

## A SKETCH OF THE HISTORY OF OBSTETRICS IN THE UNITED STATES UP TO 1860.

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*Early Obstetricians.* Owing to the new and unsettled condition of the country, and the fact that its largest towns were little more than villages, all the prejudices which existed in England and France against the employment of men in obstetrical work held even stronger sway in America, and consequently male practitioners were practically unheard of until the latter half of the eighteenth century.

According to Packard, the first mention of an American obstetrician is to be found in an obituary notice appearing in a New York newspaper for July 22, 1745: "Last night died, in the prime of life, to the almost universal regret and sorrow of this city, Mr. John Dupuy, M.D., man-midwife, in which last character it may be said of him as David did of Goliath's sword, 'there is none like it.'" Dupuy appears to have been merely a successful practitioner and left no writings.

About the same time Dr. John Moultrie enjoyed an extensive obstetrical practice in Charleston, South Carolina. Moultrie was born and educated in England, and settled in Charleston in the year 1733, where he practiced for fifty years. He soon became very popular, and was the first to break through the prejudice against men attending women in labor. He was so successful in this regard that Thatcher said: "His death was regarded as a public calamity. Several of the ladies of Charleston bedewed his grave with tears and went in mourning on the occasion. The year after his death was distinguished by the death of several women in childbirth. While he lived they felt themselves secure of the best assistance in the power of man and of art in case of extremity. In losing it they lost their hopes; depressing fears sunk their spirits, and in an unusual number of cases produced fatal consequences." Moultrie

left no writings, but his son, who was the first South Carolinian to receive a medical degree from the University of Edinburgh, became a very accomplished physician and scholarly writer.

The most noteworthy early obstetrician in New England was Dr. James Lloyd of Boston (1726-1810). Dr. Lloyd was the son of prominent and well-to-do parents, and after acquiring the rudiments of his medical education under Dr. James Clarke of Boston, spent four years in England, working in Guy's and St. Thomas' Hospitals. He obtained his obstetrical training under William Hunter and Smellie, and on his return built up an extensive practice in Boston, where he was the first to introduce the rational practice of midwifery. In addition to his medical attainments, which were considerable, he was a prominent and useful citizen, interesting himself in everything connected with the welfare of his native city. His civic virtues were well set forth in a sermon delivered after his death by the Rev. Mr. Gardiner in Trinity Church. Lloyd wrote but little and left no obstetrical writings.

About the same time the practice of obstetrics was introduced into the Colony of Rhode Island by Dr. William Hunter, a Scotchman who had studied in Edinburgh under the elder Munro, and who settled in Newport in 1752, where he practiced for twenty-four years. It is said that he was a relative of John and William Hunter, but his chief claim to fame is the fact that he was the first medical lecturer in this country, having given a course upon anatomy during the years 1754, 1755 and 1756. He was apparently a learned and competent physician, and collected the largest medical library in existence in America at that period, a part of which is to be found in the library of Brown University, Providence, R. I.

By far the most prominent of all the early obstetricians was Dr. William Shippen of Philadelphia (1736-1808). He was the son of Dr. William Shippen, Sr., under whom he studied the rudiments of Medicine. Later he spent five years in medical study in Europe, obtaining his obstetrical training under John and William Hunter, Smellie and Mackenzie, and graduating from Edinburgh in 1761, after the submission of a thesis, entitled "De placentæ cum utero nexu."

Shippen returned to Philadelphia in 1762 and immediately made preparations for giving a course of lectures upon anatomy and midwifery, the latter being announced, as follows, in the *Pennsylvania Gazette*, March, 1762:

"Dr. Shippen, Jr., proposes to begin his first course on midwifery as soon as a number of pupils sufficient to defray the expense apply.



The course will consist of about twenty lectures, in which he will treat of that part of the anatomy which it is necessary to understand in that branch, explain all cases of midwifery, natural, difficult and preternatural, and give all directions how to treat them with safety to the mother and child; describe the diseases incident to women and children within the month, and direct the proper remedies; will take occasion during the course to explain and apply those curious anatomical plates and casts of the gravid uterus at the Hospital, and conclude the whole with necessary cautions against the dangerous and cruel use of instruments.

"In order to make this course more perfect, a convenient lodging is provided for the accommodation of a few poor women, who otherwise might suffer for want of the common necessaries on these occasions; to be under the care of a sober, honest matron, well acquainted with lying-in women, employed by the doctor for the purpose.

"Each pupil to attend two courses at least, for which he is to pay five guineas; perpetual pupils to pay ten guineas. The female pupils may be taught privately and assisted in any of their private labors when necessary.

"The doctor may be spoke with at his house in Front Street every morning between the hours of six and nine, and at his office in Letitia Court every evening."

According to Norris, the first course consisted of twenty lectures, as follows:

"1. On the bones of the pelvis.

"2. Male and female organs.

"3. Changes in the uterus.

"4. On the placenta.

"5 and 6. On the circulation and nutrition of the fetus.

"7. On the signs of pregnancy.

"8. On the menses.

"9. Fluor albus.

"10. On natural labors.

"11 and succeeding ones: On laborious or preternatural labors, with the use of instruments; and concludes by particular lectures on diseases of women and children within the month, with directions concerning the diet of each and the methods of choosing and making good nurses."

These lectures, which were the first delivered upon the subject in America, were continued until September, 1765, when Shippen, in association with Dr. John Morgan, founded the Medical School of the Col-

lege of Philadelphia, later the University of Pennsylvania, in which he became Professor of Anatomy, Surgery and Midwifery. He continued to give his lectures without interruption, except during the Revolutionary War, and taught the three branches until 1805, when Philip Syng Physick was made Professor of Surgery, while Shippen continued to teach anatomy and obstetrics until his death in 1808, although in the later years of his life he was materially aided by Caspar Wistar, who succeeded to his Chair.

Shippen appears to have been not only an excellent and experienced teacher, but took part in everything pertaining to the advancement of his city and country. He was a surgeon in the Revolutionary Army, and in 1777 was appointed Surgeon-in-Chief, with the title of "Director General and Physician-in-Chief to the Hospital."

The most distinguished early obstetrician in Maryland was Dr. Pierre Chatard, who was born in San Domingo in 1767. He received his education in France, and settled in Baltimore in the year 1800, where he practiced until his death in 1848. During this period he delivered 4309 patients in his private practice, and left fairly full notes of all his cases, which were tabulated and reported by his son-in-law, Dr. W. C. Van Bibber.

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*Clinical Instruction and Medical Schools.* After the pioneer work of Dupuy, Moultrie, Lloyd, Hunter and Shippen, obstetrics gradually came to be regarded with more favor by physicians, and the employment of male practitioners became more and more popular, so that eventually the work of midwives became limited to the poorer classes. While the men just mentioned must be considered as the fathers of obstetrics in America, it must nevertheless be remembered that they had been educated in Europe, and that therefore competent obstetricians could not become generally available until suitable facilities were afforded for their training in this country. This accordingly necessitates a very brief consideration of the early methods of medical instruction, and the foundation of the first medical schools.

As has already been indicated, the first medical lectures in America were given by Dr. William Hunter of Newport, R. I., during the years 1754, 1755 and 1756, and were confined entirely to anatomy; and it was not until 1765 that the medical school of the College of Philadelphia, which later became the University of Pennsylvania, was founded by the exertions of John Morgan and William Shippen. The former was made Professor of Medicine, while the latter taught anatomy, surgery and midwifery. Shippen continued to teach the three branches until 1805, when surgery was made a separate Chair and given to Professor Physick. Anatomy and obstetrics, however, were taught by Caspar Wistar for several years after Shippen's death, but in 1810 the two branches were separated, and Thomas Chalkley James was appointed Professor of Obstetrics. But even then the subject was regarded as of subsidiary importance, as it was not until 1813 that its study was made obligatory upon all students.

Dr. James graduated from the University of Pennsylvania in 1787 and went to London in 1791, where he became a house pupil in the Story Street Lying-in Hospital, and enjoyed abundant facilities for work and observation under Osborn and Clarke. He returned to Philadelphia in 1793, and in 1802 began to give private courses in obstetrics in connection with Dr. John Church, and later with Dr. Nathaniel Chapman.

James was appointed Obstetrician to the Almshouse and Pennsylvania Hospital, and became a very competent but cautious practitioner. He is credited with having been the first in this country to resort to the induction of premature labor for contracted pelves, and was one of the very first to protest against the current belief as to the possibility of primary abdominal pregnancy. He was never a voluminous writer, but in 1813 he edited Burns' "Principles of Midwifery," and in 1816 Merriam's "Synopsis of the Various Kinds of Difficult Parturition." He resigned his Chair in 1834, and was succeeded by William P. Dewees, who had been associated with him as Adjunct Professor since 1825. The latter retained his professorship for only a little more than one year, and was succeeded by Hugh L. Hodge in 1835, who remained in office until his resignation in 1863.

It would therefore appear that to Philadelphia belongs the credit of having introduced the first systematic instruction in obstetrics in this country, and that it maintained its preëminence in this branch of medicine for nearly a hundred years, by the appointment of the most eminent obstetricians of the country to teaching positions.

In great part as the result of the exertions of Dr. Samuel Bard, the Medical Department of Kings College—now Columbia University, New York—was founded in the year 1768. Dr. J. V. L. Tennent was appointed Professor of Midwifery in the original Faculty, and was, therefore, the first full professor of this branch of Medicine in America. He taught for only a few years, and was succeeded by several practitioners of merely local prominence, so that it was not until 1820, when John Wakefield Francis was appointed, that the Chair of Obstetrics in that institution was held by a prominent obstetrician. Francis (1789-1861) was a very conservative practitioner, and wrote but little upon obstetrical topics, being best known as the editor of Denman's "Introduction to the Practice of Midwifery," in 1825. He was, however, a man of very considerable literary attainments and prepared a most valuable and interesting work upon the history of the City of New York, entitled "Old New York," which is replete with personal recollections of its most prominent early citizens.

It is interesting to note that the first text-book upon obstetrics to be written in America, was the work of Dr. Samuel Bard, the first Professor of Medicine in Kings College (1742-1821). This work, "A Compendium of the Theory and Practice of Midwifery," appeared in 1807, after Bard's retirement from practice. It went through five editions and was very considerably used.



The Medical School of Harvard University was founded in 1782, but apparently no provision was made for instruction in obstetrics until 1815, when Dr. Walter Channing (1786-1876) was appointed Lecturer upon the subject. A few years later he was made Professor, and held the position until shortly before his death.

The Dartmouth Medical College at Hanover, N. H., was founded in the year 1798, by Dr. Nathan Smith, who was apparently the sole instructor in all branches of Medicine during the first ten years of its existence, and even as late as 1828, Dr. Reuben D. Mussey continued to teach anatomy, surgery and midwifery. The Medical Department of the University of Maryland was founded in Baltimore in 1807. Dr. John B. Davidge was appointed the first Professor of Obstetrics in 1812, and was succeeded by a number of eminent practitioners, who, unfortunately, made but few contributions to literature.

These five schools have pursued an uninterrupted existence, continuing to the present day, and should be regarded as the pioneers in medical instruction in this country. With the beginning of the nineteenth century the number of schools increased rapidly, so that twenty were in existence in the year 1820; and at present there is hardly a city of any size which does not boast of at least one, and frequently several institutions for medical instruction. Unfortunately, many of these were founded upon an insufficient basis, and offered but scanty facilities for the proper study of Medicine. Moreover, in many instances the professors were chosen less for their eminence in a particular branch of Medicine than for political or social reasons, so that it was not infrequent for a single individual, during the course of a few years, to become successively professor of several branches; and it is probably to this fact more than any other that the comparatively slow advance of obstetrics in this country was due.

As far as I have been able to learn, the first real clinical instruction in obstetrics in America was given in a small private hospital which Shippen started in 1762 for the benefit of the students attendant upon his course of lectures. According to Agnew, in his "Medical History of the Philadelphia Almshouse," Drs. Thomas Bond and Cadwallader Evans were appointed physicians to the institution some years prior to 1767, and gave demonstrations to the students upon whatever cases happened to be under their charge; and this no doubt included a certain number of obstetrical cases. In 1797, however, a distinct obstetrical department was organized, and placed under the charge of Drs. John Church and Thomas C. James. It is probable, however, that at

first such cases were not available for clinical instruction, as it was not until 1803 that permission was granted for one private pupil to be present at each case of labor. This institution has continued in existence ever since, and is now known as the Blockley Hospital.

According to Morton, a lying-in ward was opened in the Pennsylvania Hospital of Philadelphia in May, 1803; though great attention was not paid to it until 1810, when Thomas C. James was appointed obstetrician. He held this position until 1832, when he was succeeded by Hodge, who remained in charge until 1851, when the ward was definitely closed; as the Preston Retreat, which was opened in that year, was believed to afford all necessary facilities for the care of obstetrical patients. This service, however, was comparatively small, as during the forty-eight years of its existence only 1397 women were delivered, with an average mortality of 4.97 per cent.

The Society of the Lying-in Hospital, which was founded August 1, 1799, was the first institution of the kind in New York. As the funds available for its support were insufficient for its maintenance, the charity was amalgamated with the New York Hospital, which maintained a definite lying-in ward until 1827, when it was discontinued. From then until 1894, the Society of the Lying-in Hospital limited its work to the care of poor women in their own homes. In the latter year a small hospital was opened in connection with it, which continued in use until 1902, when it was replaced by the magnificent structure built through the generosity of J. Pierpont Morgan, and which at the present time is the largest and most complete lying-in hospital in America.

In an obituary of Dr. Gunning S. Bedford, in the *New York Medical Record* for 1870 (v, 330-331), it is stated that some years prior to 1862 he had established an obstetrical clinic in connection with the University Medical College, which was said to be the first institution of its kind in New York. Unfortunately, I have not been able to obtain detailed information concerning it.

To Prof. James P. White of Buffalo (1811-1881) belongs the credit of being the first American to demonstrate obstetrical cases before large classes, having, in 1850, delivered an Irish girl, named Mary Watson, in the presence of the graduating class of the Buffalo Medical College. This was regarded as a very questionable innovation, and was the cause of many protests in the newspaper and religious journals, some of which were so virulent in their attacks upon the professor and his methods that he felt it necessary to invoke the protection of the law, and accordingly instituted a suit for criminal libel against Dr. Horatio N. Loomis,



who was particularly bitter in his denunciations. During this trial large numbers of medical men were questioned as to the necessity and advisability of the demonstration of women in labor before medical students; and, strange as it may now appear, many could be found who were willing to testify that it was quite unnecessary, believing that abundant preparation for the practice of obstetrics could be obtained by the ordinary didactic methods. That the medical profession in America was not thoroughly prepared for such an innovation is rendered evident by the following letter, which was published in the *Buffalo Medical Journal* for March, 1850, and signed by seventeen physicians of Buffalo:

“SIRS:—The undersigned, members of the medical profession, have noted with regret in the February number of your journal the editorial article and the correspondence to which it refers, entitled ‘Demonstrative Midwifery.’ The propriety of the exhibition of the living subject before the graduating class at the College, as we understand it, does not in our view admit of a public discussion; and our only object in this communication is to say that the practice does not commend itself to the cordial approbation of the medical profession of Buffalo, but on the contrary merits a severe rebuke, because we deem it unnecessary for the purposes of teaching, unprofessional in manner, and grossly offensive alike to morality and common decency. For the credit of the medical profession we hope that this innovation will not be repeated in this or any civilized country.”

Doubts as to the propriety of such a procedure were likewise expressed in other parts of the country, and became so widespread that the question was referred to the Committee on Medical Education of the American Medical Association. In its report, presented in 1851, this Committee took the ground that the only advantage which could be gained by exposing the patient was a somewhat greater facility in protecting the perineum; but held that this did not compensate for the obvious disadvantages of the method, as they considered that a physician who was not prepared to conduct labor by the sense of touch alone was not competent to practice obstetrics.

It is quite probable that at least a part of this adverse sentiment could be attributed to the appearance in 1848 of Gregory’s pamphlet, entitled “Man Midwifery Exposed and Corrected,” in which it was contended in the most virulent language that the conduct of labor cases by men was subversive alike to the morals of the physician and patient, and was distinctly more dangerous than the employment of a midwife.

The protests urged against the innovation, however, proved ineffectual, and it soon became generally recognized that a practical knowledge of obstetrics could not be obtained by the student unless he were afforded abundant facilities for personal observation at the bedside. Accordingly, clinical instruction gradually made its way against opposition, so that during the course of the last quarter of the nineteenth century lying-in wards were established in connection with all of the large hospitals in affiliation with the leading medical schools.

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*Early Obstetrical Literature; Exclusive of Text-books.* Notwithstanding the faulty facilities for instruction in obstetrics, particularly from a clinical point of view, not a few noteworthy contributions were made to its literature by the early physicians of America.

One of the very first medical works published in this country was that of Thomas Cadwalader (1745), "An essay on the West India Dry Gripes, with the method of preventing and curing that cruel distemper; to which is added an extraordinary case in physick." The term "dry gripes" was employed to describe attacks of lead colic which could be traced to drinking rum which had been imported in leaden vessels; while the "extraordinary case in physick" was of much greater interest from an obstetrical point of view, as it was an excellent description of the clinical history and autopsy findings in a case of osteomalacia. This report shows conclusively that even at so early a period osteomalacia was not unknown in this country; and also, notwithstanding the primitive conditions then existing, that autopsies were performed upon patients dying from unusual diseases.

The next noteworthy contribution was Shippen's thesis, "De placenta cum utero nexu," Edinburgh, 1761. In this the author described the results of injecting the vessels of the pregnant uterus with the placenta in situ, and showed definitely that there was no communication between the fetal and maternal circulations. No doubt this work was based in great part upon similar observations made by John Hunter, under whom Shippen studied; but at the same time it seems strange that they were so soon lost to view, and erroneous views promulgated in their stead, until the work of Waldeyer, Bumm, Leopold and others, nearly 130 years later, conclusively demonstrated their correctness.

That the early American physicians were well informed of the advances in Europe, but at the same time desired to test their correctness by their own experience, was shown by a paper which Joseph Orne of Salem, read before the Massachusetts Medical Society in October, 1783, and entitled "An experiment for determining the expediency of the Sigaultian operation." The article was based upon observations made at the autopsy of a woman who had died of eclampsia in the latter part of pregnancy, and the author found upon cutting through the symphysis that the ends of the pubic bones would gape 2 inches, which could be increased to  $2\frac{3}{4}$  or 3 inches by forcibly rotating the thighs, from which he concluded that the operation would add materially to the capacity of the pelvis. As far as I can learn, however, symphysiotomy was not practiced in America until the year 1892, after Robert P. Harris had called attention to its rehabilitation in Italy, and had pointed out its practical advantages.

Probably the first paper upon a teratological subject was read by Dr. Leverett Hubbard on the fifth of April, 1796, before the Medical Society of New Haven County in the State of Connecticut, and entitled "Case of a Deformed Fetus." This was an acephalic monster with a sacral teratoma of considerable size, and was reproduced by a fair woodcut. After describing the specimen Hubbard piously concludes: "What great reason have we to praise the great framer of our bodies that our children are not more often deformed than they are."

In the same year Joseph Osgood, of Andover, Mass., communicated to the Massachusetts Medical Society a case of obstructed labor in which a circular atresia of the vagina prevented the descent of the child. After cutting through this he delivered the woman of twins, and it is stated that the patient subsequently had four other children without difficulty. A few years later the same author, under the title, "An account of an extravasated tumor in the labium pudendum," described a hematoma of the vulva the size of a child's head, following labor. It gave rise to marked symptoms, but terminated spontaneously by rupture on the third day, the patient making an uneventful recovery. At the same meeting, Dr. Nathaniel W. Appleton likewise related "The history of a hemorrhage from a rupture on the inside of the left labium pudendum." In this instance the loss of blood was so great that the woman would undoubtedly have bled to death had appropriate treatment not been instituted.

It is interesting to note that Dr. John Archer, of Harford County, Md., the first recipient of a medical degree in America, made a number



of contributions to obstetrical literature in the early numbers of the *Medical Repository*. Particularly noteworthy was his account of two cases of dystocia in negro women due to conglutination of the labia majora, a condition which he attributed to leukorrhœa in early childhood. He likewise recorded two cases of superfecundation, in one of which a white woman gave birth to twins, one child being white and the other a mulatto, while in the other a negro woman gave birth to a black and a mulatto child.

As far as I have been able to ascertain, Valentine Seaman of New York, was the first American to prepare a manual for the use of midwives. This work, entitled "The Midwives' Monitor and Mothers' Mirror," appeared in the year 1800; it possessed but little merit, and derived its chief interest from the fact that the author was one of the surgeons to the New York Hospital and Physician Extraordinary to the Lying-in ward of the Almshouse.

Among the most important early obstetric contributions should be reckoned the introduction of the medicinal use of ergot by Dr. John Stearns of Waterford, N. Y. (1770-1848). The first information concerning its use is to be found in a letter written by Dr. Stearns to Dr. M. S. Ackerly, dated January 25, 1807, and published in the *Medical Repository*, 1808, 2d Hexade, v, 308-309. It reads as follows:

"In compliance with your request, I herewith submit you a sample of the pulvis parturiens, which I have been in the habit of using for several years with the most complete success. It expedites lingering parturition and saves the accoucheur a considerable portion of time, without producing any bad effects upon the patient. The cases in which I have generally found this powder to be useful are when the pains are lingering, very nearly subsided, or in any way incompetent to exclude the fetus. Previous to its exhibition, it is of the utmost consequence to ascertain the presentation, and whether any preternatural obstruction prevents the delivery; as the violent and almost incessant action which it induces in the uterus precludes the possibility of turning. The pains induced by it are particularly forcible, though not accompanied by that distressing agony of which patients frequently complain when the action is much less." After giving directions for its use, either in decoction or powder, he concludes: "The modus operandi I feel incompetent to explain. At the same time that it augments the action of the uterus it appears to relax the rigidity of the contracted muscular fibers."

It would appear from Stearns' letter that at first he had no idea of the hemostatic properties of the drug, but these he fully recognized in

a more extended article which appeared in 1822. In this second communication he claimed that he was the first to recommend its intelligent medicinal use, though of course he admitted that it had been used as a abortifacient from the earliest periods by ignorant peasant women. He likewise gave detailed directions for its use, and pointed out certain contraindications to its employment.

The suggestions contained in his first communication were promptly accepted, and the drug soon came into very general use. Five years after its appearance (1813) Oliver Prescott presented to the Massachusetts Medical Society, "A dissertation on the natural history and medicinal effects of the *secale cornutum*, or ergot;" in which a very excellent résumé of the existing knowledge of the subject was given. It is also of interest to note that Prescott reported one of the first cases of rupture of the uterus recorded in this country, and gave an excellent description of the conditions found at autopsy.

A few years later E. Hale communicated to the Massachusetts Medical Society his important "Observations on Abortion," in which he considered the subject in detail, and laid down concise and definite rules for its treatment. According to Storer, this was an even more valuable contribution than the classical article of Whitehead, and had it been more generally known would no doubt have been the means of saving many lives.

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*Extra-uterine Pregnancy.* As far as I can learn, the first case of extra-uterine pregnancy to be operated upon in this country was that of a Mrs. Low of Gloucester, Mass., which was recorded in the *American Magazine*, Boston, 1746, and reproduced in abstract in George Osgood's article. In this case, the patient's second pregnancy ended in a false labor, leaving behind an abdominal tumor which she carried within her for sixteen years. During this period she gave birth to six other children, and after the delivery of the last one, on March 5, 1745, she was taken ill with chills, high fever and abdominal pain. A little later an opening appeared in the abdominal wall over the tumor, through which pus was discharged. This gradually became larger, and eventually a number of small bones were passed through it; and on introducing the

finger into the fistulous tract the head of a child could be distinctly felt. "On June 24, in the presence of the Rev. John Lowell and the doctor's two sons, an incision was made and the rest of the bones extracted daily until the 28th, when the last were taken away and the wound stitched up." The patient died four days later, and at the autopsy it was found that the fetus was contained in the left tube, while the right tube and ovary, as well as the uterus, were perfectly normal. Unfortunately, in this case the name of the operator was not given.

A more carefully described case, and one in which a positive diagnosis was made before operation, was reported by Dr. John Bard of New York (1759). The patient was Mrs. Stagg, the wife of a mason. Her first pregnancy was perfectly normal; the second ended in false labor at term, after which a distinct tumor remained in the abdomen. Five months later she conceived again and after a short and easy labor gave birth to a living child at term. Subsequently the patient suffered from fever and diarrhea, and the abdominal tumor became painful and gradually increased in size, so that at the end of nine weeks definite fluctuation could be detected. The patient was then seen in consultation by Dr. Huff, an army surgeon, when he and Bard made a positive diagnosis of extra-uterine pregnancy and the latter determined to operate. Upon opening the abdomen a large amount of fetid pus escaped from the tumor, after which a macerated fetus was removed, but no trace of a placenta could be found. The wound was treated by the open method and healed in six weeks.

The next operation was not performed until 1791, when Dr. William Baynham, of Essex County, Va., operated upon the wife of a well-to-do planter; and in 1799 upon a negro slave, both patients recovering.

Baynham (1749-1814) was one of the most highly educated medical men in America, having spent sixteen years in England, where he served for some time as an assistant to Mr. Else, Professor of Anatomy at St. Thomas' Hospital, and later practiced surgery in London. In 1785 he returned to America and settled in Essex County, Va. According to Thatcher, Baynham and Physick were the only surgeons in America who, up to that time, had advanced the standing of their profession. Similar operations were likewise performed in 1795 by Dr. Charles McKnight of New York, in 1803 by David Ramsay of Charleston, S. C., and in 1808 by J. Augustine Smith of New York.

In 1802 Dr. George Osgood, of Andover, Mass., reported the autopsy findings in a case of extra-uterine pregnancy which had gone on to lithopedion formation. The first two pregnancies in this case were



perfectly normal, while the third ended in false labor at term, after which a positive diagnosis of extra-uterine pregnancy was made. The patient subsequently gave birth to five full term children and also had five abortions. After the birth of the last child she complained of great pain in the lower abdomen and hectic temperature, dying four months later. At the autopsy a lithopedion was found in the left tube.

The first vaginal operation for this condition of which we have any record, was reported in 1816, by Dr. John King of Edisto Island, S. C. In this case a full term child was removed through the vagina after cutting through its posterior wall. Two years later King collected what was known upon the subject up to that time in a monograph, entitled "An analysis of the subject of Extra-uterine Fetation," Norwich, 1818, p. 176.

It is interesting to note that Dr. Samuel Bard, in discussing the question of extra-uterine pregnancy in his "Compendium" (1807), expressed serious doubts as to the possibility of the occurrence of the primary abdominal variety, thus placing himself many years in advance of the prevailing views upon the subject. According to Hodge, similar views were advanced in 1827 by Prof. T. C. James, in an address before the College of Physicians of Philadelphia, in which he took the ground that all cases which had been described as such were primarily of tubal origin.

Although Lawson Tait was the first to open the abdomen for intra-peritoneal hemorrhage following the rupture of an extra-uterine pregnancy, suggestions as to the propriety of such a procedure were made by W. W. Harbert in 1849, and by Stephen Rogers in 1867. The former merely suggested such a line of treatment, but the latter, in his monograph upon the subject, strongly urged it, stating that under such circumstances "the peritoneal cavity must be opened, the bleeding vessels must be ligated;" and again, "What would we say of a surgeon who would sit quietly by and see the life-blood flow from a divided vein or artery, and make no effort to arrest it? He who recognizes the presence of blood in the peritoneal cavity, with a coincident history such as has been detailed, has no better excuse for inaction."

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*Anesthesia.* Although the anesthetic properties of ether were discovered in this country, and Dr. John Collins Warren, of Boston, performed the first surgical operation in the world under its influence at the Massachusetts General Hospital, October 13, 1846, it would seem remarkable that no one thought of employing it in obstetrical work until reports as to its advantages and innocuousness under such circumstances had been received from Scotland, France and Germany.

It would appear that Dr. N. C. Keep, of Boston, was the first American to administer ether to a patient in labor. This was done April 7, 1847, the observation being reported in a letter to the Editor of the *Boston Medical and Surgical Journal*, under the title, "The Letheon administered in a case of labor." The letter reads as follows:



"DEAR SIR:—On the 7th instant I administered the vapor of ether in a case of natural labor. The patient was in good health and in labor with her third child. Five and a half hours having elapsed from the commencement of labor, her pains, which had been light but regular, becoming more severe, the vapor of ether was inhaled by the nose and exhaled by the mouth. The patient had no difficulty in taking the vapor in this manner from the reservoir without any valvular apparatus. In the course of twenty minutes four pains had occurred without suffering, the vapor of ether being administered between each pain. Consciousness was unimpaired and labor not retarded. Inhalation was then suspended that a comparison might be made between the effective force of the throes with and without the vapor of ether. No material difference was detected, but the distress of the patient was great. Inhalation was resumed, but the progress of the labor was so rapid that time could not be found for sufficient inhalation to bring the system perfectly under its influence; still, the sufferings of the last moments were greatly mitigated. From the commencement of the inhalations to the close of labor, thirty minutes; number of inhalations, five. No unpleasant symptoms occurred, and the result was highly satisfactory.

"Yours, etc.,

N. C. KEEP.

"Boston, April 10, 1847."

One month later—May 7, 1847—Dr. Walter Channing, Professor of Obstetrics in Harvard University, administered ether before applying the forceps, reporting the observation as "A case of inhalation of ether in instrumental labor." The following year appeared his monograph upon the subject, "A treatise upon etherization in childbirth," illustrated by 581 cases. In this he clearly demonstrated the great advantages attending the use of ether, and gave a detailed account of 87 cases in which he had administered it, the balance being derived from other sources in this country; 65 being operative and 516 spontaneous labors. Moreover, it is interesting to note that Sir James Y. Simpson's remarkable work, "Anesthesia, or the employment of chloroform and ether in surgery, midwifery, etc.," appeared almost simultaneously, and it must be admitted that it was far superior to Channing's work, which would have been greatly improved had it been compressed into one-third of its bulk.

Notwithstanding the excellent showing made by reports of Channing and Simpson, the general employment of anesthetics in labor was seriously retarded as the result of the vigorous opposition of Meigs and Hodge, who denied the benefits obtained from it and insisted upon its

serious dangers. The former not only opposed its employment upon what he supposed were physiological grounds, insisting that the pains of labor were beneficial to the patient, but urged that the unconsciousness attending its use was analogous to the stupor of drunkenness, and inquired whether any self-respecting woman could afford to place herself under such an influence.

One of the most interesting and amusing chapters in the history of American obstetrics is the discussion between Simpson and Meigs upon this subject, and the reply of the former offers a complete refutation of all the arguments which had been advanced against the practice.

Notwithstanding the opposition which it encountered, the use of anesthesia in midwifery slowly made its way, and after a few years came to be employed more extensively in this country than elsewhere, a practice which still prevails; so that at the present time, in the vast majority of normal labors occurring under the charge of physicians, ether or chloroform is administered in the latter part of the second stage.

It is likewise a point of considerable interest that the term "anesthesia," as applied to the unconscious condition following the inhalation of ether or chloroform, was suggested by Oliver Wendell Holmes.

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*Puerperal Infection.* On the 13th of February, 1843, one year before Semmelweiss received his diploma in Medicine, and four years before he instituted in the Vienna Lying-in Hospital the practice of washing the hands in a solution of chlorid of lime prior to examining the woman in labor, Oliver Wendell Holmes read a paper before the Boston Society for Medical Improvement, entitled "The Contagiousness of Puerperal Fever," which was destined to exert the greatest influence upon medical thought in America, and to play a large part in convincing the profession as to the preventability of the disease. After a thorough review of the literature upon the subject, and a critical consideration of a number of instances of infection occurring within his own knowledge, Holmes advanced the view that at least the epidemic forms of puerperal fever could always be traced to the lack of proper precautions on the part of the physician or nurse, and laid down the following rules for its prevention:

"1. A physician holding himself in readiness to attend cases of midwifery, should never take any active part in the postmortem examination of cases of puerperal fever.

"2. If a physician is present at such autopsies, he should use thorough ablution, change every article of dress, and allow twenty-four hours or more to elapse before attending to any case of midwifery. It may be well to extend the same caution to cases of simple peritonitis.

"3. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the physician is obliged to unite such offices with his obstetrical duties, which is in the highest degree inexpedient.

"4. On the occurrence of a single case of puerperal fever in his practice, the physician is bound to consider the next female patient he attends in labor, unless some weeks, at least, have elapsed, as in danger of being infected by him; and it is his duty to take every precaution to diminish her risk of disease and death.

"5. If within a short period two cases of puerperal fever happen close to each other, in the practice of the same physician, the disease not existing or prevailing in the neighborhood, he would do wisely to relinquish his obstetrical practice for at least one month, and endeavor to free himself by every available means from any noxious influence he may carry about with him.

"6. The occurrence of three or more closely connected cases in the practice of one individual, no others existing in the neighborhood, and

no other sufficient cause being alleged for the coincidence, is *prima facie* evidence that he is the vehicle of contagion.

"7. It is the duty of the physician to take every precaution that the disease shall not be introduced by nurses or other assistants, by making proper inquiries concerning them, and giving timely warning of every suspected source of danger.

"8. Whatever indulgence may be granted to those who have heretofore been the ignorant causes of so much misery, the time has come when the existence of a private pestilence in the sphere of a single physician should be looked upon not as a misfortune but a crime; and in the knowledge of such occurrences, the duties of the practitioner to his profession should give way to his paramount obligations to society."

Notwithstanding the fact that Holmes' conclusions were based upon a most logical series of deductions, and at the same time most eloquently set forth, they shared almost the same fate as those of Semmelweiss a few years later, and were very vigorously criticised and combated by the two leading teachers of obstetrics in America—Meigs and Hodge. The former exerted all his well-known eloquence in attempting to deride and disprove the correctness of Holmes' deductions, which he designated as "the jejune and fizzleless vaporings of sophomore writers." Moreover, he claimed that there was nothing in his reading nor in his personal experience which could lend support to the belief in the possibility of infection by the physician, and stated that he preferred to attribute the cases which might be so explained to "accident or Providence, of which I can form a conception, rather than to a contagion of which I cannot form any clear idea, at least as to this particular malady."

Some idea of his views upon the subject may be gained by the following words, which he employed in speaking of an epidemic occurring in the practice of a Philadelphia physician. After stating that he had never been the means of carrying contagion, in spite of the fact that he had seen a large number of cases in consultation and had taken no particular precautions to prevent it, he asked: "Did the doctor carry it on his hands? But a gentleman's hands are clean! Did he carry a nebula or halo about him? Then why not I also? If the nebula adhered to his clothing, it might as well have adhered to mine." Likewise, in his work on childbed fever, he concluded the chapter upon its contagious nature as follows: "Let us then decide. I have long ago decided for myself to go on. Will you go on or will you stop here? Is contagion a truth? Then for Heaven's sweet sake I implore you not to lay your impoisoned hands upon her who is committed to your science and skill



and charitable guidance, only for her comfort and safety, and not that you should, after collecting fees, soon return her to her friends a putrid corpse. What a horrid idea!"

Hodge made his attack in a much more dignified manner, but none the less effectively. In his article upon the non-contagiousness of puerperal fever, after stating that certain medical men were so misguided as to believe in the possibility of contagion, he said: "The mere announcement of such an opinion must strike one with horror, and might induce you at once to abandon a pursuit fraught with such danger and involving such terrible responsibilities; for what reward can possibly compensate the obstetrician who has reason to believe that he has actually poisoned even one of those valued and lovely beings who rest confidently and implicitly upon him for safety and deliverance."

Holmes met the objections of his critics in a second pamphlet, entitled "Puerperal Fever as a Private Pestilence," Boston, 1855, Ticknor & Fields, pp. 60, to which he appended his original paper. This must ever be regarded as one of the classics of American medical literature, and one of the most forcible presentations of the subject ever made. It served to silence, in great part, the objections of his adversaries, and to prepare the way to the early acceptance of antiseptic and aseptic methods in midwifery in this country. Similar conclusions were reached by Samuel Kneeland, Jr., of Boston, in 1846, and shortly afterwards by many other observers; so that correct views as to the etiology of the affection had become pretty generally current in America some years before the appearance of Semmelweiss' monograph and letters in 1861.

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*Cesarean Section.* According to Dr. Robert P. Harris, the credit of performing the first Cesarean section in America belongs to Dr. Prevost, of Donaldsonville, La.; as it is stated that he performed the operation upon four occasions prior to the year 1830, losing none of the children and but one of the mothers. With the exception of Prevost's cases, concerning which I am unable to give literary references, it would appear that the first Cesarean section in this country was performed in 1822 at Nassau, N. Y., by the patient herself, and reported by Dr. Samuel M'Clellen. In this case the patient, who was a 14-year-old mulatto girl, becoming crazed by the agonizing pains of labor, slit open her abdomen to put an end to her sufferings. A pair of twins was extracted from the uterus and died shortly afterwards; the girl herself, however, made a good recovery.

It is of interest to note, that Dr. William Gibson (1788-1868), Physick's successor as Professor of Surgery in the University of Pennsylvania, is generally, but erroneously, credited with having been the first operator in the country to perform Cesarean section twice upon the same individual, having operated successfully upon a rachitic dwarf in Philadelphia in the years 1835 and 1837. It would appear, however, that the credit belongs to Dr. Prevost, of Louisiana, who operated some time prior to the year 1830; although the operations reported by Dr. Robert Estep, of Columbia County, Ohio, in 1833 and 1834, are the first of which we possess accurate records.

In addition to the cases just mentioned, repeated Cesarean section was performed by two other operators prior to 1860, Dr. J. A. Scudday, of Louisiana, having operated in 1846 and 1849, saving the mother and child on both occasions; while Dr. W. H. Meriner, of Mississippi, operated thrice upon the same individual, in 1852, 1854 and 1856, the patient dying after the last operation, and two of the children being saved.

According to Dr. M. L. Weems, sutures were first employed in a Cesarean section (?) performed in June, 1828, by an empirical physician in Fairfax County, Va. Dr. Weems witnessed the operation but took no part in it, merely reporting it after the death of the operator, whose name he failed to mention. The patient was a mulatto woman 25 years of age, who had a false labor one year before the operation. She was perfectly well for the first few months following it, but soon began to suffer greatly. The operator removed the child by an oblique incision, after which he closed the "uterine" wound with three silk



sutures, the patient dying ten days later from an alleged indiscretion in diet.

In all probability this was not a Cesarean section in the true sense of the word, but merely an operation for an old extra-uterine pregnancy. If, however, this supposition is not correct, the case was a most interesting one of missed labor at full term; although the only argument in favor of this being the case is to be found in the fact that the reporter stated that the interior of the uterus was lined by a thin layer of calcareous material, which was continuous except at one point, corresponding to the internal os. The exact nature of the case can probably never be decided, but in any event it was apparently the first instance in this country in which sutures were employed to close the incision into an extra-uterine fetal sac or the uterus.

In connection with the history of Cesarean section in America, it is interesting to recall the fact that the results obtained were far better than in England; Harris stating that in the 44 operations performed up to 1860, the maternal mortality was 52.3 per cent, as compared with 84 per cent in 100 cases performed during the same period in England and collected by Radford. Various attempts have been made to account for this difference, but it can probably be explained by the fact that most of the American cases were performed upon fairly robust individuals living in country districts, while the English operations were done in great part in hospitals in the large cities where more abundant facilities for infection were present.

It would appear that the operation of laparo-elytrotomy, which is generally believed to have been suggested by A. C. Baudelocque in 1823, was proposed by Dr. Philip Syng Physick, of Philadelphia, one year previously. The suggestion can be found in a letter from Dr. W. E. Horner, of Philadelphia, to Dewees, which is given on p. 580 of the first edition of the latter's *Compendious System of Midwifery*:

"Dr. Physick, founding his ideas upon a similar observation made in early life during the dissection of a pregnant woman, proposes that in the Cesarean operation a horizontal section be made of the parietes of the abdomen just above the pubis. That the peritoneum be stripped from the upper portions of the bladder by dissecting through the connecting cellular substance, which will bring the operation to that portion of the cervix uteri where the peritoneum grows to the bladder. The incision being continued through this portion of the uterus will open its cavity with sufficient freedom for the extraction of the fetus, all of

which the doctor supposes may be done by careful operation without cutting through the peritoneum."

The suggestions of Physick and Baudelocque were not acted upon, and it was not until 1870 that Dr. T. Gaillard Thomas, of New York, performed the operation, in ignorance of the fact that it had been proposed nearly fifty years previously.

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*Combined Cephalic Version.* It is not generally known that the method of combined internal and external version, which is generally designated by the name of Braxton Hicks, was described and practiced in America six years before Hicks published his first communication upon the subject. In 1854 Dr. Marmaduke B. Wright (1803-1879), of Cincinnati, Ohio, read a paper before the Ohio State Medical Society, entitled "Difficult Labors and their Treatment," in which he advocated converting abnormal presentations into those of the vertex, whenever immediate delivery was not necessary. Under the latter circumstances, of course, podalic version, followed by prompt extraction, was regarded as the operation of choice. For the performance of the former operation Wright laid down the following rules:



"Suppose the patient to have been placed upon her back across the bed, and with her hips near the edge—the presentation to be the right shoulder with the head in the left iliac fossa—the right hand to have been introduced into the vagina, and the arm, if prolapsed, having been placed, as near as may be, in its original position across the breast. We now apply our fingers upon the tip of a shoulder and our thumb in the opposite axilla, or on such part as will give us command of the chest and enable us to apply a degree of lateral force. Our left hand is also applied to the abdomen of the patient over the breech of the fetus. Lateral pressure is made upon the shoulders in such a way as to give to the body of the fetus a curvilinear movement. At the same time the left hand, applied as above, makes pressure so as to dislodge the breech, as it were, and move it towards the center of the uterine cavity. The body is thus made to assume its original bent position, the points of contact with the uterus are loosened and perhaps diminished, and the force of adhesion is in a good degree overcome. Without any direct action upon the head, it gradually approaches the superior strait, falls into the opening, and will, in all probability, adjust itself as a favorable vertex; or it may be grasped, brought into the strait and placed in correspondence with one of the oblique diameters."

When Hicks published his first communication upon the method he was entirely ignorant of Wright's work, and, when it was first brought to his attention, was inclined to deny his claim to priority; but after fully investigating the matter he accorded Wright full credit for the invention, merely claiming that he had arrived independently at identically the same conclusions, and was unaware of the work of the former until nearly nineteen years after its publication. Notwithstanding the fact that the operation originated in America, and was described six years prior to Hicks' first communication, it must, nevertheless be admitted that the profession is indebted to the latter for popularizing the method, and particularly for its application to podalic version.

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*The Corpus Luteum.* One of the most important early contributions to the scientific side of obstetrics in America was the work of John C. Dalton, Jr., upon the corpus luteum. His first work upon the subject appeared in 1851 as a monograph of 100 pages, which was still further elaborated in a communication made to the American Gynecological Society in 1877. In these the author attempted to prove that there is a marked difference in the structure of the corpus luteum of menstruation and that of pregnancy, and although his conclusions are no longer regarded as correct, his work deserves mention as a valuable study of the subject.

One of the most productive and industrious obstetricians within the period under consideration, was Dr. James D. Trask, of Astoria, New York (1821-1883). His chief claim to fame rests upon the preparation of monographs upon rupture of the uterus and placenta prævia. Upon the former subject he made two communications in 1848 and 1856, basing the first upon 300 and the second upon 417 cases, occurring in his own practice and collected from the literature. The work was a model of industry, and was likewise of very considerable interest in that the author urged laparotomy as the appropriate treatment in all classes in which the child had escaped into the abdominal cavity and could not readily be extracted through the uterine wound.

His monograph upon placenta prævia, which appeared in 1885, was based upon 353 cases, and was the first extensive article upon the subject in this country. As the result of his studies Trask concluded that in the great majority of cases of partial insertion the hemorrhage could be checked and the patient safely delivered after artificially rupturing the membranes. Unfortunately, his directions as to the treatment of the complete variety were not so satisfactory, as he pointed out that each case should be considered upon its own merits, it being impossible to lay down definite rules for all cases; though he stated as a general rule, that delivery should not be attempted too soon, on account of the danger of lacerating the cervix, nor deferred too long, for fear of death from hemorrhage. He likewise pointed out that the bulk of the hemorrhage in all cases of placenta prævia came in great part from the vessels of the uterine wall, rather than from the intervillous spaces of the placenta.

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*(To be continued.)*

A SKETCH OF THE HISTORY OF OBSTETRICS IN  
THE UNITED STATES UP TO 1860.

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(Continued from September.)

SYSTEMATIC WRITERS ON OBSTETRICS.

SAMUEL BARD (1742-1819).

The first systematic treatise published in America was Bard's Compendium of the Theory and Practice of Midwifery, which appeared in 1807 and went through five editions. The first three editions were very rudimentary in character, as the work was primarily intended for a manual for midwives, as shown by the following extract from the preface:

"Having frequently, in the course of my practice, and particularly since my residence in this country, had occasion to observe how much our midwives stand in need of instruction, and how incapable most of them are, from pecuniary circumstances, as well as from deficiency of education, to derive it from books of science and systems of midwifery, I have thought that a concise, cheap book, containing a set of plain but correct directions for their practice in natural labors, and for the relief of such complaints as frequently accompany pregnancy and labor, or which follow after delivery, would in the present state of the country, prove a useful work. This I have attempted in the following essay, in which it has been my object to be useful rather than to appear learned; to say nothing but what is absolutely necessary and easily understood, and to detail such facts and observations as have long been known to have received the stamp of time and experience, rather than to offer new opinions."



In the fourth edition, appearing in 1817, the author enlarged the scope of the work so as to adapt it to the use of students and physicians, and added to its usefulness by the interpolation of 152 illustrative cases from his own practice and that of Smellie, Perfect and Denman.

Bard was well acquainted with both the normal and abnormal pelvis, and gave an excellent sketch of the clinical history of osteomalacia, although it is not clear that he had ever seen a case personally.

His ideas of the mechanism of labor in head presentations were very satisfactory, although his division of labor into four stages differed materially from that in general use at the present time; the first stage extending from the onset of labor to complete dilatation of the cervix, the second to the arrival of the head upon the perineum, the third to the complete birth of the child, and the fourth to the birth of the placenta. He gave explicit directions for the technique of vaginal examinations, and urged that they should be made as infrequently as possible, and warned particularly against attempting to stretch the soft parts with the hand in the hope of facilitating labor; pointing out that such a procedure was not only useless but materially increased the danger of infection. He advised against traction upon the cord as a means of delivering the placenta, but instead advocated traction upon the margin of the organ by the fingers. Moreover, he recommended that an internal examination be made after the expulsion of the placenta in order to detect the existence of incomplete inversion of the uterus, thus giving evidence that the accident must have occurred more frequently than at present.

In the chapter upon difficult labor he thoroughly recognized the important part played by contracted pelves; but unfortunately, his rules for the estimation of the degree of deformity were not satisfactory, as he advocated measuring the diagonal conjugate with the woman leaning over the back of a chair and the operator kneeling at her side. He likewise had an exaggerated idea of the accuracy of the results obtained by means of Baudelocque's pelvimeter. He stated that contracted pelves occurred much less frequently here than in England, but appeared to be of about the same incidence as in France. He recognized the necessity for Cesarean section in the presence of the absolute indication, but designated symphyseotomy as "a murderous and cruel procedure." When the conjugata vera measured 3 or more inches, he taught that delivery could be effected by means of the forceps or lever, but that craniotomy was indicated between this point and the absolute indication, unless the case was seen some time before term, when the induction

of premature labor became the operation of choice. He was not, however, enthusiastic as to its results, maintaining that less than one-third of the children finally survived.

He taught that face presentations would usually end spontaneously, though slowly, if let alone, and advised strongly against attempts at conversion into vertex presentations, as advocated by Smellie and Baudelocque. He included breech presentations among the preterm labors, and recognized the significance of transverse presentations; and, while aware of the possibility of spontaneous evolution, held that it occurred so rarely that version, immediately after rupture of the membranes, was imperatively indicated.

In all head presentations he was a great believer in the resources of Nature, and protested vigorously against the too frequent use of the forceps, believing that the writings of Smellie and Baudelocque upon the subject had done more harm than good, "being persuaded that a fair opportunity for applying forceps will not occur to the rational practitioner in one of 1000 cases." He contended that they were not indicated unless the head had failed to advance for four or five hours, or the patient was in great danger. In such cases the instrument should be applied to the sides of the head, but should not be used as a rotator as Smellie advocated. On the whole, however, he preferred the use of the lever, and strongly endorsed Denman's teaching as to its usefulness.

He devoted considerable attention to the etiology and treatment of inversion of the uterus, and attributed its comparatively frequent occurrence to incorrect management of the placental period. He held that puerperal fever was essentially a peritonitis, and advocated the employment of radical antiphlogistic measures for its cure.

It is interesting to note that Bard was the first American to express grave doubts as to the existence of primary abdominal pregnancy, believing that "the smooth surface of the intestines, their continuous motion and total unfitness for producing the decidua, by which the maternal part of the placenta is formed, render this opinion at least very improbable." He considered that most cases which had been so interpreted were due to confusion with an adherent retroverted uterus, the escape of the fetus from a uterus which had ruptured at an early period of pregnancy, or to the intimate adhesion of a tubal sac to the surrounding parts.

Bard was a very remarkable man and played a prominent part in the development of the early medical institutions of the country. He was the son of Dr. John Bard, having been born in Philadelphia in 1742



and taken to New York when two years of age. There he received his preliminary education, but when nineteen years old, went to Europe, spending four years in London and Edinburgh, and receiving his medical degree from the latter University in 1765, after the submission of a thesis, "de viribus opii," a work of very considerable merit, which was based upon experiments upon himself and his fellow students.

On his return to New York in 1766 he at once set about organizing a medical school, and two years later had the satisfaction of being appointed the first Professor of Medicine in the Medical School of Kings College, New York. At its first commencement in 1769, he urged the necessity of the establishment of a hospital, and so eloquently were his claims set forth that the sum of £800 was subscribed by those present. The City and State of New York having likewise made liberal contributions, it was soon possible to commence the construction of a suitable building, which was, unfortunately, destroyed by fire just before its completion. The disorganization incident to the Revolutionary War, which came on shortly afterwards, prevented its being rebuilt promptly, so that it was not opened for patients until 1791.

Bard was a very successful practitioner, and within a short time had the most lucrative practice in New York, which he relinquished in 1798 in order to retire to his country seat at Hyde Park. The next year he returned to New York to help subdue the yellow fever epidemic which was then raging; but after its subsidence he returned to the country, where he spent the rest of his life in literary work and the care of his estate, devoting particular attention to the cultivation of unusual plants and the raising of sheep. He was soon made President of the Agricultural Society of New York, before which he made almost yearly reports upon the relations existing between chemistry and farming. He became greatly interested in the diseases of sheep, and summed up his experiences in a work, entitled "Guide for Young Shepherds."

When the college of Physicians and Surgeons was founded in 1813 he was made its first president, an office which he retained until his death in 1821; one of his last literary productions was a discourse upon medical education, delivered at its annual commencement in 1819.

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## WILLIAM POTTS DEWEES (1768-1841).

The most voluminous, and at the same time the most influential writer upon obstetrics in the first half of the nineteenth century, was William P. Dewees, of Philadelphia.

His first important contribution was "An essay on the means of lessening pain and facilitating certain cases of difficult parturition," which he submitted as a thesis before obtaining an honorary medical degree from the University of Pennsylvania in 1805, after having been in practice for many years. In this work he took the ground that excessive pain was neither a necessary nor an unavoidable accompaniment of labor, but should be regarded as the concomitant of certain abnormal conditions resulting from civilization. He was inclined to attribute the pain to a loss of power in the longitudinal, as compared with the circular muscular fibers of the uterus, and believed that the resistance of the latter could be best overcome by free blood-letting. Accordingly, in difficult and painful cases of labor, in which the obstacle was due to a resistant cervix or perineum; he caused the patient to stand by the edge of the bed while he bled her "ad deliquium animi;" as a result she would fall in a swoon, during which delivery would frequently occur, and would naturally be painless. He gave the his-



ories of twenty-three cases in which he had employed the method with success, and earnestly recommended it to the profession.

This was followed by a succession of articles upon obstetrical topics in the various medical journals, which in 1823 were collected together into a volume, entitled "Essays on Various Subjects Connected with Midwifery." This contained twenty-two articles, the most important of which were upon superfetation, Dr. Denman's aphorisms, inversion of the uterus, puerperal convulsions, rupture of the uterus, retroversion of the uterus, and uterine hemorrhage; as well as a reply to Dr. Peachy Harrison on the subject of impregnation, and observations on Mr. Bell's paper on the circulation of the uterus. These essays showed an intimate practical acquaintance with the subject, and several were of very great value, and were in marked contrast to the conservative measures advocated by Denman and Bard.

In 1824 appeared his "Compendious System of Midwifery, chiefly designed to facilitate the inquiries of those who may be pursuing this branch of study." This work, which was modeled in great part upon Baudelocque's classical treatise, at once became the leading text-book. It went through fourteen editions and dominated obstetrical practice in America for many years, inclining it to the more radical operative teachings of the French school, as compared with the more conservative English practice as advocated by Bard, James and Francis.

After giving an excellent description of the normal pelvis, Dewees took up the consideration of its abnormalities, stating that he had not met with extreme degrees of the deformity three times in his experience, and that they had occurred in Europeans. It is interesting to note (paragraph 44) that he had observed a case of rupture of the uterus due to obstruction resulting from a pelvic exostosis. His views as to the rarity of pelvic deformity were perpetuated in all subsequent text-books until the end of the century, and were probably one of the chief causes for the neglect of the study of contracted pelves and pelvimetry which for so long a period characterized American obstetrics.

His views as to the anatomy of the generative tract and the fertilization and development of the ovum were quite as good as could have been expected, and were in consonance with the teachings of the time. It is of interest to note that he concluded, after sifting the evidence, that the spermatozoa in all probability made their way from the vagina to the ovaries by means of Gärtner's ducts, instead of through the uterus and tubes.

In the chapter upon labor, he taught that the sinking downward of the fundus in the last month of pregnancy should be attributed to the fact that the uterine cavity at that time became enlarged by the unfolding of the cervical canal.

He adopted Baudelocque's classification of vertex presentations, describing six main varieties: (I) corresponding to our L. O. I. A.; (II) to our R. O. I. A.; (III) to our O. P.; (IV) to our R. O. I. P.; (V) to our L. O. I. P., and (VI) to our O. S. His account of the mechanism of labor was very satisfactory and quite similar to that given at the present day. Moreover, he regarded as preternatural the third and sixth varieties, in which the vertex engages with the sagittal suture corresponding to the antero-posterior diameter of the superior strait, with the occiput directed either towards the symphysis pubis or the sacrum. He placed sincipital and face presentations in the same category, and believed that the latter could end spontaneously only when the head was small or the pelvis large; and consequently recommended Baudelocque's method of conversion when the chin was anterior, but preferred podalic version when it was posterior.

He spoke very favorably of version in general, and his rules for its performance were very satisfactory. In extracting the head he advised that the child should straddle the arm of the operator, traction being made by the third and fourth fingers applied to the shoulders on either side of the neck, while, at the same time, with the fingers of the other hand pressure was made upon the base of the skull in order to maintain flexion, and to free it from the pubic arch.

He was a strong advocate of the use of forceps, recommending in all cases the employment of the long French instrument, which, he stated, should be applied to the sides of the head over the ears. He very correctly pointed out the necessity for a correct diagnosis before applying the instrument and of antecedent practice upon the manikin. He severely criticised those who reserved forceps only for desperate cases, holding that thereby many children and not a few mothers had been sacrificed. In paragraph 736 he gave a recapitulation of his directions for its employment, which are as valuable today as when first written, with the exception of the recommendation to give a lever-like motion to the instrument during traction.

He preferred version to the application of high forceps, having found the latter necessary only three times in thirty-five years of practice. In face presentations he advocated the forceps only when the presenting part was low down, preferring version or conversion in all



other cases. He did not believe in bringing down a foot as a prophylactic measure in breech presentations, but when assistance was called for, employed traction in the groin by means of a finger or the fillet if necessary. He spoke slightly of the application of forceps to the after-coming head, although, in view of its advocacy by Smellie and Baudelocque, he did not condemn it unreservedly.

In threatened abortion his great remedies were rest in bed and blood-letting, supposing that the latter diminished the tendency to uterine hemorrhage. In paragraph 998 he recorded the case of a patient in the fourth month of pregnancy whom he bled seventeen times in seven days to prevent a miscarriage; and who, notwithstanding the fact that 1000 ounces of blood had been withdrawn, recovered and went on to full term.

His ideas concerning the treatment of placenta prævia were very satisfactory, as he advocated the employment of the tampon if the cervix was only slightly dilated, and version and extraction when circumstances would permit.

In his own experience, which amounted to over 9000 cases, twins occurred once in every fifty or sixty cases, but triplets were not noted. He held, in such cases, that a positive diagnosis was impossible until after the birth of the first child; and stated that, even if it were, it would be highly inadvisable to apprise the patient of the fact. In rupture of the uterus he recommended laparotomy, provided the child was in the peritoneal cavity and could not be extracted through the natural passages; though he admitted that the operation had never been performed in America.

In the treatment of contracted pelves he recommended version, provided the conjugata vera was not less than  $3\frac{1}{2}$  inches (8.75 cm.); between this and 3 inches (7.5 cm.) forceps were permissible, but below this craniotomy was the operation of choice, unless the contraction was so great as to afford an absolute indication for Cesarean section, which he placed at  $1\frac{1}{2}$  inches (3.75 cm.). He likewise discussed the propriety of the operation when the conjugata varied between 7.5 and 3.75 cm., and held that in spite of its very high mortality, such a procedure was entitled to a certain amount of consideration. He was a strong advocate of the induction of labor in suitable cases, but held that symphyseotomy was absolutely unjustifiable.

In paragraph 1529 he considered the effect of diet upon the size of the child, and dismissed the idea that it could be influenced to any appreciable extent in the following words: "This speculation was both

natural and ingenious, and has but one argument to be urged against it; namely, that experience has proved it not to be true."

Deweese was born at Pottsgrove, Pa., in 1768. His rudimentary education was defective, and he lacked the advantages of a collegiate training. He attended medical lectures at the University of Pennsylvania for several years, but began to practice in Abington, Pa., before receiving his degree. In 1793 he removed to Philadelphia, where he devoted his attention in great part to obstetrics, and in 1797 commenced a private course, which he continued to give until he was made Adjunct Professor of Midwifery in the University of Pennsylvania in 1825, under Professor James. Upon the latter's resignation in 1834 he was appointed his successor, though he retained the position for only one year, as his health failed so rapidly that he found it necessary to resign, and shortly afterwards retired from practice. He died May 20, 1841.

Deweese inclined to the French school of obstetrics, and was so ardent a student of Baudelocque and his methods that he was frequently styled "the American Baudelocque." He was a very successful teacher and practitioner, and contributed greatly towards establishing the medical reputation of Philadelphia. His attainments were not limited to obstetrics, as was shown by the preparation of treatises upon diseases of women, diseases of children and the practice of medicine.

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CHARLES DELUCENA MEIGS (1792-1869).

The first extensive literary work of this very versatile obstetrician was the translation in 1831 of Velpeau's *Traité élémentaire de l'art des accouchements*, under the title, "An Elementary Treatise on Midwifery, or the principles of Tokology and Embryology." For the next thirty years one book after another flowed in rapid succession from his pen and gave the author the highest reputation, which, unfortunately, in great part has proven evanescent.

In 1838 Meigs published his *Philadelphia Practice of Midwifery*, which went through a second edition in 1842. This was a meager book compared with Dewees' great treatise, and had but little to recommend it. In the chapter on deformed pelves the author made no attempt to classify the several varieties, stating that the task would be useless in the rachitic and osteomalacic forms. His views as to embryology were very misty and were involved in a haze of words. He held that the placenta was entirely fetal in origin, and that no vascular connection existed between it and the uterine wall. In speaking of the muscular structure of the womb (p. 107), he recorded the case of a Philadelphia physician who, upon introducing his hand to remove the retained placenta, found his arm so firmly gripped by the cervix that he was unable to withdraw it until the spasm had relaxed by copious blood-letting.

Meigs was an eloquent advocate of the use of the lancet in the treatment of threatened abortion, for overcoming the rigidity of the birth canal and for the cure of eclampsia; though he did not go to the same extremes as Dewees in this regard.

He advocated Baudelocque's classification of vertex presentations, and suggested the following ready method of remembering the six

varieties: "Vertex left, vertex right, vertex front; forehead left, forehead right, forehead front." While devoting but little attention to the mechanism of labor in general, he laid particular stress upon the necessity for internal rotation, which he ascribed in great part to the action of the inclined planes of the pelvis. Most cases of dystocia he attributed to lack of occurrence of this movement, which he connected with imperfect flexion of the head, and which he attempted to increase by pressing up the chin with the fingers, or, if that failed, by bringing down the vertex with the whole hand.

Contrary to the teachings of Dewees, he counted face presentations normal, attributing their occurrence to an obliquity of the uterus, and believed that they usually entered the pelvis as brow presentations, which gradually became extended as descent took place. He held that spontaneous delivery was the rule, even considering such an outcome possible when the chin was directed into the hollow of the sacrum; though in dystocia from this cause he advocated attempting to bring about anterior rotation by internal maneuvers.

He likewise classed breech presentations under normal labor, but at the same time was perfectly well aware of the great fetal mortality in such cases, stating that at least one child out of five perished. When extraction became necessary he advocated carrying the child's legs up over the abdomen of the mother, but did not mention the necessity for keeping the head flexed. When this maneuver failed, he applied forceps to the after-coming head.

His rules for the application of forceps to the sides of the head were very satisfactory, but his indications for their use were too conservative, as he advised waiting too long. He believed that version was rarely indicated under any conditions, except in transverse presentations.

In 1849 Meigs published a larger work "Obstetrics; the Science and Art," which was merely a verbose amplification of the Philadelphia Practice of Midwifery. It is interesting to note that in its second edition (1852) he devoted twelve pages to the consideration of the propriety of the employment of anesthesia. After discussing the question quite thoroughly, and quoting his letter to Simpson upon the subject, he strongly advised against its use and concluded as follows: "I shall only say that I sincerely regret the introduction of anesthetics into midwifery, not because they are not useful and laudable in some rare cases, but from a conviction that the use of them has become a great abuse, which I believe will become a greater one until the day—no dis-



tant one—shall arrive, when mankind and the profession also shall have been convinced that the doctors have made a mistake on this point, in this part of the nineteenth century.”

Meigs devoted great attention to the nature, origin and mode of treatment of childbed fever, as evidenced by two publications; having prepared in 1842 a work upon the pathology and treatment of puerperal fever, which consisted of reprints of the classical articles of Gordon, Hey, Armstrong and Lee upon the subject, together with an introduction giving his own views. In 1854 he made a second contribution, entitled “On the nature, signs and treatment of Childbed Fevers.” In this work, which consisted of twenty-nine letters addressed to his class, he gave a full historical sketch of the malady, and concluded that it was not a specific fever, but “a group of diverse inflammations within the belly.” He positively denied its contagious nature, and ridiculed Holmes’ contentions. For its cure he advocated copious blood-letting, and stated that if it were resorted to within the first twelve hours recovery could always be predicted.

He likewise devoted considerable attention to the diseases of women, having translated in 1845 Columbat de l’Isère’s “Treatise on the diseases and special hygiene of females,” to which he added copious notes; while three years later he published his own work “Females and their Diseases,” which was followed in 1854 by “A treatise on acute and chronic diseases of the neck of the uterus.” Between the appearance of the last two works he found time to prepare a work on the diseases of young children, which appeared in 1850.

All of his writings enjoyed very considerable popularity at the time of their appearance, and were characterized by great learning, although marred by vanity and verbosity. They contained but little original matter, and after the death of their author and the loss of his personal magnetism were soon forgotten.

Meigs was born in 1797 on the Island of St. George, in the Bermudas, where his father, Josiah Meigs, of Connecticut, was engaged in business with the Admiralty Courts. Four years later the family returned to America, when his father was made Professor of Mathematics and Astronomy at Yale College, and in 1801 became the first President of the University of Georgia, at Athens, Ga. Here young Meigs grew up and received his collegiate education, graduating in 1809. He then spent three years in studying medicine under Dr. Fendall of Augusta, Ga., after which he attended the University of Pennsylvania

for two sessions, but did not receive his medical degree until 1817, after the submission of a thesis upon Prolapsus uteri.

Shortly afterwards he settled in Philadelphia and slowly built up a practice. He began to give private courses of lectures upon obstetrics in 1830, which he continued for a number of years, during which he translated Velpeau's work and wrote his Philadelphia Practice of Midwifery. He was elected Professor of Obstetrics and Diseases of Women and Children in the Jefferson Medical College in 1841, and filled the chair most acceptably for twenty years, when he resigned on account of failing health, afterwards removing to the country, where he died in 1869, aged 77 years.

Meigs was a man of great versatility and personal magnetism. He was an indefatigable student, and in spite of the pressing duties of a large practice, found time to keep abreast not only with the advances in medicine, but with many of the cognate sciences as well, not to speak of the humanities. He was greatly interested in anthropology and phrenology, and shortly before his death translated one of de Gobineau's novels, "L'abbaye de Typhaines." He was an extremely rapid writer, and prepared many of his books within a few months; having composed his "Females and their Diseases" in the interval between two sessions. He was a most eloquent and brilliant teacher, being able to impress his students vividly with whatever he taught; though unfortunately many of his views did not stand the test of time.

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HUGH LENOX HODGE (1796-1873).

In marked contrast to the ephemeral nature of the works of Meigs stand those of his contemporary, Hugh L. Hodge, who succeeded Dewees as Professor of Midwifery in the University of Pennsylvania. With the exception of a few pamphlets and journal articles, Hodge's literary labors were deferred until the later years of his life, but whatever he wrote bore the impress of being the work of an accurate observer of great experience.

His first large work, "Diseases peculiar to Women, including displacements of the uterus," appeared in 1860. In this he laid great stress upon the reflex nervous manifestations arising from diseases of the generative tract, and developed the mechanical treatment of uterine displacements by means of the lever pessary, which he invented. Although most of his theoretical considerations have since been shown to lack support, his work made an indelible impression upon gynecologic thought, and deserves an exalted place in American medical literature, as it incited many to more thorough and accurate study of the diseases peculiar to women.

In 1864, three years after resigning his professorship, he published his masterpiece, "The Principles and Practice of Obstetrics." This volume, which is a model of conscientious observation, is undoubtedly the most original work upon the subject which has appeared in America, and with a few modifications is as valuable today as when first written.

Hodge devoted particular attention to the anatomy of the pelvis, and was the first American to study it from an original point of view. He described in detail the so-called inclined planes and the part which he believed they and the ischial spines played in bringing about internal rotation; and, by the study of sections through plaster casts of the pelvis, added materially to our knowledge concerning the capacity of its cavity. This was greatly facilitated by his conception of the so-called

parallel planes, the first of which corresponded to the superior strait, while the others were parallel to it; the second extending from the lower margin of the symphysis pubis; the third through the ischial spines, and the fourth through the tip of the coccyx.

Like all the early Philadelphia obstetricians, he adopted Baude-locque's classification of vertex presentations, although he stated that he had not, in his entire experience, seen an example of the primary occipito-sacral, and but three of the occipito-pubic variety. He divided the course of labor into the customary three stages, but departed from the beaten path in dividing the mechanism of the second stage into five periods:

1. Passage of the head through the superior strait and os uteri.
2. Its descent through the pelvic cavity.
3. Its passage through the inferior strait.
4. Its passage through the vulva.
5. The delivery of the body in head presentations, or the delivery of the head in breech presentations.

During the first period he taught that the head passed from a position of demiflexion into one of complete flexion; in the second, that it descended directly through the pelvic cavity until it impinged upon the pelvic floor, when internal rotation occurred and extension began, the two processes being often synchronous; while in the latter part of this period descent no longer occurred along a straight line, but followed a spiral curve. During the third period extension became more pronounced, while during the fourth the head escaped from the vulva.

His ideas as to the mechanism of labor in occipito-posterior presentations were excellent; and while he taught that anterior rotation was the general rule, he insisted that spontaneous delivery could be looked for even after the occiput had rotated into the hollow of the sacrum, although it required a longer time and exposed the patient to greater risk of perineal laceration.

His conception of the mechanism of labor in breech presentations was identical with the teaching of the present day, except, when extraction became necessary, that he advocated drawing the child's body upward parallel to the anterior surface of the pubis, and maintaining flexion by pressure upon the superior maxillæ, but did not recommend traction upon the shoulders as in Mauriceau's method.

In describing the conduct of the third stage of labor, he foreshadowed Credé's method of expression as may be seen from the following quotation:



“Should there be any unusual delay, the practitioner may facilitate the contraction of the uterus by placing his hand through the medium of the relaxed walls of the abdomen, over the fundus of the uterus, and by making firm pressure direct the whole organ towards the superior aperture of the pelvis. This locomotion of the uterus, combined with the pressure, excites very generally the contraction of its fibers, as evinced by its increased hardness and rigidity, and by the descent of the placenta.”

In discussing obstetrical operations, he spoke very slightly of podalic version, and had an exaggerated idea of its difficulty and dangers, while he limited cephalic version—or version by the vertex, as he preferred to call it—to the correction of malpresentations of the head.

He devoted particular attention to the study of the forceps and their indications, giving most excellent rules for guidance in their application and employment. He advocated applying them to the sides of the head except when it was at the superior strait or lay in a transverse position. In the former case he taught that the instrument should be applied obliquely, and in the latter, as well as in obliquely posterior positions, that the head should be rotated manually to an anterior position before resorting to forceps. In the latter case when such a maneuver was not feasible, he applied the forceps to the sides of the head, and rotated the occiput into the hollow of the sacrum, when delivery could be effected in the usual manner. He was an ardent advocate of the use of the forceps, preferring it to all other operations, unless the head was floating above the superior strait, when he thought version preferable, provided, of course, that no serious obstacle existed, when craniotomy became the operation of choice. For this purpose he invented a special form of scissors, and for the delivery of the perforated head recommended the use of his compressor cranii, a modification of Baudelocque's cephalotribe. He unreservedly condemned symphyseotomy, and considered Cesarean section justifiable only in the presence of the absolute indication, and even under such circumstances believed that the induction of abortion was indicated, provided the patient was seen sufficiently early. On the other hand, he was an enthusiastic advocate of the induction of premature labor in properly selected cases.

He dealt very fully with the aberrant varieties of head presentations—sinciput, brow and face. In the two former he strongly advocated bringing about flexion by upward pressure upon the maxillæ, or, if necessary, by the introduction of the whole hand and making traction

upon the occiput. His conception of face presentations was less satisfactory, as he believed that spontaneous labor was possible only when the head was small or the pelvis large, and consequently insisted upon the necessity for conversion into a vertex presentation. •

His presentation of transverse presentations and contracted pelvis was very faulty, as he exaggerated the difficulties of performing version in the former, and greatly underestimated the frequency of the latter.

He was a pronounced opponent of the use of anesthetics in normal labor, of accouchement forcé in eclampsia, and of the contagious nature of puerperal fever. He vigorously opposed operative treatment in extra-uterine pregnancy, although, strange to say, he admitted the justifiability of laparotomy in certain cases of rupture of the uterus.

In spite, however, of these and other imperfections, it is impossible to read his book without being impressed with the fact that it was based upon the personal experience of an accurate observer, and was not a mere compilation.

Hugh Lenox Hodge was born in Philadelphia in 1796, being the son of Dr. Hugh Hodge. He obtained his medical degree from the University of Pennsylvania, in 1818, when 22 years of age. After this he went to India as surgeon on a merchantman, in the hope of gaining sufficient money to enable him to study in Europe. He did not succeed in this respect, but while in India saw a great deal of Asiatic cholera, an experience which stood him in good stead when Philadelphia was scourged by the disease some years later.

At first he devoted his attention to anatomy and surgery, and as early as 1821 taught private classes upon these subjects, continuing to do so for a number of years until the failing health of James and Dewees showed that there might be an opening in obstetrics, when he devoted himself to that branch of medicine, and was soon appointed Obstetrician to the Pennsylvania Hospital, a position which he retained until the service was discontinued. Upon Dewees' resignation in 1835, Hodge was chosen Professor of Obstetrics in the University of Pennsylvania, after an exciting contest with Meigs, who also desired the place. He retained the position until 1861, when failing health compelled him to resign, and died in 1873, almost totally blind. Indeed, at the time he wrote his text-book, his eyesight was so poor that he was unable to read at all, and dictated the entire volume to an amanuensis.

Hodge was a very successful teacher and practitioner, and although not possessing the brilliancy nor versatility of Meigs, made a much more enduring impression upon American medicine.



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HENRY MILLER (1800-1874).

The chief interest connected with Miller lies in the fact that his works upon obstetrics were the first to appear west of the Alleghany Mountains. In 1849 he wrote his *Theoretical and Practical Treatise on Human Parturition*; but as this had only a limited circulation, owing to the fact that the firm which published it went into bankruptcy shortly after its appearance, he prepared in 1858 a more extensive work—*The Principles and Practice of Obstetrics*—which was based in great part upon Dubois' *Treatise*.

Miller's work was a fair exponent of the current obstetrical teachings, but was inferior to the text-books of the more celebrated Philadelphia obstetricians. Its chief claim to originality lay in the chapter on abortion, covering some sixty pages, in which the greatest stress was laid upon the etiological part played by endometritis. Miller rightly insisted, in contradistinction to Whitehead, that disease affecting the body of the uterus was of far greater etiologic importance than when involving the cervix alone, and clearly pointed out the necessity for treating such conditions in the hope of preventing a repetition of the accident.

His teachings concerning the conduct of labor were very faulty, as he insisted that the first stage should not be allowed to last longer than twelve or fourteen hours, and advocated in such cases that the cervix should be titillated if the uterus were inactive, or the patient bled if the

parts were resistant or swollen. On the other hand, he was an enthusiastic advocate of the employment of anesthesia, and claimed that he was the first to make use of it in normal labor, in the Western part of the country.

His views as to contracted pelves were very faulty and meager, his remarks upon the subject covering less than one page. The same may be said of his teachings concerning transverse presentations; as he believed that spontaneous evolution occurred sufficiently frequently to justify one in hoping for its occurrence. He considered podalic version a dangerous and difficult operation, but on the other hand, recommended cephalic version whenever possible.

Miller was born in Glasgow, Ky., in the year 1800. He did not enjoy the advantages of a collegiate education, and obtained his medical degree from the Transylvania University in 1821. Later he removed to Louisville, Ky., and in 1835 was made Professor of Obstetrics and Diseases of Women and Children in the Medical School of that city, a position which he held for twenty-three years, when he resigned. In 1867 he returned to the Faculty, having been appointed Professor of the Medical and Surgical Diseases of Women, and retained the Chair until his death in 1874.

Miller does not appear to have been a man of exceptional ability nor was he a great writer; but at the same time he was a reliable teacher and played a considerable part in developing the medical institutions of the Middle West.

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#### WARRINGTON, TUCKER, NEILL AND SMITH, AND COCK.

Between the years 1842 and 1853 appeared four small works which covered the entire field of obstetrics. The most popular of these was



the "Obstetrical Catechism" of Dr. Joseph Warrington, which appeared in 1842. Warrington conducted a private course in obstetrics, which enjoyed a very considerable popularity among the students of Philadelphia, and published his work, which consisted of a series of questions and answers, to facilitate their studies, stating that it was not a text-book but simply a convenient method of refreshing the memory upon the main points of the subject.

In 1848 David H. Tucker, Professor of Medicine and formerly Professor of Obstetrics in the Franklin Medical College of Philadelphia, published a small work, entitled "The Elements of the Principles and Practice of Midwifery," which covered the subject in a concise but meager manner. Its only point of interest was the prominence which it gave to the subject of contracted pelves; and the author proved a true prophet when he predicted that the condition would become more frequent in the future with the increase in population and the poverty which might be expected to accompany it.

In the same year J. Neill and F. G. Smith of Philadelphia, prepared a small handbook of obstetrics, which formed part of an analytical compend of the various branches of Medicine. This work, which was designed primarily for the use of students preparing for examination, was merely a condensed compilation, and made no claim to originality.

In 1853 Thomas F. Cock, of New York, published a "Manual of Obstetrics." This little work of 250 pages was a summary of the lectures of Prof. G. R. Gilman, of the College of Physicians and Surgeons of New York, and possessed but slight merit.

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## GUNNING S. BEDFORD (1806-1870).

Bedford's first literary effort was the translation into English of Baudelocque's Treatise on Puerperal Peritonitis, in 1831, which was followed in 1844 by the translation of Chailly's Treatise on Midwifery. In 1855 he published his Clinical Lectures on Diseases of Women and Children, and in 1861 his Principles and Practice of Obstetrics, both of which enjoyed considerable popularity, and went through a number of editions.

The latter had but little to recommend it, being extremely verbose and in great part a résumé of the teachings of others, rather than the expression of the author's own experience. At the same time, it gave a very good account of the mechanism of labor, and taught that occipito-posterior presentations usually rotated anteriorly and ended spontaneously. Bedford counted vertex, face and the several varieties of breech presentations as normal, but said nothing about the impossibility of delivery when the chin was directed into the hollow of the sacrum. He paid but little attention to the subject of contracted pelves and gave no figures as to their frequency, while his directions for their recognition in the living woman were very faulty. Likewise, his views concerning extra-uterine pregnancy were far from correct, as he held that the ovarian variety was of frequent occurrence, while the implantation of the ovum occurred less frequently in the tubes than in the abdominal cavity. Moreover, he considered that operative interference was justifiable only after the death of the child, even though it were possible to make a correct diagnosis previously.

On the other hand, it is interesting to note that his views concerning eclampsia were more in accord with the present teachings, as he held that the condition was not merely a manifestation of albuminuria and nephritis, but was due to a toxemia, which in not a few instances gave rise to the lesions which were ordinarily described as primary. Such being the case, he advocated prophylactic treatment whenever possible; but when convulsions had once occurred he thought that they could best be combated by rapid delivery and blood-letting. He likewise stated that in a number of his cases the child had eclamptic attacks shortly after birth.

He divided preternatural labor into manual and instrumental, according as delivery could be effected by the hand alone or necessitated the employment of instruments; and under the former included prolapse of the cord, placenta prævia, accidental hemorrhage, eclampsia and mal-



positions of the head. He had an exaggerated idea of the dangers and difficulties attending podalic version, and resorted to it but rarely; but at the same time, believed that it should be employed when the head was floating freely above the superior strait. He was very cautious in his recommendations concerning the use of the forceps, holding that its employment had probably done more harm than good. He advocated applying it to the sides of the head, and while believing that the high operation was an extremely dangerous procedure in general, he held that it gave better results than version when the pelvis was contracted.

He pointed out that the frightful mortality following Cesarean section was due to the fact that the operation was resorted to only as a last resource, and urged that, if better results were to be obtained in the future, it should be performed early in labor and before the patient became exhausted; but at the same time he considered that the dangers incident to it were necessarily so great that it should be undertaken only in the presence of the absolute indication. In all other cases he was an enthusiastic advocate of the induction of premature labor, provided the previous history of the patient had shown that the birth of a living child was out of the question.

He was very cautious in recommending the use of anesthesia, limiting it to operative procedures and certain spasmodic conditions.

Bedford was born in Baltimore in 1806, and received his preliminary education at St. Mary's College, Emmitsburg, Md. He graduated in medicine from Rutgers' Medical College of New York, in 1829, after which he went abroad for two years. Shortly after his return (1833) he was appointed Professor of Obstetrics and Diseases of Women in Charleston, S. C., and later accepted a similar position in Albany, N. Y. Eventually, he came to New York City, where he took part in the organization of the University Medical College, in which he held the professorship of Obstetrics and Diseases of Women and Children until 1862, when he was compelled to resign on account of ill health. He died September 5, 1870, aged 64 years.

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 Various journal articles and addresses.

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#### WORKS OF FOREIGN AUTHORS.

The obstetrical literature accessible to American physicians was by no means limited to the works just mentioned, for the reason that, beginning with the year 1786, every important English work upon the subject was reprinted within a few months after its appearance, or edited with notes and emendations by some local authority. Moreover, many of the important French works were translated, although, strange to say, this was not the case with the German treatises until after 1860. Accordingly, prior to the appearance of Dewees' *Compendious System of Midwifery*, the needs of the practitioner were supplied by American reprints of the works of Smellie, Hamilton, Burns, Denman, and to a lesser extent by Heath's translation of Baudelocque.

This custom did not cease with the development of a distinctly local literature, and a ready market was always found for foreign reprints, as was particularly shown by the popularity of the works of Fleetwood Churchill. I have, therefore, thought that it would be both interesting and useful to prepare as complete a list as possible of the works of this character, as by its means one can readily appreciate some of the influences to which American obstetrics has been subjected. A glance at the subjoined list, which is chronologically arranged, shows that, in all probability, the first work to be reprinted was Edward Rigby's *Essay upon the hemorrhage which precedes the delivery of the full grown fetus*. Unfortunately, the only copy which I have been able to find is the 3d edition, published in 1786, so that I am unable to give the exact date of the appearance of the first; but as the original was written in 1776, it would seem probable that the American reprint appeared during the Revolutionary War.

This was followed in 1786 by the republication of Smellie's *Anatomical Tables* by J. Norman of Boston, who dedicated the work to the Fellows of the Massachusetts Medical Society. The plates were very



well executed, and compare very favorably with those contained in the cheap English editions of the same work.

From this period onward, hardly a year passed without the reprinting of some foreign work, many of which went through several editions; so that it is apparent, when taken in connection with the local production, that the American physician did not suffer from a dearth of obstetrical literature.

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ARRANGED.

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I am under many obligations to Dr. Robert Fletcher, of the Surgeon-General's Library, as well as to the Librarian of Congress for valuable aid in tracing the history of the various editions of the works mentioned in this sketch, and regret that even with their assistance it has been impossible for me to make my references absolutely complete.

*Note.*—When the date of a certain edition is not given, it indicates that a copy of the edition in question was not available. Likewise, an interrogation mark preceding a date, indicates that an edition had appeared that year, but that there was no statement upon the title page, or elsewhere, as to its number.