vil ou du vin chaud pour le fortifier et pour empêcher que l’air ne l’altère. Mais combien d’autres fières et présomptueuses, dans Paris, à la campagne, stupides et grossières, essaient d’abord de le tirer à force de bras, s’imaginant que le reste du corps suivra, ne voyant pas que c’est vouloir faire passer par une fente étroite une pièce de bois en travers.”

Faithful to Hippocratic tradition the obstetricians considered as abnormal every presentation excepting that of the head, although presentation of the feet was not looked upon with such abject horror as some of the others. The following quotation

from Paré is of interest: "Or l'enfantement naturel est quand la tête vient la première et suit ses eaux, l'autre qui est moins bon et facile est quand il vient les pieds devant; tous les autres sont très difficiles." He consequently advises having recourse to version.

The crotchet and embryotomes were more frequently used than they were at a later date, thanks to the improvement in the technique of version. As Mauquest de la Motte tells us many used the crotchet without reason at the beginning of the 18th century, and, consequently, very serious accidents resulted. On the other hand podalic version undertaken under improper conditions only too frequently ended in rupture of the uterus or detachment of the child's head. It should be recalled that very diverging opinions reigned regarding the delivery of the placenta and most practitioners, like Mauriceau, interfered immediately, for fear that the internal os might close down. The Cesarean operation on the living was generally condemned.

After this rambling introduction, let us consider the subject of this paper. Paul Portal, who was born at Montpellier. The date of his birth may be fixed approximately as 1630, since in order to be admitted to the Hôtel-Dieu students were required to be over 18 years of age, and Portal entered there in 1650. He commenced his surgical studies in his own city, but Paris attracted him and he went there at an early date to finish his education. He attended the lectures of the Faculty and those of Pierre Moreau at the College of France. A mention of his stay at the Hôtel-Dieu is made in the deliberations of the Bureau of March 7, 1657, but he had then worked in this institution for a number of years. He himself gives 1653 as the date; but we must believe that he entered there even earlier, in 1650, very probably, because he left in 1663, and he makes the statement in his book that he had attended Mauriceau's lectures for thirteen years. Portal soon took part in the competitive examination for the position of first companion surgeon, and on March 7, 1657, he was nominated: "Lecture faite des actes qui concernent l'examen des garçons chirurgiens qui se sont présenté pour être admis en la place du défunt Angot, ensemble de l'avis donné par écrit par les médecins de l'Hôtel-Dieu, rapport fait de l'avis donné de vive voix par les chirurgiens et examinateurs, l'affaire mise en délibération, la compagnie a arrêté que Claude Porl, l'un des dits garçons chirurgiens, et qui est trouvé le plus

propre, sera reçu pour servir et assister, panser et médicamenter les malades dudit Hôtel-Dieu, en qualité de premier compagnon chirurgien d'icelui au lieu dudit défunt Angot, sous la charge et conduite du sieur Petit, maître chirurgien de l'Hôtel-Dieu, pour après six années de service, être reçu maître chirurgien en cette ville de Paris." From this time on he was to play an important part. His first duty was to perform the autopsies and dissections, as will be seen from the following extracts taken from the records of the hospital:

"M. Forne a rapporté au bureau que, suivant la délibération du 14 du présent moi, le sieur Capon et la dame Moreau l'ayant averti qu'il y avait une femme morte à l'Hôtel-Dieu, sur laquelle on pouvait faire commodément anatomie et dissection de la matrice, il y a donné la permission par son billet audit Portal, lequel fait difficulté d'y travailler, pour les raisons qui ont été rapportées au bureau, sur quoi la compagnie a arrêté que le dit Portal exécutera l'ordre du dit sieur Forne comme étant celui du bureau." (Délibér. du 21 novembre, 1657.)

"La compagnie a donné ordre au sieur Portal de faire ouverture du corps de Jeanne Moulin, femme grosse, morte à l'Hôtel-Dieu, en travail d'enfant, après trois jours de travail, ce qu'il fera en présence du médecin ordinaire de l'office des accouchées au moins, de la sage-femme et de celle qui est à présent apprentisse en non autrement." (Délibér. du 19 novembre, 1857.)

The next year, September 6, 1658, Lanier, "principal operator for stone," asked the authorities to allow Portal to assist him. Lanier, overworked, had become somewhat suspected of having wished on a certain day to use a new instrument of his own invention; he had tried it on two old men without having been able to accomplish the operation, "although he kept each one on the table for a half hour." A member of the bureau by name Perrichon, who was present, was obliged to intervene, and by a special deliberation it was decided that Lanier "ne pourrait se servir de son instrument nouveau sans un ordre particulier par écrit du bureau," and from this time on was to be seconded by Castagnet. When consulted Lanier declared that this choice did not appear a fortunate one to him, that he had seen him operate, and "qu'entre autres défauts, il en avait remarqué deux considérables; le premier, que la main lui tremblait, le second, qu'il tirait la pierre par secousses," that Castagnet was too old and "qu'il serait préférable de façonner ceux qui sont plus jeunes, tels que Portal, Allot et Girault, tous trois de la maison, et qui

promettent beaucoup en cet exercice." The bureau designated Ruffin, and Portal was obliged to wait, but in a few months he triumphed. In point of fact he, as first companion surgeon, had many times been called to aid the midwife in difficult labors. On January 15, 1659, the bureau confided in him the care of labors occurring in syphilitic women.

"M. Forne a dit qu'il se présente quelquefois à l'Hôtel-Dieu des femmes grosses qui sont malades de la grosse vérole, auxquelles la sage-femme n'ose et ne doit toucher pour les délivrer, de peur de gâter les autres femmes en couches, que l'on peut se servir pour les accoucher du sieur Portal qui a déjà quelque expérience en cela; sur quoi M. Prereau a dit que si l'on est obligé de se servir chirurgien en cela, il est juste que le sieur Petit, maître chirurgien, y soit aussi employé, s'il le désire." (Délibér. du 15 janvier, 1659.)

Four months later, on May 4th, he operated in the lithotomy room. While he was to become distinguished in the science of obstetrics, as we shall see, he was less fortunate in his tentatives at the operation for stone. Several times he was declared incompetent, often by capable practitioners, whose sentence must have been particularly disagreeable. At this time the operation for stone was, perhaps, more than obstetrics, a specialty in which a few surgeons had made a great reputation in Paris. It was the only one at the Hôtel-Dieu that was not represented by an eminent operator, and the specialists of the city who were the most in vogue were called in preference to even the master surgeon, to operate on the cases which had been diagnosed by the ordinary physicians. He was allowed to initiate the companion surgeons into the secrets of his art, according to the needs of the service, but only those whom the bureau approved. No one, however, could obtain permission to operate except in his presence. In spite of these precautions, the mortality was not less than 20 per cent. The operator was obliged to work in public, under the control of his colleagues, who were usually antagonistic physicians, or very ignorant members of the bureau. On May 4, 1659, Portal, who was only a beginner, and Blondel, dean of election of the Faculty of Paris, had been designated to watch him operate. The attempt was not a fortunate one, because the latter stated that his hand trembled and that he was awkward. One month later, on June 6th, Lanier declared that he would no longer operate with the assistance of Castagnet and Portal, who were, he declared, in no way fitted for this operation. In order to give

more weight to a decision that the bureau appeared little disposed to take into consideration, he handed in his resignation. Gouin, who was called on September 12th to take Lanier's place, declared that he would never consent to accept the service as long as Castagnet and Portal were retained there, that it was imprudent, given the evidence of their lack of knowledge, to allow them to operate, unless there was present some one possessing the requisite competence in the matter. On the first of October, however, Gouin withdrew his decision and entered the Hôtel-Dieu, and from this time on we lose all trace of Portal in the lithotomy room.

His specialty, however, was marked out for him, as he had already developed a decided taste for obstetrics. Designated since January 15, 1659, to deliver "spoilt" women, he was also as chief of the companions, called upon from time to time to help the midwife in difficult labors in the wards.

"Ledit sieur Forne a rapporté que le dixième du présent mois, il est arrivé un mauvais accouchement en la salle des accouchées, qui a obligé la sage-femme d'appeler du secours, et ont été mandés le sieur Castagnet, maître chirurgien à Paris, et les sieurs Petit et Portal, chirurgiens ordinaires, dudit Hôtel-Dieu, qui ont donné leur certificat de ce qui s'est passé audit accouchement mis au greffe du bureau par ledit sieur Forne." (Délibér. du 12 decembre, 1659.)

Finally, on February 4, 1660, he devoted three months to the regular service of the confinement cases. It was in this service, which was so greatly sought, as is proven by the testimony of Mauriceau, Peu and Dionis, that Portal could form himself, guided by the wise advice of Lacuisse and Bouchet, to which he refers as follows:

"Comme je l'ai remarqué en l'Hôtel-Dieu de cette ville, ou j'ai eu l'honneur de servir les pauvres malades pendant plusieurs années, en qualité de maître chirurgien, étant appuyé des conseils de défunt M. de Lacuisse, et de M. Bouchet son gendre, qui ne nous refusaient point cette charité pour les pauvres. Ils m'ont toujours honoré de leurs sages conseils, que j'ai suivis avec un heureux succès dans tous les accouchements que j'ai faits, et que je fais encore journellement. Et je puis dire que je fais gloire d'avoir appris de ces deux messieurs une bonne partie de ce que j'ai pu apprendre dans les accouchements; et assurément le public a beaucoup perdu en la personne de M. de Lacuisse, et perdra encore davantage en celle de notre illustre M. Bouchet."

The service was very imperfectly fitted out, and hygiene, among other things, was practically an unknown quantity. The obstetric service at the Hôtel-Dieu was carried out in what might be called the cellar, the lowest studded room in the building, having windows only on one side overlooking an arm of the Seine, which became dry in summer and at this point received a large number of drains, among them those coming from the water-closets of the Hôtel-Dieu. This room was soon given up, on account of the dampness, produced by the overflow of the river. Transported in 1660 into one of the rooms of the bridge, the accommodations soon became insufficient and, in order to overcome this, they used the old lithotomy room, called St. Joseph's Ward, where, in 1663, the obstetric service was finally established. One hundred years later Tenon stated that it was still there. The room was 72 meters long, 11 broad and  $3\frac{1}{2}$  in height. The beds, of which there were small and large, were arranged in four rows, called the white row, which was near the window and therefore well lighted; the black row, which was against the wall on the other side of the room, and two intermediary rows, which also came into contact. In 1664 there was an average of from 80 to 100 pregnant women; in 1671 there were 250 and the condition of affairs had not changed. In February, 1660, there were four, five or even six women in the same bed. February 14, 1661, there were four, and both pregnant and delivered women were closely pressed together. In 1666 there were still three in one bed. This abuse was not confined to the obstetric service, as a deliberation, dated July 7, 1656, relative to the medical services amply attests: "les malades expirant dans des lits ou il y en a deux ou trois autres couchées. . . . Souvent on tire de leurs lits ceux qui commencement à se bien porter, pour les mettre coucher avec d'autres fiévreux et grèvement malades."

This condition of affairs was not to disappear. Tenon speaks of 67 large beds and 39 small ones, which on January 12, 1780, still contained 193 women in labor, or in other words, the 18 large beds were each occupied by three patients. On unusually busy days there were sometimes four women in one bed, and nothing less than the Revolution was able to remedy the condition of affairs by creating the Maternity in the old Abbey of the Port-Royal, where it still exists at the present time.

There were no cribs for the babies, and all inmates, large and small, were indiscriminately huddled together. In the same bed one found the legitimate and virtuous wife with the corrupted



woman of the town, the delivered with the pregnant, the healthy with the diseased; only syphilitic women were placed in a room reserved for them. In less than eight months four babies were found asphyxiated in their mothers' beds, and it was only in 1662 that the bureau decided to have cribs. Tenon could still write, one hundred years later: "Enfin quand on entr'ouvre ces lits de souffrance, il en sort, comme d'un gouffre, des vapeurs humides, chaudes qui se répandent épaississent l'air, lui donnent un corps si sensible que le matin, en hiver, on le voit s'entr'ouvrir, a mesure qu'on le traverse, et on ne le traverse point sans un dégoût qu'il est impossible de summonter."

Infection must have been rampant in such a midst; and in point of fact we find ourselves in the most sinister days of puerperal fever, the epidemics succeeding one another with rapidity. 1662, 1663 and 1664 were dark days; the last year saw hundreds of victims. In the epidemic of 1746 only one woman in twenty survived; usually one in sixteen succumbed. Of an annual mean of 1300 babies born in the Hôtel-Dieu 400 died, especially from a fatal disease known under the name of "induration," or "gelée."

The obstetric service was under the direction of a nun, called "la dame des accouchées," who about fulfilled the part played by these persons at the present time, although endowed with a more extended power. Under her orders, and responsible for all labors and baptisms, was a mistress midwife, chosen from the professionals of the town and admitted after competitive examination, not without forgetting the influence which was brought to bear in her behalf exactly as is done in most hospitals at the present time. She must have been either married or a widow and a Roman Catholic. A mistress midwife was usually quite capable. She was assisted by apprentices, usually four in number. These she was obliged to instruct, and after a three months' stay in Hôtel-Dieu they were authorized to practice freely outside. During the first six weeks they merely looked on, while during the last six they operated under the direction of the mistress midwife. The latter also gave them lectures, under the control of the physicians of the Hôtel-Dieu, or even practical demonstrations on the cadaver of the anatomy of the genital organs. They were obliged to attend these lectures with great regularity, but, although this measure may appear excellent, it must be said that in reality the benefit was slight. The dissections took place only once in six weeks, in other words, only twice during the instruction of each apprentice. Escorted by her apprentices, the mis-

tress midwife was obliged to go through the wards at least twice a day. When night came she made a revision of all the beds, indicated to the apprentices those patients which should be put into the labor room and gave them such instructions concerning each patient as might seem necessary. To this service was attached a physician of the Hôtel-Dieu, who made a visit each morning and prescribed the regimen and medicines. Bleedings, which were always numerous, were done by one of the twelve companion surgeons designated by the bureau and chosen according to aptitude for working in the labor wards, without consideration of seniority.

The care of delivering syphilitic women also rested upon this companion surgeon, since the midwife was not allowed to attend these cases. In cases of difficult labor the midwife called upon the master surgeon of the Hôtel-Dieu, or, in his absence, upon his first companion surgeon. This rule, however, was not strict, and she was allowed to have recourse to any surgeon accoucheur in the town.

"Il y a en la salle des accouchées une femme en travail dont l'accouchement est difficile. La sage-femme a prié le sieur Castagnet pour l'aider, comme il a fait en plusieurs cas semblables; néanmoins ledit sieur Castagnet fait difficulté de travailler, n'en ayant pas la permission du bureau. Sur quoi, l'un des messieurs a dit qu'il est de conséquence d'introduire dans l'Hôtel-Dieu des chirurgiens du dehors et d'ailleurs, que cela est inutile, puisque l'on a un maître chirurgien dans la maison. Sur quoi a été ajouté que le dit sieur Portal est à présent admis en la salle des accouchées, qui peut aussi assister ladite femme en travail, et dans les autres accouchements difficiles qui arriveront; sur quoi, l'affaire mise en délibération, la compaigne a arrêté que ledit sieur Castagnet assistera la femme en travail et que le sieur Petit, maître chirurgien ordinaire de l'Hôtel-Dieu, s'y trouvera aussi pour contribuer de sa part au soulagement de ladite femme." (Délibération du 18 février, 1662.)

Two days later the bureau designated Castagnet and Petit to aid the midwife in cases of difficult labor, and by a similar action Mauriceau and Peu were permitted to enter the service. The part played by the surgeons of the Hôtel-Dieu in the obstetric service was, as may be seen, extremely small. The staff and others connected with the hospital were not always on the most friendly terms; the mistress midwife quarreled with the nun and she could not conceal her modesty from the surgeons upon seeing

men engaged in the service of women in labor ; physicians and surgeons looked at each other with disdain and suspicion and everyone was subject to the reprimands of the bureau.

The service was open to any pregnant woman who had arrived at the last month of her gestation, whatever her origin, morality, or religion. Only "spoilt" women were refused an entrance until the last moment, and they were admitted when labor had begun. They were not given any assistance until, in 1785, Louis XVI authorized the construction of a special hospital for syphilitic pregnant women and children, for years known as the *hôpital du Midi* and at present the *hôpital Ricord*.

The labors were not all accomplished in the ward. As soon as labor began the patient was conducted to a special room, where she was delivered on a very small, low bed, placed in front of the fire. Each placenta was kept in a separate vase, so that on the next day it might be submitted to the inspection of the visiting physician. When labor was over the patient returned to her bed on foot and on the next morning she was obliged to rise at five o'clock so that the bed might be made. After 1658 the labor room was provided with a low chair destined for the transportation of the patient to her bed, and it was then decided that patients should not be allowed to get up during the first forty-eight hours.

About one hundred women a month were delivered at the *Hôtel-Dieu*. The duration of the post-partum in normal cases was 15 days ; after this time all patients were discharged if their condition allowed it. Those who were without homes could go to the General Hospital. In reality the duration of the post-partum was very much longer, because pathological sequelæ were not at all infrequent and in point of fact the average term of each case was 35 days. Children born at the *Hôtel-Dieu*, if they did not become orphans, were very apt to be abandoned by their mothers, and the sisters of charity, seized with compassion, looked after them for a certain number of years, but soon being overburdened by the unceasingly increasing number, they were obliged to turn them over to the care of the State. In 1678 the General Hospital had a hospital for foundlings and, out of 1,503 infants born at the *Hôtel-Dieu* during this year, this new institution received 1,304.

The service of obstetrics was rigorously closed to outsiders, and no surgeon or physician of the city could enter either to learn the practice of obstetrics or to perfect himself in this branch. A few

administrators of the office of the Hôtel-Dieu, less rigorous than their colleagues, found themselves obliged, at the commencement of the 17th century, to create a more liberal condition by proposing to open an obstetric service to surgeons; but their good intention was overthrown by the great opposition of the nuns. A few exceptions, however, were made, but it was always in favor of some foreign practitioner who was highly recommended by his sovereign to the King of France, whose will, nevertheless, did not always succeed in overcoming the conditions. Mauquest de la Motte was obliged, in order to follow the service, to disguise himself as an apothecary and follow the physician during his visits. The ward was always kept closed and the dame des accouchées alone waited on the chief of the service and never left him. There was, it is true, a humane reason for this measure which was very bad for the progress of obstetrics, namely, the respect that one had for the pregnant woman. Her name was inscribed on a register, which was kept at the office and by a most laudable sentiment, an absolute rule was made never to divulge it to anybody under any pretext, "tant pour assurer la tranquillité des familles, que de peur de détourner les filles qui ont forfait à leur honneur de venir accoucher à l'Hôtel-Dieu, ce qui les pourrait porter à défaire leurs enfants, même avant qu'être nés."

As soon as he entered upon the service, Portal gained precious clinical knowledge and, when he left, he was highly esteemed, although nothing in the records would lead us to suppose that he was called back to the Hôtel-Dieu. In March, 1663, his six years being up according to the rule, he took the mastership and left the hospital much regretted by the Bureau, which recompensed his services and made him a donation dated March 21, 1663. "La compagnie a signé un certificat des services rendus pendant six années à l'Hôtel-Dieu par le sieur Portal, en qualité de premier compagnon chirurgien ordinaire gagnant sa maîtrise, et lui a aussi délivré ordonnance de cinquante livres, pour une année qui échévera au jour de Paques prochain, de la récompense des dits services qui lui est accordée annuellement outre ses gages." On March 28, 1663, the following record is found: "Le sieur Portal est venu au bureau prendre congé de la compagnie et la remercier de la grâce qu'elle lui a faite de le retenir au service des pauvres de l'Hôtel Dieu, et gagner sa maîtrise comme il a fait par un travail de six ans, suivant les privilèges de l'Hôtel-Dieu."

When once master surgeon he gave himself entirely to the practice of obstetrics, in which he rapidly acquired a very great

reputation, consoling himself for his departure from the hospital by writing notes on the interesting cases which came under his observation. He was obliged by illness to interrupt his practice from July, 1668, to February, 1671, when he published a small work on the case of a child having an extraordinary face. In 1683 he decided to publish his work on the practice of obstetrics. It is recorded that he was practicing in 1692, and he yet remained active up to the time of his death, on July 1, 1703.

Modest, he did not appear to have the same vogue as Mauriceau, nor did he receive the same honors that were given to Bouchet, who was called to the court. His clientèle was mostly persons in humble circumstances; occasionally, however, he had patients of better position. On one occasion he enjoyed the confidence of one of the greatest princes in Germany, who confided the care of his wife to him and, although he cared little for the title, he does not conceal his personal satisfaction in this particular case. Desirous of his own tranquillity he spoke ill of no one, and his name is never found connected with any professional controversy. He always spoke condescendingly of physicians, calling them "savants," a beautiful example which is not always followed even by men of great science. For one alone he showed himself severe; he never spoke of Viardel, who according to his way of thinking, was a theorist, excepting in terms of contempt. Occasionally, also, deploring the insufficiency in the instruction of midwives that he frequently noted, he addressed sharp reproach to some of them, but it was rather with the desire to be useful than to hurt them, and he took care in his introduction to point out that he intended no ill will.

A man must have been possessed of much virtue not to enter into controversy in the days in which he lived. Physicians and surgeons devoured each other and Guy Patin qualified the members of Saint-Cosme as "ces laquais bottés, ces estafiers de Saint-Cosme, ces chiens grondants, cette superbe racaille." There was not an adept of St. Luke who did not recognize their right of wearing the robe and the bonnet for their pretended doctrine in surgery. The obstetricians were not tender towards each other, and many of them who had brains took malignant pleasure in employing them in ridiculing their colleagues. Frequently even wicked words were not suppressed, and Mauriceau acquired a great celebrity in this type of discourse; he said of Lacuisse "qu'il avait coutume de s'endormir près de la femme en travail pour ne se réveiller qu'après la rupture de la poche des eaux." Re-

futing Viardel's theory regarding signs of death of the child in utero, he adds, "la notable erreur d'un auteur moderne, dont le livre mériterait plutôt d'être envoyé aux beurriers et aux épiciers de la Halle pour servir d'enveloppe à leurs marchandises, que d'être distribué au public à cause des dangereuses conséquences de ses mauvais préceptes, et de l'ignorance crasse de cet auteur, dont la méthode est pernicieuse."

He then goes on to say that: "Il pouvait être convaincu de grande ignorance, pour les raisons que j'ai alléguées; l'exemple qui suit, dont le seul récit est capable de donner de l'horreur, fait voir manifestement qu'il n'avait pas moins d'effronterie et de témérité que d'ignorance." The case was that of a poor woman, "qui mourut par les violences extraordinaires que ce téméraire auteur lui avait faites, durant deux heures entières, pour l'accoucher, avait tué son enfant vivant avec ses instruments et avait en même temps crevé et déchiré de tous côtés la matrice de la mère; ce qui avait été cause qu'elle mourut une heure ensuite; après qu'on eut vu le cruel traitement et les excessives violences inutilement faits à cette femme par ce même auteur, on appela Clément sur lequel il rejeta aussitôt effrontément sa faute à cause qu'il avait mis le dernier la main à l'œuvre." He says of Rousset: "Les histoires que nous rapporté ledit Rousset, en son enfantement césarien, n'ont pas eu d'autre origine que la rêverie, le caprice et l'imposture de son auteur."

And lastly, he attacked Lamotte, and especially Peu. Viardel, Lamotte and Peu did not admit Mauriceau's treatise and the latter even went so far as to criticise the tire-tête that he had invented and Mauriceau did not pardon him. In order to avenge himself, not content to miserably play on his name, he accused him of having falsified the larger number of his observations which he published in his book and pretended that he had not even delivered a single woman at the Hôtel Dieu. Peu, in order to defend himself, produced a series of certificates and made fun of Mauriceau for having stated that he himself had delivered 300 women at the Hôtel-Dieu in four months. "Vous, trois cents femmes en quatre mois, et moi pas une seule en dix années. Vous êtes un heureux mortel; mais prenez garde qu'après avoir diminué excessivement les choses à mon égard, on a droit de vous soupçonner de les grossir médiocrement en votre faveur. Je veux bien encore vous dire qu'on ajoute à ce témoignage, que dans le peu de temps vous travaillâtes à l'Hôtel-Dieu, votre humeur des lors impérieuse et suffisante au dernier point, vous fit faire tant de

fracas dans cette maison peu accoutumée au bruit, et qui est un asile de paix, qu'on vous pria de vous retirer bien vite."

Dionis has a much more witty mind, and he ridicules Mauriceau for proscribing conjugal duties in pregnant women during the last two months of pregnancy, and he says: "Mauriceau peut avoir fait ces observations par lui-même, n'ayant jamais pu avoir un seul enfant en quarante-six années de mariage. Pour moi qui a une femme qui a été grosse vingt fois, et qui m'a donné vingt enfants dont elle est accouchée à terme et heureusement, je suis persuadé que les caresses du mari ne gâtent rien." And lastly the following lines relative to midwives is not tender: "Il n'y a aujourd'hui que les femmes du plus bas état qui se mêlent d'accoucher, lesquelles étant élevées dans le misère, la crasse et l'ignorance, sont bien plus capables de déshonorer la profession que l'acquérir ces belles qualités d'adroites, d'intelligentes qu'on leur donne. Toutes les apprentisses que j'ai vues à l'Hotel-Dieu de Paris, pendent cinq ans que j'y ai travaillé, étaient toutes de très-bas lieu. C'est à se cacher d'être né d'une sage-femme." The question that Pitcairn put to Astruc, who had wished to intervene in a discussion between the Scotch professor and Hecquet relative to digestion and to pretend that defecation resulted from the efforts of the rectum alone, is worthy of terminating this list; Pitcairn replied, "has Astruc ever been to the water-closet?"

Portal did not enjoy these biting jokes; he respected others, or at least he rendered them justice by not referring to them. Public criticism alone must have occasionally been levied on him, because in several of his observations he shows some little disgust, although always with that good nature characteristic of him: "On m'a dit que cette dame avait dit, à ma louange, que cette défunte avait été bien accouchée; aussi est-elle grande en vertu et en mérite; et je lui suis redevable de son honnêteté, et de m'avoir rendu justice quoique je n'eusse pas l'honneur d'être connu d'elle, et dans une occasion où on voulait ternir ma réputation, parce qu'on lui avait fait entendre qu'il y avait eu de la faute dans l'accouchement. C'est ce qui me fait dire qu'on a beau faire, on ne fait jamais bien: quelque opération qu'on puisse faire, elle ne fait point d'éclat; mais bien tout le contraire, qu'une femme soit si bien accouchée qu'on le souhaitera, et qu'elle vienne à mourir, ce sera toujours la faute de celui ou de celle qui aura accouché la femme; tant la médisance a de l'empire sur la vérité. Que si en celle-ci il s'était trouvé seulement le moindre sang caillé collé aux membranes internes de la matrice,

j'aurais été accusé de l'avoir fait mourir, quoi qu'elle fût mourante avant que j'y eusse touché. C'est pour cette raison qu'on a vu des accoucheurs ne vouloir pas faire de telles opérations, de peur de ternir leur réputation. Mais en cela Dieu s'y trouve offensé, et le mépris qu'on peut faire à l'opérateur n'est qu'une fumée envers Dieu, qui est le protecteur des affligés et des innocents." Then elsewhere he says: "La conduite et le jugement sont fort nécessaires pour entreprendre de tels accouchements; car celui qui opère est souvent blâmé, quoiqu'il fasse le mieux qu'il lui est possible; et si celle-ci fût morte, on m'aurait accusé d'avoir eu trop de hardiesse et de témérité; mais ce n'est pas la seule que j'ai sauvee en cet état. Si cette femme avait été une grand dame, on l'aurait laissé mourir, parce qu'on aurait eu peur d'en avoir du blâme, si elle fût morte. Dans ces occasions, on ne doit pas avoir ces égards. Il faut premièrement regarder Dieu, et son prochain. Regarder Dieu, parce qu'il y selrait offensé, en laissant mourir une femme. Regarder son prochain, parce qu'il n'y aurait pas de la charité de laisser mourir une femme sans la secourir; et dans ces recontres, une femme est plus heureuse d'être pauvre que d'être riche: parce qu'aux pauvres on a plus de hardiesse et de liberté dans sa profession: et quoi qu'on puisse dire, je suis du sentiment de M. Bouillet, premier médecin de son altesse monseigneur le prince très habile homme, fort sage et très prudent, qui ayant été appelé pour consulter la malade dit qu'en pareille occasion, que la femme soit riche ou pauvre, il faut toujours suivre les règles de l'art, et faire sa profession en homme d'honneur, et laisser parler le monde."

An eminently conscientious practitioner, Portal was, above all, a clinician, willingly giving up old theories and drawing conclusions only after an examination of facts. One of his greatest merits was that he was the first to observe that in obstetrics, as in medicine, other form of instruction is equal to bedside teaching, and that he propagated these ideas by publishing cases which had been carefully studied.

It was in 1683, as is shown by the approbation of the King, of the Faculty of Medicine of Paris, and of the Master Surgeons, placed according to law at the commencement of the volume, that Portal, encouraged by his colleagues, decided to publish the most interesting observations that he had collected since 1663. Two years later, in 1665, appeared his "Pratique des Accouchements." Ornamented with a very beautiful portrait of the author dedicated "with much respect" by his "very humble and



very obedient servant," to Moreau, Councillor and Professor to the King, first physician to Madame la Dauphine, whose lectures Portal had followed for thirteen years at the Hôtel-Dieu and for which he professed a great admiration, the work comprising three hundred and eighty-six pages is divided into two parts of unequal importance. The first part of thirty-five pages is the treatise; while the second, of three hundred and thirty-three pages, is far more important and interesting. The reservation of this large portion for observations of cases shows the clinical character of the work. "Quelques-uns de mes amis, assez éclairés pour se connaître aux observations qui peuvent être de quelque utilité dans la pratique m'ont persuadé que les miennes pourraient instruire ceux et celles qui voudront se mêler des accouchements. Cela m'a engagé à les communiquer de bonne fois et jet ne me repentirai point de la résolution que l'on m'a fait prendre, si l'on me fait justice. Ce n'est ni le style, ni l'arrangement des mots qu'il faut considérer, je confesse que je n'ai point assez d'étude pour y réussir; c'est la matière à quoi je me suis principalement appliqué; et assurément, je n'ai rien dit que je n'ai fait et qui je ne sois encore en état de faire, quand l'occasion s'en présentera."

The treatise is divided into six chapters, namely, on natural labor, on what should be done in a labor occurring before the ordinary term, on what is to be done when the child is in a face presentation, on what is to be done when the feet of the child present or when it is a breech, on what should be done when the hand or the arm present, and, lastly, on what is to be done when divers parts present. The second part of the work is the result of his practice from October, 1664, one year and a half after leaving the Hôtel-Dieu, up to 1683, a practice interrupted two and a half years by ill-health, as Portal himself states in relating the twenty-sixth case.

This second part consists of a series of 81 cases in which are described without classification, or order of date, cases of dystocia that he observed. He mentions 7 cases of abortion, 1 of carcinoma uteri, 3 of eclampsia, 8 twin pregnancies, 2 cases of triplets, 1 of extrauterine gestation, 12 of serious hemorrhage, 1 of hydramnios, 3 of puerperal infection, 1 of uterine inversion, 2 of hydatidiform moles, 2 monsters, 9 adherent placentas, 8 of placenta prævia, 20 shoulder presentations, 3 face presentations, 16 breech and 9 vertex presentations, 1 prolapsus uteri, and 31 instances of podalic version. Theory is voluntarily sacrificed to

practical teaching, and each observation terminates with precious advice to the practitioner as to the proper treatment of the case. Portal does not touch upon theory, although very rarely he is tempted to search for a scientific explanation of some phenomenon which arouses his curiosity. In these digressions he gives merely an outline of his idea and turns it over to the care of physicians that they may settle the question. He was not a writer, and one does not find those humorous sentences which Mauriceau willingly inserts in the pages of his book, as for example the following: "J'ai connu, un nommé M. Hébert, couvreur des bâtiments du Roi, qui était si bon couvreur que sa femme accoucha, il y a environ quarante-trois ans, de quatre enfants, tous vivants, en une seule fois; ce que sachant, Monseigneur le duc d'Orléans défunt, auprès duquel il était assez bien venu pour son humeur joviale, lui demanda, en présence de quantité de personnes de qualité, s'il était vrai qu'il fût si bon compagnon, que d'avoir fait à sa femme ces quatre enfants, tout d'un coup; il répondit qu'oui et qu'assurément il lui en eût fait une demidouzaine, si le pied ne lui eût point glissé, ce qui fit rire un chacun de la bonne façon."

There are none of those fine witticisms which relieve the reader and in which Dionis excelled, two of which I here quote: "On ne voit point les animaux se cacher pour s'accoupler; ils le font dans tous les endroits où ils se rencontrent: l'homme seul se dérobe aux yeux des autres, et il semble qu'il soit honteux de produire son semblable. Il n'en était pas de même dans l'antiquité, puisqu'en demandant à un philosophe ce qu'il faisait, il répondit fièrement, 'je plante un homme.' En effet, y a-t-il plus de mal à planter un homme qu'à planter un chou?" Here is another anecdote: "Madame d'Arnoton, femme d'un maître des requêtes, demeurant rue de Richelieu, accoucha, il y a huit ou dix ans, de trois filles. Monsieur d'Arnoton était à jouer dans son voisinage lorsqu'un laquais lui vint dire que madame était accouchée d'une fille; un quart d'heure après, il en vint un autre lui annoncer qu'elle était accouchée d'une seconde fille; et un autre quart d'heure ensuite, il vint un troisième laquais qui lui dit que madame venait d'accoucher d'une troisième fille; aussitôt en se levant brusquement, il pria les dames avec qui il jouait, de lui permettre d'aller chez lui pour empêcher sa femme d'en faire davantage."

In Portal's book nothing of this nature appears; his style is of the most extreme simplicity, without any pretension to ele-

gance and he above all endeavors to be clear in his meaning. He does not write, but rather relates. From time to time he employs a simile in order to better characterize his idea, and in this he is usually fortunate. For instance, he says "the child floats in the water like a fish in a reservoir," when speaking of a case of hydramnios. Sometimes, when more inspired, but also less clear, he writes more like the authors of his time. This is seen in the following description of the way in which the unruptured membranes act: "Ce qui m'obligea de faire ici une comparaison sur les vagues de la mer et de l'accouchement, sur ce que lorsque la mer est dans son calme, les vagues venant à flotter sur le sable, elles se retirent en même temps et le laissent presque à sec; de même qu'il arrive dans le mouvement de la douleur causée par l'agitation de la chaleur qui fait faire un gonflement à ces eaux, qui poussent contre les membranes, lesquelles poussées par icelles font l'ouverture des orifices et disposent la sortie pour l'enfantement."

What gives the charm to his descriptions of cases and makes them always interesting is their truth and the way in which each has been weighed and considered. An observer of rare talent, Portal shows himself an eminently conscientious clinician, who tells only of what he has seen and done, and severely blames the borrowed phraseology of Viardel.

He always affirms his confidence in the power of nature, usually capable of bringing through successfully the work that she has undertaken. He unceasingly advises temporizing and believes in interfering only for the purpose of aiding her when he feels that she is weakening. Does this mean that this work is a criterion, that it should teach all who are desirous of the truth? Every work necessitates a criticism, and in this, as in all others, there are omissions and even errors. The ephemeral conditions of this world fatally bring about an evolution of ideas, and the care that our successors take in criticising our work will always be the consecration of its merit. The great fault of Portal is that he is entirely oblivious of order; everything is confused, and the heading of a chapter is far from indicating infallibly the most interesting points that it contains.

*(To be continued.)*

PAUL PORTAL, HIS LIFE AND TREATISE ON OBSTETRICS, WITH REFLECTIONS ON THE SCIENCE OF THE OBSTETRICAL ART IN FRANCE FROM THE RENAISSANCE TO THE 18TH CENTURY.

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BY

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*(Continued from Page 804 of Vol. LI.)*

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THE precious teachings of Portal were not profitable to his contemporaries; Mauriceau had attracted the attention of every one, and while his treatise was published and republished, and

translated into English, German, Dutch, Italian and Latin; while Amand, Dionis and Lamotte were reprinted, and Viardel himself received the honors of a posthumous edition, Portal remained unnoticed and his merits unknown. Sweden and Holland alone honored him with a translation.

The reports of his cases will alone engage our attention. One which is particularly striking is that of a labor in which the woman's life was endangered on account of hemorrhage. There is another relative to forced dilation of the cervix in order to perform artificial labor, which saved the mother's life. In another is distinctly described the insertion of the placenta in the lower segment, and Portal textually says that it was its progressive detachment that brought about the hemorrhage. In this case he performed version and proceeded rapidly to the extraction of the child and placenta.

Delivery of a woman in danger of her life on account of loss of blood :

"On Wednesday, the 24th day of August, 1672, I was called to the Halles de la rue de la Cordonnerie to deliver the wife of one of my confrères, whom I found in danger of soon losing her life on account of the loss of blood, which was very considerable and had completely taken away her strength. MM. Kikebœuf, de Mersennes, Akakia and Buci, all four skillful and famous physicians of the city of Paris, had obliged her to receive all the sacraments; after which these gentlemen asked me to work and to endeavor to save the patient from the peril in which she was, having only my hand, after God, with which to save the life; and, to do this, I greased my fingers and my hand with oil, afterwards I carried my fingers up to the internal os of the womb, that I felt dilated in circumference and in length to the extent of 7 to 8 twelfths of an inch. I informed the gentlemen of this opening with my fingers. I introduced my fingers, the index, middle and ring fingers, and, separating them one after the other, I dilated this ring, or internal orifice, by introducing these three fingers, one after the other; and, having somewhat dilated, I slipped in my thumb and little finger, thanks to the three others, and with these I formed a kind of uterine speculum by spreading them gently apart. I opened this ring in such a fashion that I had no difficulty in carrying my hand towards the fundus of the womb, where, in passing it up, I felt the placenta which surrounded the internal os, which was the cause of the loss of blood, because when the opening of the ring took place, the placenta, which was in direct

connection with this orifice, on account of a certain contiguity that it had with the womb at the point where it was adherent, this orifice becoming open it became divided, and, at the same time the vessels became divided, which caused the patient to lose blood in great amounts, and if not promptly aided she would die. I afterwards slid my fingers towards the internal and posterior part of the uterus, after having separated the placenta, to find the membranes which were full of their waters and also to give some light, by opening them with my fingers; and by making a rent in them the waters came away, although the orifices were occupied by my hand. This made it very easy to bring the feet of the child together. I seized them with my fingers and pulled more promptly than would have been possible without this dilatation. I baptized this foot conditionally, then I enveloped it in some linen and drew this foot and the leg until the buttock was outside. Then I observed the situation of the other thigh and the leg, which I recognized as folded on the belly, because if it had been bent posteriorly I should have been obliged to push back the buttocks in order to disengage the other leg and thigh, in which case it would have been ruptured; but feeling it in the situation that I have already described, I pulled boldly and without fear on the other leg and the remainder of the body as far as the shoulders, which I disengaged by placing my hand on the child's sternum and the right hand on the neck. By this means I extracted the child, which was very weak on account of the enormous loss of blood from the mother, and also because he had suffered greatly going through the cervix, which was not as greatly dilated as when things take place normally. As to the afterbirth, I had no difficulty in extracting it, because I had already separated it as soon as I had made the opening in the internal orifice of the womb. My confrère believed that his child was dead, and, having drawn it out, I begged the midwife to place it near the fire and the placenta, which still was joined to the umbilicus of the infant, in a receptacle full of wine which was on the fire. Pure wine was blown into its eyes, nose, ears and other parts of the face. We enveloped it in linen dipped in hot wine and we continually applied crushed onion at the mouth and nose and, from time to time, cloths dipped in hot wine on the scrotum, because it was a boy, and by these means we made him come to life as well as the mother."

In cases of serious hemorrhage, Portal was, unlike certain of his confrères, a determined interventionist as was Simpson

later on. The following is what he says concerning cases similar to that which we have quoted :

"If the loss of blood is so great that life is in danger, and if pregnancy is advanced and there is a tendency to the commencement of labor, which will be known by the signs already indicated, it is necessary to apply oneself to the labor, which is the only remedy to save the mother and child.

"The operation being judged necessary, he or she who is to do it should, in the first place, grease the hands with oil or fresh butter, afterwards slip the finger to the internal os of the womb."

"If this orifice is found soft and relaxed, one may work, but if it is otherwise, the operation must not be done, because, if this orifice is thick, one should be very careful to touch the womb until it becomes relaxed and softened, a condition which will be recognized by introducing one finger, and when this has accomplished something, a second, then a third, and by spreading the three apart one from the other, a kind of uterine speculum is formed. By this means, one will open little by little the orifice and slide carefully into the womb the entire hand; when this is being introduced, one will feel the membranes surrounding the child, which should then be ruptured with the ends of the fingers, this being done without difficulty."

Portal gives the history of the case of hydatidiform mole which terminated successfully, and he takes occasion to criticise Viardel's ideas.

"I would here warn my reader that, if I have discontinued to describe my observations from 1668 up to February, 1671, it was on account of a long disease which prevented me from attending to my ordinary exercises for a good lapse of time, as may be seen in the interval of this observation and of the preceding one.

"On Saturday, the 16th of February, 1671, I was called to see a baker's wife who had a great loss of blood; and, in order to recognize it, I introduced my fingers into the orifice of the womb, where I felt at the entrance a fleshy body of the size of a tennis ball of the largest size, which led me to believe that it was a mole. I employed the address that it pleased God to give me, to break it up into pieces with my fingers, which I withdrew out of the womb as fast as I separated them, as much as it was attached. As soon as I had thus separated this mass or fleshy body and drawn it out of the womb, the loss of blood ceased. This made me recall what I had read in a book by M. Viardel, who says that when one wishes to draw a child from the belly of its

mother, which presents by the head and cannot come out, it is necessary to pierce the head of the child with the extremity of the finger and then withdraw it.

"I then made the reflection that such a procedure should not be carried out, because it was necessary for me to make a great effort to open with the end of my fingers this mole, which is a body which is not as hard as a child's head, and consequently easier to open than the membranes of the scalp, and that thus, what he directed could not and should not be done in the manner which he describes."

Twin pregnancy was regarded as a serious case of dystocia by the majority of midwives and surgeons of the 17th Century. Mauriceau had spoken against this manner of regarding this condition, and Philippe Peu was particular to controvert it. He demonstrated in his treatise on obstetrics that many deliveries of a single fetus are far more serious than twin cases. Prejudice was strongly rooted in the minds of the profession at the time when Portal published his work, which, as is known, was before the appearance of Peu's treatise. Our author, although he recognized the fact that occasionally twins may be locked, nevertheless saw twin labors end in a happy way, as is shown by his relation of the following case:

"On Thursday, the 22d of October, 1665, I delivered two children from one woman living in the rue de la Corroyerie, and, although the preceding observation is quite similar to this one in many ways, it is, however, not so in all details.

"I found the abdomen of this patient of an extraordinary size, and this made me suppose that she was pregnant with two children. What confirmed me in my opinion was that the woman had passed much water and that the largest part had come away by a rupture of the membranes. Then I introduced my fingers into the orifices up to the fundus of the womb, where I felt the foot of one of the children and pulled upon it, and at the same time the body of this child followed. Having drawn it down, I applied two ligatures to the cord and cut it between them, as has already been said.

"The second child then presented with its membranes, which were bulging with the water which pushed them and which opened with considerable facility. This greatly aided me in recognizing the situation of this second child, which presented an arm that I pushed back, and, sliding my hand along the body of the child, I found the feet, which I pulled upon.



"The internal orifice contracted at the same time that the child and placenta were delivered. I found only one placenta. I observed nothing of any note other than a small line which was in the middle and which separated it. This made it appear that there were two, but it was so slight that it was with difficulty recognized.

"As soon as I had delivered the patient, the midwife gave her two spoonfuls of olive oil with sugar, which is the ordinary remedy among poor people. I asked the midwife why she gave her this potion, and she replied that it was to make her empty herself. This woman had no trouble during her entire postpartum."

The following case is in all probability one of eclampsia. The patient was seized with continuous convulsions, labor did not advance, medicines had no effect, and so it was decided to deliver the patient to see if the morbid phenomena would not cease. Here again Portal performed forced dilatation of the cervix. He found the cavity of the uterus extremely large on account of the amniotic fluid which had not escaped. In point of fact, it was a case of eclampsia occurring during gestation, and upon this occasion Portal makes a rather fantastic comparison between the waves of the ocean and labor. The extraction of the child was fairly easy in spite of the convulsions, and, in order to extract the head he resorted to the so-called maneuver of Mauriceau. Then he performed artificial extraction of the placenta, and the woman recovered after a long convalescence.

"On Friday, the 21st of August, 1671, I was called to deliver a woman at the end of the Notre-Dame bridge. I found M. Mathon, doctor of medicine of the Faculty and very expert in his profession, who begged me to examine the patient, who was in the midst of cruel convulsions.

"I introduced my finger into the orifices of the womb. I found the internal one enlarged to the size of a piece of 'quinze sols.' I made my report to him. We were in accord to bleed from the foot; this was done at once by M. Lombard, my confrère, very suitably, because the convulsions went away for an instant, and reason came back to her; but she soon afterwards was attacked by the same symptoms.

"During this time M. Moreau, of whom I have spoken before, arrived; a consultation was held and the enema composed of an emollient decoction in which half an ounce of benedictte, three ounces of mercurial honey and two ounces of oil of sweet almonds were dissolved, was ordered; and when this enema was rendered,

bleeding from the arm was to be resorted to and afterwards a cordial aposema was to be administered, composed of 10 ounces of thistle water, in which a dram of confection of hyacinth and two ounces of lemon syrup were to be mixed; that was to be given the patient in two doses.

"All these remedies, which were given from ten o'clock in the morning until about eight o'clock in the evening, had no effect, so that it was decided to deliver the patient and baptize the child.

"Then the danger was explained to the husband, but there was no other means of saving his wife than by delivering her. He replied to us that he begged us to do what was possible to save her, and this obliged me to reply that I would deliver her; but that if she should die, I begged him, and these gentlemen, to do me justice, and in no way blame me, because, under these circumstances he or she who operates, the woman then dying, is always the object of evil tongues to talk about. They all told me that this should in no way trouble me, and that this operation could only bring honor upon me and no blame whatsoever, because all these gentlemen judged the patient to be a dead woman and the operation necessary.

"It was remarked that the patient was without consciousness, as I have already pointed out. In order that the operation might be accomplished, I had her brought over to the edge of the bed, just as if it had been a dead body, having no other movement. Then, having greased my hands with butter, I slid my fingers along the cervix until the internal orifice was reached, which I found somewhat more dilated than it appeared to be in the morning when I examined her.

"Before this she had received the sacrament of the Extreme Unction.

"Afterwards, finding her in good condition, I slipped two of my fingers, one after the other, into this orifice, which I dilated by gently separating my fingers, spreading them apart from each other in order to make dilatation; and, afterwards, I pushed in a third one in order to have more force to better succeed in my enterprise. And this orifice dilating little by little, I introduced a fourth one, in order to make them all form a kind of speculum, preserving the nature of the parts by the gentleness which I employed. This aided me very much to insensibly slide my entire hand into the body of the womb, that I found very large on account of the distention of the membranes, the waters which

were still contained and the child which floated in the waters just as would a fish in a reservoir.

"All this obliged me to make a comparison with waves of the sea and the labor, because, when the ocean is in its calm, the waves coming upon the sands, they retire at the same time, leaving them almost dry; in the same way it happens that during the movement of the pains caused by the agitation of the heat which causes a swelling of these waters, which push against the membranes, which being pushed by the latter, cause the opening of the orifices and thus dispose matters for the exit of the child. Having examined all things well, I broke the membranes with my fingers and gave plenty of time for the waters to flow off; and, during their flowing off, I felt for the child's foot that I felt fall into my hand outside of the womb, and, looking for the other foot, I came upon the umbilicus. I seized this opportunity to observe the movements of the arteries and to recognize whether or not the child was alive; and, having remarked that it was living, I again took hold of the same foot that I had brought down to the orifice and drew it outside.

"After this, I took a piece of linen with which I enveloped this leg, and I pulled upon it with gentleness, but, sliding the hand up to the knee, I felt the middle part of the tibia of the other leg, which was crossed over the one that I was pulling upon, and drawing upon it, the other followed, after I had disengaged it. After having relaxed the first one, pushing it back a little in order to disengage the other leg, and having joined them together, I pulled them both to the orifice, because, if I had pulled upon the first with force, the one which was crossed would have broken. One should be careful about this, and act under such circumstances with judgment. While I worked, the physicians held the arms of the patient in order to judge of her strength, which was not very great.

Having pulled upon the feet of the child, I observed the rectitude of its body, and that the toes of its feet were turned towards the anus of the mother as far as was possible. It is true that occasionally one cannot accomplish this, and that this may proceed from two causes.

"The first, when the child is too strong one has difficulty to turn it.

"The second, when the womb contracts, a thing which happens quite frequently; in this case, it is impossible to place the child in the position that one desires.

"When I had drawn the child down to the cervix of the womb, the patient was taken with such a severe convulsion that it remained contracted for a quarter of an hour, which was the cause of the death of the child.

"The convulsion having ceased, I continued my operation and I drew the head with the greatest possible gentleness; and, in order to do this, I introduced my fingers in the child's mouth, and having hooked the lower jaw with my finger, I placed my other hand on its neck, having nothing to be careful about as far as it was concerned.

"I could not, however, extract it without using all my strength and all the dexterity of my fingers.

"It is, however, necessary to remark that in this kind of operations, it is not so needful to have strength as dexterity and prudence to practice it well, and to skillfully perform the operation. After I had extracted this child, I applied myself to delivering the mother of her placenta, which, in this kind of labor, after the extraction of the child, is nearly always easy to draw out of the womb. This does not take place ordinarily in all labors, as I have already said, and very often one is obliged to detach it because it is adherent, as happened in this case. This is why I slid my fingers along the cord to the womb, where I found the placenta which was extremely adherent, and I separated it from the declivous part which I felt at the opening of the internal orifice of the womb, towards its lower extremity on the right side; and, having detached it, I extracted it in an instant.

One will notice that during this time the woman was without consciousness and that she regained this more than twelve hours after having been delivered, without remembering having been delivered.

"The next day, in the morning, I asked her if she would not be delivered, and she replied yes, but as I told her that this had already occurred she made a reply that she had no remembrance of it, nor of the convulsive movements. After her labor, her belly conducted itself admirably well, without any considerable tension, although she had fever during twelve days, after which she became all right and has been well ever since.

"It was her first child and she had been subject to the major diseases very frequently, and besides her body was possessed of a bad condition."

"The following observation relates to one of those cases of dystocia which are so disagreeable for the physician and the

family, and which, at the same time, are so menacing to the health of the woman, the delivery of a putrified child. As is always the case, the child was so swollen that it could not pass through the pelvic outlet. The fetal parts which Portal came upon first remained in his hands, and it was necessary to remove the fetus piecemeal; interference became necessary, and the famous enema, so much employed at this time, naturally produced no improvement in the condition of the patient.

"On Saturday, the 5th day of September, 1671, I was called to see the wife of an officer of the King's household, who was believed to be pregnant.

"A midwife had insisted that, on the contrary, she was not.

"I called M. Touté, a very celebrated and skillful physician of the Faculty of the City of Paris, who did me the honor to ask my opinion, and if I believed that there was pregnancy. I replied to him that I believed it. He told me that he thought so also and that he was not of the opinion that the patient should be bled at the foot, although the midwife proposed it, telling us that there was no pregnancy.

"M. Touté, according to the lights that he possessed, only purged the patient with two drams of senna and one ounce of compound syrup of chicory, and the patient felt better.

"But one month after she was attacked by a great pain in the region of the kidneys and the abdomen. She sent in search of a midwife, who made a vaginal examination and said that she felt that the membranes of the waters presented at the external orifice, the size of one sou loaf of bread. The membranes ruptured and the waters flowed away. Then the midwife felt the internal orifice dilated to the size of a piece of thirty sols and one of the parts of the child which presented, which was the reason that I was called for.

"This young woman told me that she did not think she was pregnant, because she had had her sickness every month, and I well knew that another midwife had persuaded her that she was not.

"Nevertheless, after having slipped my index finger into the external orifice, I found that the internal one was flattened, which obliged me to push my finger toward the rectum, where I felt the foot of the child, which protruded as far as the knee.

"I seized it with my fingers, but this part became separated, although no violence was used, and it remained in my hand, which made me understand that the child was dead and putrified. This

leg was not larger than the thigh of a large frog which has been stripped. I begged M. Touté to come and see the patient again for the second time. He told me that, since the child was dead, remedies must be resorted to. We decided together upon an enema made with the root of a wild cucumber and a colocynth bulb that were boiled in an ordinary decoction which could be found in the house; and in a chopine of this decoction an ounce of diathenic should be dissolved.

"This enema had a marvelous effect in the pain that it caused the patient, which obliged her to bear down. In these efforts she expelled the rest of the child, which was entirely putrified, accompanied by an insupportable stink; if this little cadaver had not come out, we had decided to have the woman wear a pessary of cow's bone marrow.

"The child being expelled, another enema was administered to the mother without any effect.

"As this young woman had already lost blood in large quantities, she was extremely weak; this obliged me to insert my fingers into the internal orifice of the womb, which I found very hard and irritated. I exerted every effort, although with the greatest gentleness that was possible, to dilate this orifice. It was thickened to the extent of about three-twelfths of an inch. I pushed my fingers as far forward as I was able in order to withdraw the placenta, nevertheless holding my left hand over the region of the womb.

"This allowed me to draw out the afterbirth, all torn and piecemeal, with the exception of a small portion the size of a walnut, which, although adherent, was separated from the body of the womb.

"This necessitated keeping the patient perfectly quiet on account of the weakness from the loss of blood which she had undergone, which had persistently continued, and which would have caused death if I had not separated this portion of the placenta; but, this having been separated, the loss of blood stopped, and it came away only in small amounts.

"I laid aside all the bits of the placenta in order to make a demonstration the next day to M. Touté, who, having found the patient in rather good condition, left her the entire Saturday to rest.

"On Sunday, in the morning, she was given an enema composed of a common decoction and two ounces of common honey.

"About noon, a certain amount of stench came out, which caused

us to steam the parts and throw up an injection composed of a good handful of chervil. The night of Sunday to Monday went by quite quietly and without fever; she only felt a few pains in the region of the kidneys and abdomen, very mild.

"We judged that these were caused by wind. She asked to eat; we forbade it, but uselessly, because at about five o'clock in the evening she partook of some soup.

"On Tuesday, she was given an enema similar to the preceding one; the injection was changed and two pints of herb water was boiled containing the root of the wild cucumber and agrimony, and three ounces of common honey, and thus she was given these enemas.

"The Wednesday and Thursday we followed the same method, and our patient, still becoming better and better, left her bed a few days after."

The following cases are instances of difficult presentations, which will give an idea of the method followed by our author:

"On a Sunday, the twelfth day of the month of July, 1671, I was called to deliver a lady whom I found very weak and almost without any pains that might aid her in the exit of her child.

"I slid my fingers into the cervix of the uterus, and carrying them as far as the internal orifice, I felt that the child presented by the mouth.

"I withdrew my fingers immediately, because in these encounters one may easily injure the child's eyes and render him blind.

"I resolved to have patience and wait for the pains; but two hours having gone by without any coming on, and the strength of the patient diminishing, made me resolve to deliver her. She begged me from one minute to another to give her relief, or to open the abdomen, on account of the great weight that she said she felt in the womb and in the surrounding parts and in the bladder.

"I had her relatives come together and presented to them the condition in which I saw this poor sick woman and the peril in which she was. They begged me to try to give her relief and to do what I could.

"She was very young, and this extreme youth increased the difficulties, the more so for the reason that the parts are very narrow with the first child, as I have said at the commencement of this book.

"I advised her to receive the sacraments before undertaking

anything for her delivery. Having said that she desired it, and this having been done, I prepared myself to do the operation.

"I introduced my fingers, after having greased them, into the parts of the woman; with them I pushed back the child as gently as it was possible for me to do, because, if the slightest violence is done to the womb one may tear it near the internal orifice, as I have seen happen."

The next case is a face presentation.

"On a Saturday, the second day of May, 1691, I was called to see the wife of a shoemaker who lived in the rue Brisemiche.

"I found her in bed. I examined her and felt that the child presented by the face and that it was extremely wedged in and pressed down. I carried up some butter that I had hardened in cold water, because it was too soft. And, in order to facilitate the exit of the child, I advised the woman to brace up and push when the pain came on and not otherwise, because the efforts that she might make at other times would be rather bad than salutary, and that it was necessary to allow the face to come down, although this would render the labor more difficult and longer, and that no violent measures should be taken but Nature be allowed to act; that if one examined her often the child's face might be injured or some of his parts, and especially the eyes; being certain that nearly all the children that come this way have deformed faces and are covered with injuries, but all this is righted quite easily by the use of wine and oils, of which I have spoken in Chapter III. Judging, consequently, that nothing should be precipitate, I remained there, doing hardly anything other than to insert butter into the orifices of the womb, so that our patient was victorious and the labor very fortunate for the child."

The following is a breech presentation:

"On a Sunday, the 21st day of the month of March, 1666, I delivered a woman living in the rue Saint-Bon, examination of whom allowed me to feel a child, which presented by the right buttock, which obliged me, the waters having been discharged by opening the membranes, to softly push back the child with my fingers, introduced by slipping them along the thigh and the leg so as to find the foot, and, having felt it, I drew it out of the orifice. Then I took some water and christened; after this I took a cloth and drew it out, both the body and the shoulders, but I had considerably difficulty in disengaging the head. It was necessary for me to introduce two fingers of my right hand into the



mouth of this child, all the time holding him with the left hand applied on his chest, which was a very great help to me, because I extracted him in a moment and, at the same instant, the woman was relieved and, treated afterwards like by other patients, got well without any accidents."

The following is a delivery of an enormous child, who presented by the side of the neck, shoulder and clavicle :

"The 16th day of April, 1667, I was called to deliver a lady, living in the rue des Juifs of a child of prodigious size, which presented by the lateral portion of the neck, the shoulder and the clavicle, which occupied the entire internal orifice of the womb. Having greased my hand, I introduced my fingers into the external and internal orifices, and pushed back as best I could these parts into the body of the womb. After this I introduced my hand into the interior of the uterus along the thighs and legs of the child, up to the feet, which I brought together. Having brought them into contact, I drew them out of the external orifice, and when they were out I baptized the child conditionally, and afterwards enveloped the legs with a piece of cloth and drew them out, and the thighs followed, likewise the buttocks, which I found so large and so full of flesh and fat that I had a great deal of difficulty to disengage them and draw the child out as far as the shoulders; then I introduced my fingers over the shoulder in order to get rid of this part. I placed my left hand on the chest of the child and my right on the vertebræ of its neck, but this head was so large that no matter what I did, by introducing my fingers into the mouth and ears of the child, employing all my strength, it was impossible for me to draw it out of the womb, the head became separated and, in spite of what precaution I could take, the head remained in the womb.

"I made every effort to extract this head with my fingers, and I admit that I was never placed under such great difficulties, having no proper instruments for this operation, without which a surgeon should never go to abnormal labors. And, finding myself thus caught, I begged the husband of the patient to go to my house, porche Saint-Mederic, to ask for my instruments. While he went, I encouraged this woman, and I assured her that all would go well."

"It will be noted that after the separation of the head from the body, I kept my hand in the neck of the womb in order to keep the internal orifice dilated, because, if it closed down, it would have been impossible to extract this head, as happened once to a

surgeon in the same street, whose wife died from not having paid attention to this precaution, and this accident which was not unknown to my patient caused her a great deal of apprehension, as well as others present.

"The husband of the patient having returned and brought my instruments, I took with my right hand that which was necessary to perform this operation, and having conducted it to the point of the annular ligament of my left hand, I introduced it as far as the end of the middle finger, which I kept bent in such a way that the point of the crotchet could not injure the patient. I then punctured the head of the child in the sagittal suture, this head being quite as large as that of a man, and after having thoroughly punctured it I pulled on the crochet with the right hand and, aiding it with the left, I withdrew the membranes of the neck of the child, which were separated from the body, and with the right hand I drew the head straight down, so fortunately that ten days after this woman came to me to thank me, no unfortunate accident having arisen, and I reproached her for having taken such little care of herself, as she told me that she felt perfectly well."

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