

HISTORY OF OBSTETRICS—MECHANISM OF LABOR.¹

BY P. V. SCHENCK, M. D., *Lecturer on Clinical Gynecology in the Missouri
Medical College.*

NO other branch of the profession presents so much of general interest, superadded to that known as professional interest, as the department of obstetrics. If since the fall there is anything left of love upon the earth, it is that which man bears to woman and her offspring. As the companion of the mind, as the model of a friend-

¹This lecture was the first one of a course upon the mechanism of labor, delivered to the class of the Missouri Medical College. Dr. Schenck has acceded to the unanimous request of the class in furnishing a copy for publication, although it was not prepared for that purpose.

ship which no chance can shake, as the pleasantest sharer of the heart of hearts—the being to whom man returns after the tumults of the day like the worshiper to a secret shrine to revive his noble tastes and virtues at a source pure from the evil of the external world and glowing with a perpetual light of sanctity and love—where shall we find her equal? and naught but admiration and gratitude should go from us to that Mighty Disposer who has combined our highest happiness with our purest virtue. In the infant there is a purity that makes a sacredness in the very name. There is no beast so wild, no man so low, that he does not love his offspring. To alleviate the sufferings of woman, to stand by the bedside of the mother in her hour of greatest need—such shall be your province, and to administer to her ills your duty. This special field of our study is the more extensive because in its domain, with the exception of our first parents, it embraces all the human family. Man must of necessity commence existence in the body of his mother. Though instances are of record where through Divine influence man passed from this world without death; yet Divinity himself, when he appeared upon the earth, must needs go through the process of uterine life, His mother be delivered, and He be an infant and a child. The ovary has always been the commencing point, the contracted route through the Fallopian tube the necessary way to reach human existence. We all thus commenced; it is a route we all have traveled.

The subject which I shall present for your thought is the mechanism of labor. I hope you will give me your attention, and that the teacher, as well as the pupil, may be taught; that I may be enabled to hold the lamp low on the difficult path, and that with your general interest in the profession a special interest may be induced on your part. Let us briefly survey the history of obstetrics, and note its advance as an art and as a science, with the assurance that you who are about to enter a new field,

like the thrifty farmer about commencing to till the soil, would desire to learn of the acreage, quality and past productions of the field as well as the previous workers.

Midwifery is a word of Anglo-Saxon origin, indicating one who is hired for meed or reward. The term chiefly used in this country is obstetrics, a word derived from *ob* and *stare*, to stand near or in front of. The art is almost coeval with mankind. Women were its principal practitioners among the Hebrews and Egyptians, as well as among the Greeks and Romans. "Be fruitful and multiply" was God's first command. This command God reiterated to Noah and his family as soon as they left the ark. The sex of the child was foretold as early as in the case of Rachel, for when she was in labor she was assured with the words: "Fear not, thou shalt have this son also." Thus early we have an advance of the views of Frankenhäuser. Rachel's case was the first recorded death from childbirth. Twins were foretold in the case of Judah's daughter, for it is said: "Behold, twins were in her womb." Hers is also the first one of record where there was a spontaneous evolution in arm presentation. As if there might be doubt on the subject, it is recorded "that one put out his hand and the midwife took and bound upon his hand a scarlet thread, saying, this came out first." Thus we have the advance views which have immortalized Denman. The presentation at Jacob's birth was evidently vertex and hand, for it is stated that after that his brother came out, and his hand took hold on Esau's heel. The first two midwives mentioned by name were Shiprah and Puah. They withstood Pharaoh when that prince commanded them to cut the cord in such a manner as to destroy all the Hebrew children. In Exodus it is recorded that women were delivered in chairs, and it is stated of the Hebrew women that they were not like the Egyptian women; for they were lively and were delivered ere the midwives came in unto them. Solomon placed the period of pregnancy at ten months. Ezekiel tells how to manage

new-born children, and that children were nursed until they were three years old. In Job and in the Psalms we have mentioned untimely births, and in Hosea there is a prayer for a curse upon a people to give them a miscarrying womb and dry breasts. Phenarete, the mother of Socrates, was a midwife, and his student Plato explains the functions and mentions the duties of midwives. Hippocrates, who practiced medicine in Greece nearly five hundred years before the Christian era, is styled the father of midwifery. He had the good fortune of writing in a language which was not only known but spoken with classical purity for a longer time than any other. He treated of the management of the placenta, and refers to the necessity of turning the child; that the head was the only natural presentation, and all others to be converted to that of the head. His illustration of the olive in the neck of the jar is familiar to every student. To the Greeks are we indebted for the works of Aristotle, who divided labors into natural and unnatural, and gave the signs of pregnancy. Celsus, the elegant and instructive abridger of the writings of Hippocrates, discovered the vectis, wrote a treatise on the uterus and its morbid states. He showed that a living child may be delivered by the feet, and removed the coagula remaining in the womb after the delivery of the placenta. He also wrote a work on the mechanism of labor. Herophilus was the great teacher of obstetrics in Athens. Pliny noticed the derangements of the digestive function during pregnancy, and said the main cause of difficult labor was the undue union of the ossa pubis. Aetius and Paulus Ægineta, surnamed Alkababel (woman's doctor), advocated the operation of craniotomy, and gave the following as the causes of difficult labor: A narrow pelvis, the presence of polypi, obliquity of the position of the child, anchylosis of the ossa pubis at their point of junction, distension of the rectum or bladder, and undue large size of the child. They also gave a description of the crochet. The

latter elevated the shoulder and placed the thumb under the axilla to alter an arm presentation, thus giving in advance the treatment of Wright and Hicks. In breech presentations he recommended delivery by the feet. As to the afterbirth, he preferred to wait for it rather than to use force. Aetius fully described the process of turning, and enlarged the views of Celsus, treating of obliquities of the uterus. Serapion, the Arabian, treated of the disorders incident to pregnancy. Rhazes discovered the fillet, and was the first to advocate the rupture of the membranes. Avicenna gave the first description of an instrument like the modern obstetrical forceps. He described it as one contrived for the purpose of delivering women in cases of difficult labor, preserving at the same time the life of the child. He confirmed the writings of the Greek school, and fell into the error of Hippocrates. Galen first taught that the muscles of the abdomen assist in expelling the fetus. After the decline of learning in the East, midwifery made her home in Arabia, and took up her abode under the protection of the Caliphs. When we consider how these magnificent and semi-barbarous sovereigns, with the exclusiveness of the harem, rewarded or punished their medical attendants as dictated by caprice or whim; when we consider that every book which escaped the general havoc was preserved by the care or partiality of private men, we should never cease to thank the Arabian physicians for their preservation of medical literature. As the Jews were the chosen people to preserve the sacred scriptures, so were the Arabs to the literature of our profession. The school of Salerno was our ark of the covenant. The progress of knowledge in the beginning was slow, the power of conveying it was limited, the abilities of particular men were very often lost by their death; but this obstacle was greatly removed in 1482 by the discovery of printing. In 1440 Guaynemus wrote that the placenta was delivered by weight, and if the cord broke a weight was used to take the place of

the child. If labor was slow, snuff was given, the bed shaken, etc.

In 1518, Linacre established the College of Physicians and Surgeons in London. Rhodion wrote in 1519 and gave the view of an obstetrical chair, and also a picture of a double-headed monster. Rueff, in the same year, improved the pincers of Avicenna, and named them forceps longa and tersa. He was the first to mention a thrombus of the vulva. In 1540, Thomas Raynold published his work called the *Byrth of Mankind, or the Woman's Book*. This remained as an authority as far as 1634. At this time all the works of Ambroise Paré were translated in one volumé. Ambroise Paré, the famous restorer and improver of midwifery, made many useful observations; and in 1573 he showed that foot presentations were not dangerous, and that in malpresentations it was better to deliver by the feet than bring down by the head. This was the commencement of a new era, and breaks the trammels which had lasted two thousand years, and which were placed by the teachings of Hippocrates. In the same year the first scientific work on midwifery appears, by Roselin, in Germany. In 1621, Thomas Willis wrote an able chapter on puerperal fever, speaking of a class of such diseases which were simply inflammatory. In the early part of the 17th century the midwife of Marie de Medicis published a collection of observations on midwifery. In 1640, Henry Roonhausen, of Holland, claimed with Celsus the discovery of the vectis. Mynmahus wrote an essay on fetal life. In 1651, Needham wrote a work of high estimation upon the contents and economy of the grand uterus. In 1653, Dr. Paul Chamberlen invented the forceps with separate blades. In 1800, Denman mentions them, but says they are a kind of vectis. These forceps were not publicly known until 1815, when they were found in a tenant house in Essex. This instrument is now in the possession of the London Medico-Chirurgical Society. In the same year, 1653, Harvey published his treatise on Generation, under the title of *Harvey's Exercitationes*. In 1656,

Wharton published his *admographia*, in which he dwells in full upon facts connected with the gravid uterus. Hysterotomy was performed in 1661. In 1663, Madame de la Valaire was attended by Julian Clements. In order to do it he was conducted with the greatest secrecy into her house. The lady's face was covered with a hood, the king being concealed in the curtain of the bed. Mauriceau's treatise appeared in 1668, and for a long time was the standard. The operations in midwifery were regarded as a part of surgery, so that Mauriceau was in reality the first real obstetrician. He was endowed with great abilities and with extensive learning. In 1669, Walter Charlton published a work on the Causes of the Catamenia, and on Rheumatism of the Uterus. The manuscript written by Percival Willoughby, and given to Dr. Kirtland, shows the manner in which the practice of obstetrics was carried on from 1640 to 1670. In 1672, Chamberlen's son returned from Paris, where he had been to sell the secret of the forceps; and being foiled in their use, receiving much obloquy therefrom, he came back to England and, singular to say, he translated the work of Mauriceau (his opponent) into English. Van Hoone established a professorship of midwifery in Stockholm in 1697. Ergot was first used in the 17th century. In 1719, Diones' *Midwifery* was translated into English. Maubray, in 1723, published his book, "The Female Physician, or the Whole Art of New Improved Midwifery." In the following year he published an appendix, "Midwifery brought to Perfection." He was the first teacher in England, and most bitterly opposed the use of all kinds of instruments. In 1729, Simpson published "System of the Womb." In the same year, Deventer's book was translated and published. He was opposed to the use of instruments. Originally, Deventer was a watchmaker. Chapman was the first to describe the forceps in London, and the second public teacher of midwifery in London. Dr. Lapeygonie, surgeon to Louis XV, created two chairs of obstetric teaching. Diones reports a case of

ruptured uterus, and Gregory, the younger, gave a course of lectures in Paris. In 1733, Chapman published his treatise on the "Improvements of Midwifery." In 1734, Hody published a collection of cases in midwifery. Giffard gave a plate representing the forceps, and was the first who asserted that the placenta might be attached over the os uteri. In 1737, a school was established in Strasburg. In 1739, Richard Mannayham established a ward in the Parochial Infirmary, at St. James, for the reception of parturient women, which was the first thing of the kind in the British Dominion. In 1741, Sir Fielding Oulde's work was published, describing the passage of a child's head through the pelvis at birth, and made observations on the continuance of the thickness of the uterus during pregnancy. In 1752, Dr. Shippen gave the first lectures on midwifery in this country. In the same year, Smellie taught in England, and hung over his door that red lantern well known historically, upon which was written, "Midwifery taught here for four shillings." He was the first who accurately pointed out the progress of labor, the shape of the fetus, and the dimensions of the pelvic cavity. To Smellie, in England, and Devret, in Paris, is the credit due of separating obstetrics from surgery. Ruysch, of Holland, made the celebrated collection of fetuses which was afterwards purchased by Russia. He asserted, that after a practice of fifty years he had never found it necessary to introduce his hand into the uterus to extract the after-birth. In 1768, the plan was proposed by Sigault, of France, of dividing the ossa pubis, for the purpose of increasing the antero-posterior diameter; it was then as enthusiastically received as it is now universally condemned. Dr. Hunter, in 1745, gave views of the membrana decidua and reflexa. In 1789, a school of midwifery was established in Rome, under Pope Pius VI. In 1791, Frederick William Voight published a volume upon the diagnosis of pregnancy by the sense of touch. Chapman was the first public lecturer on obstetrics in England. Puzos was the first person in

France who was honored with the title of Professor of Obstetrics. In 1797, Baudelocque methodically arranged the presentations and positions. During the same year the Emperor of Russia established an obstetrical school in St. Petersburg. Bon and Schmidt, of Germany, and Naegele, of Heidelberg, gave an impetus to the science. In 1807, John Stearnes, of New York, explained more fully than had ever been done the virtues of ergot. In 1818, Mayer, of Geneva, first applied auscultation in the diagnosis of pregnancy. Anesthesia was first used in labor by Simpson, of Edinburgh. The cephalotribe was invented by Baudelocque, Jr. I will only mention, for time will not permit more, the names of many ancient writers, such as Felix Platu, Cleopatra, Bornaciola, Silvius, Ruff, Mercinali, Bottoni, Le Bon, Albucasis, Rousset, Caspar, Bauline, Cordens and Mercado, but enough has been given to interest you in future research. Ancient productions are precious to us, rather because they come as a reflection of thought from ages long past, than because they represent the ideas of any particular individual, for posterity always takes less interest in individuals than in opinions. I need not go over with you the writers of late date. I trust they will be soon known to you from your own reading. This century has done more in our branch than all the others combined, and has been prolific in its writers. To mention the names of a few is sufficient, for, as to intellect, they stand beyond cavil equal to any other professional writers; Baudelocque, who seized the sceptre of obstetrics and applied the scientific ideas which he had derived from others; Naegele, who wrote a book, a true Euclid of obstetrics, a work which has exercised a greater influence than any other work of its size ever published in medical literature; and simplified the study of obstetric science; Cazeaux, whose work is truly classical, and well worthy what it has lately received, namely, a new edition; Velpeau, who loved the science for the sake of the science; Du Bois, the oracle of French midwifery; Kiwisch, Bauer and Schroeder, who are

worthy successors of Saxtorph, with his memoirs; Stein, with his art of obstetrics; Stark, with his archives; Zeller, with his observations, and Studell with his treatises; Denman, with his spontaneous evolution, starting as he did as health officer of a vessel, ending as the great authority of England; Simpson, the earnest, the original and the gifted student, the discoverer who sought and found for suffering humanity in its sorest need a foretaste of the peace of heaven. He rose from the obscurity of a country village to be the favorite of his sovereign, the peer of the highest literary and scientific authorities, the cynosure of the medical and surgical intellect of the century. Next, Tyler Smith, the classical orator, who made even the dry bones of the pelvis to bloom with beauty, who entertainingly told what he knew, and knew what he told; Dewees, one of the fathers of American obstetrics, the nervous and energetic, exemplifying thoroughly and practically the doctrines of French obstetricians; James, the first professor of obstetrics in this country, the erudite and polished instructor, who gave currency to the teachings of British schools; Bard, who published the first original treatise on midwifery in the United States. Hodge, that old scholar and Christian gentleman, who has added not only to our literature, but has given us the brightest bloom of his ample experience and fertile brain. Leishman, the Scotchman; Playfair, the royal obstetrician; and last, but not least, Barker, that scholarly gentleman who was so fitly called to London as our representative obstetrician, who has given us that gem of clinical lectures in his work on Puerperal Diseases. In my list I have omitted, with a purpose, but without disrespect, the names of Mesdames Lachapelle and Boivin. Velpeau says of them, although the pupils of Baudelocque, they were not afraid to shake off to a certain extent the yoke of his scientific authority, and their position and dignity form the starting point of a new era. Their researches upon the structure of the uterus, the great work by the one on the diseases of the womb, the twelve mem-

oirs contained in the three volumes of the other, place them high in the list of distinguished characters, as viewed from a historical point. I wish their mantle could fall upon the shoulders of their sisters in the present generation. But here I must stop; of these two alone do I make exceptions. If men had been in charge of obstetrics, and the world free from an old prejudice, our obstetrical history would have been far different, our heraldry would have been resplendent; no dial of two thousand years would have stood unmarked by the progress of midwifery. The history of midwifery will in vain be searched to find a single instance recorded, or a practical discovery made, by the class we now know as midwives. Woman has her sphere, and in such she has the respect and admiration of all. The boundary of her sphere is so fixed that when she goes beyond she is but a fallen star. The composition of her intellectual faculties does not include invention or the finer points of scientific advancement. In music, she brings the sweetness of her voice and the beauty of her touch; but she does not belong to the class of great composers. Her household duties she performs with a care no one else can equal; she sheds upon each comfort a ray that makes it an essential part of home; she sends forth into every-day duties an influence which refines the world; yet, with all her household cares, which she arranges with a woman's taste, the broom with which she sweeps, the duster with which she dusts, the stove upon which she cooks, the needle and thread with which she sews, the machine with which she stitches, the instrument upon which she plays, all are the gifts to her of man's ingenuity.

Gentlemen, study well the mechanism of labor—men who have been truly great in the science of obstetrics have been truly great in this essential portion. If you desire to know what leading obstetricians have thought on the study of obstetrics and the mechanism of labor, listen to the echo which comes from their works. The science of obstetrics is the ensemble of knowledge relative to the reproduction

of the human species. It is not a science such as Leroy stated, that one could explain on the back of a playing card, it is one of the most important and positive branches of medicine. The mechanism of labor is the vital forces acting in perfect harmony with the laws of mechanics, the wonderful adaptation to insure the object to be accomplished; its principles are sure, all its operations may be carried on in a manner to a geometrical certainty; these same principles give to the resources which science employs a degree of precision which causes it to approach in certainty the mathematical sciences. Its study cannot be neglected. The necessity of accurate information will not be questioned by those who have had experience in tedious and difficult labors. It is a knowledge which alone can furnish correct principles for your guidance. Perfect acquaintance with its details in all their minutiae is the real foundation of scientific midwifery. An accoucheur well acquainted with the mechanism of labor can diminish the anxieties, the sufferings and dangers of the parturient woman, and augment the chances in favor of the safety of her infant; while he who is ignorant of it, whatever be his skill or experience, must either allow his delicate and anxious patient to work out her own delivery by protracted and continued suffering, or must operate, if assistance be deemed necessary, at the greatest possible risk to mother and child. In the whole range of obstetric science there is no topic more worthy of profound study, none certainly which involves more deeply the lives of both mother and child. It is the alphabet of obstetrics, and dominates the whole scientific practice of midwifery. It is the keystone of the arch of obstetrics; without it the practice of midwifery is a mere handicraft, and is wholly unworthy the dignity of a science; without it you are on a par with an uneducated midwife. It is not a sad plaything like many speculative systems in our profession, and Naegele's Euclid of obstetrics will not have accomplished its mission until every accoucheur in each individual coming before him entirely

masters the fetal head. Nothing less than this should be arrived at by every obstetric practitioner; and it is a lamentable fact that such sayings of our brilliant men, who have furnished such glorious monuments of the human intellect, should go for naught, and that students leave their schools more ignorant of the mechanism of labor than any other portion of the branch; and we can re-echo to-day the cry of Simpson, which was the echo of Denman's affirmation, that there are few departments in midwifery in which the practitioner entertains more loose and more incorrect ideas, and that natural labor is the last thing studied.

In conclusion, gentlemen, allow me to congratulate you upon the era at which you are entering the study of this subject. Wonderful and gratifying progress has been made; the days of superstition have passed; no longer is the butcher required to remain in the adjoining room, to have in readiness the warm skin of an animal to be laid over the patient's abdomen. No longer will women run the risk of the occurrence which befel Mary Anne, of Bavaria, when she gave birth to Louis, Duke of Burgundy, namely, have the skinned animal walk into the room and up to the bedside of the patient. Your sphere shall be in the lying-in room. Be there not as an idle spectator, but watch, well armed with all the professional armament to protect the system from harm while in its throes of labor. Allow no ill to befall that which is about to breathe the breath of life. So manage the scene that the character on the stage shall not suffer, or make her exit in causing another character to enter. It is a position in which you will be placed where ignorance is a crime, officious effort ignorantly bestowed is criminal, but the inaction of ignorance is infanticide and often is matricide. In this branch of your profession you must be obstetricians. Stand near—time to study authorities neglected during your course will not be given you. The crisis is at hand, and if you fail there is no redemption. Know well the presentation and position. Know

when to assist and when to desist. Have your instruments well in hand, and, above all, have your hands well tutored to their use. Be not forward, but let no false modesty check—a life is in jeopardy, and a life the wager.