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ADDRESS.

A SHORT SKETCH OF THE HISTORY OF GYNECOLOGIC SURGERY.

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In the busy rush of professional work and daily practice, it will, perhaps, prove of benefit to take a glance backward and for a few moments study the early beginnings of our most glorious profession—glorious for what it has achieved, more glorious still for the charity which its individual members are daily distributing to the pauper sick throughout the world.

In most of the recent text-books of to-day one would imagine that surgery was almost entirely due to the invention and ingenuity of the various text-book authors, and that little or nothing is due to our illustrious predecessors in medicine. Many hundreds of years before Christ, medicine had made considerable progress, as shown by the inscriptions on the Egyptian monuments, as well as by the five medical papyri of very ancient date. On the walls of the Egyptian temples are found figure pictures representing the surgeon operating upon his patient; fillings of gold and false teeth found in Egyptian mummies show that dental surgery had made very considerable advance, even at this early day. Susruta, a Sanskrit work of uncertain date, written at least 500 years B. C., proves that the specialists were commencing to be recognized as important agents in the commonwealth even at this early date. Nail trimmers, ear borers, tooth drawers, and drawers of blood and lithotomists are mentioned among others. But medicine was at this time so closely allied to mysticism and confounded with the supernatural, that little scientific knowledge was realized until the time of Hippocrates, called the "great," born about 470 B. C. This man, who is justly called the "Father of Medicine," was supposed to be the direct lineal descendant of Æsculapius, a priest physician who founded an order of priest physicians called Asclepiadæ. These priests established several temples of health throughout Greece and Rome, built especially in the high places where the "air was wholesome," or at the medicinal springs. At these temples patients were received and treated somewhat after the manner of our modern hospitals.

In the beginning of the fifth century, B. C., there were three of these temples of special importance, namely: the temples of Rhodes, Cnidos and Cos. The last named is of particular interest to us, because it was here that the young Hippocrates received his education and grew to the renown which gave him the name of the "Great Hippocrates." He susceeded his father, becoming high-priest physician, in charge of the temple, and the head of the school of physicians, called the School of Cos. The course of treatment at these hospitals included baths, rubbings, shampooings or massage, restrictions of diet, the administration of drugs and occasional surgical operations, combined with religious ceremonials and music. It has even been suggested that animal magnetism and hypnotism were made to serve their part in effecting the cure of the patient. The extensive physical notes or histories of the patient, which were kept by the priest students, or hospital internes, show the desire for exact knowledge which these men were striving after. That Hippocrates studied these histories carefully is shown by his renown in all the civilized world for his great powers of accurate prognosis. His fame was so great that he was called at one time to Athens to stay the plague; again to Babylonia to treat the king of Persia, where he remained in attendance upon this royal personage, as resident physician, for several years.

To show the character and breadth of mind of Hippocrates, how free from errors of superstition he was, if you will pardon me, I will quote a few sentences from Francis Adams' translation of the original Greek manuscripts, where, in speaking of the "sacred disease," or epilepsy, he says:

"It is thus with regard to the disease called Sacred; it appears to me to be nowise more divine nor more sacred than other diseases, but has a natural cause from which it originates like other affections. Men regard its nature and cause as divine from ignorance and wonder, because it is not at all like to other diseases. But if it is reckoned divine because it is wonderful, instead of one there are many diseases which would be sacred. And they who first referred this disease to the gods, appear to me to have been just such persons as the conjurors, purificators, mountebanks and charletans now are, who give themselves out as being excessively religious, and knowing more than other people. Such persons, then, using the divinity as the pretext and screen of their own ignorance."

In regard to the knowledge of this man in both medical and surgical matters, I can but express to you the pleasure and surprise which I have experienced from reading his remarkable works. His knowledge of the effects of the physical surroundings of the patient, the effects of heredity and previous disease is quite remarkable. Pulmonary tuberculosis, as well as tubercular inflammations in other parts of the body, was recognized by Hippocrates. In surgical matters his works show a very considerable knowledge; especially is this true in reference to injuries of the bones, fractures and dislocations, to each of which subjects he devotes a book.

The accidents of the ampitheater and the Olmypian games probably furnished him with plenty of clinic material. Hippocrates speaks frequently of the use

of the elevators and the trephines in injuries of the head, and if I understand him aright, he also at times uses the trephine in epilepsy. Hippocrates advises and practices tapping of both the abdominal and the chest cavities for the purpose of withdrawing collections of fluid. Hernia in some of its forms was well understood by Hippocrates and his pupils. The treatment of the falling of the intestine into the scrotum by position, enemata and taxis, is described; he also speaks of the production of the omental hernia from straining of epileptic convulsions. That he was familiar with the symptoms of stone, both in the kidney and the bladder, is shown in several places in his writings. He describes the symptoms of renal calculus and the use of the sound in detecting stone in the bladder.

In the "oath" of Hippocrates, with reference to this very matter, he says: "I will not cut persons laboring under the stone, but will leave this to be done by men who are practitioners of this work." The operation of lithotomy was at this time and for many hundreds of years after, not considered respectable, and was left with the same class of men who performed castration for the purpose of making royal eunuchs.

This "oath" of Hippocrates, to which it was common for physicians of later years to give their assent, is of interest in regard to the standing of morality and propriety, which it enjoins. It was more than anything else, however, a compact between the physician and his student, whom he promises to treat as a son and to instruct in all of the science of healing.

With regard to the diseases of women, displacement of the uterus and its treatment by pessaries, is understood to a limited extent. Medicinal pessaries for the treatment of uterine troubles, intra-uterine pessaries for the production of abortion are spoken of, but only to condemn. Ulcer of the cervix which is, as he says, "produced by parturition," and later, "when an ulcer heals, the neck of the womb is harder, smoother, and the woman is less liable to conceive." It is remarkable to me how near Hippocrates comes to the appreciation of laceration of the cervix in this description of his, for although ulcer of the womb was described and treated until the present generation, it was reserved to our own Thomas Addis Emmett to prove that such lacerations were, in fact, tears, and that certain of them could only be cured by trachelorraphy, the operation which was devised and practiced by Emmett in New York during the past thirty-three years.

Pyometria, or collections of pus in the uterus, is described by Hippocrates, and also dropsy of the uterus, which may have been the condition which we recognize as ovarian cyst. Hydatids of the uterus he also describes, which he believes to be caused by drinking marsh waters. Abscess of the uterus, which starts near the hip-joint and bursts at the side of the uterus, is, without doubt, our pelvic abscess, rising from suppuration of the ovaries or fallopian tubes, instead of the uterus, as he describes. He advises the treatment of this condition with tents for the promotion of drainage through the vaginal opening, much in the same way as drainage is secured to-day.

Rectal diseases were apparently very well understood, and the use of the rectal speculum; although the use of the speculum in the vagina is not mentioned, it undoubtedly must have been used, for without it his accurate description of the ulcers of the womb would have been impossible.

External and internal hemorrhoids, the treatment of hemorrhoids, either by strangulation with the ligature, or by searing with a hot iron, the hot iron being passed into the rectum through a canula, corresponds, as you see, very closely with the usual line of treatment of hemorrhoids to-day. Fistula in ano is accurately described, with the advice that the abscess be opened before it bursts into the bowel, if possible, but after the fistula has formed, he advises the dividing of it by the tightening of a ligature or occasionally with a knife.

Following Hippocrates the next surgeon of importance in history is Galen. He lived and practiced 150 years after Christ. He has given to us several very extensive works on the subject of medicine and surgery in Greek, the study of which will well repay the student of surgery to-day. That surgery had made considerable further advance at this time is shown in his accurate description of laparotomy for intestinal concretion—probably the condition which we recognize as intestinal obstruction. The incision he makes a little to the left of the median line just below the umbilicus. After exposing and opening the intestine and relieving the obstruction he completed his operation by an intestinal suture, probably of linen thread and a closure of the abdominal wound. Galen also gives a very accurate description of the operation which is so well known by the name of Cæsarean section. I have not been able to determine that the name is justified in the birth of Cæsar by this method, but it is not impossible that this was the case, for I find records of several well-known men of a somewhat later date who were saved by Cæsarean section upon dead women; as for instance, the philosopher Georgia, who was so delivered according to Valerius Maximus, and Pliny says that Scipio Africanus was also saved from death by this same operation. I understand that Galen does not advise the operation upon live women, but in ancient times and even to-day in the Catholic countries, Numa's law provides for the opening of the abdomen in all dead women who are large with child. Velpeau quotes M. C. Lang to prove that Nicholas De Falcon was the first surgeon to perform this operation upon a live woman. This was in the year 1491. The operation was greatly lauded and very much abused by the different authors of 200 years ago—certain men like Mauriceau, who wrote in the year 1700, condemning it as entirely unjustifiable and doubting the list of successful cases which were reported by his predecessors. Certainly the operation was much abused, for, as Velpeau says, it was as popular in France as bloodletting was in England. The operation soon fell into disuse on account of the great maternal mortality, only to be revived with great success under the present antiseptic regime.

With regard to the use of the forceps in childbirth, it is supposed that the ancients used some such contrivance in difficult labors. None of the older authorities give record of it, but in the ruins of Pompeii, in what is supposed to have been a physician's office, together with a rectal speculum, were found a pair of forceps which could only have been meant for obstetric work. In later years the forceps were invented by a young man named Chamberlens about the year 1655. The Chamberlens brothers kept the knowledge of the existence of the forceps and of their use a secret for quite a number of years. That this secret was profitable to them is proved by authorities who

claim that the older Chamberlens' practice gave him thirty thousand pounds a year, a very large sum for that early date. Chamberlens took his forceps with him to Paris for the purpose of selling them to the French government, but making the mistake that he could deliver any woman, no matter what the obstruction, with the forceps, he attempted to deliver a rachitic dwarf whom Mauriceau had said could only be delivered by Cæsarean section. Chamberlens of course failed, as well as his negotiations with the French government.

While speaking of obstetrics it may be of interest to know Mauriceau's opinion of the fertility of the women of the time. He says that although four children at a birth is generally conceded to be the limit, he reports many instances in which more were born at one birth and until the number reaches fifteen he seems to think that such records are just within the bounds of possibility, but when he arrives at the history of a certain Dame Marguerite, Countess of Holland, "who in the year 1276 was brought to bed with 365 infants at one and the same time, who all received baptism and died on the same day together with their mother," he confesses, and not without reason, that we have reached the domain of fable.

Vaginal hysterectomy. According to Velpeau, "Soranus, a Roman obstetrician living in the reign of the Emperor Hadrian, affirms that the uterus may be removed without causing death, as Themison," he says, "demonstrates in his writings"; and he even goes so far as to lay down the operation as a precept, for he recognizes without any reserve, that the prolapsed uterus should be extirpated if it is in a putrefied state and asserts that it has been in some cases excised entire with success. Several operators, among others Brengarius of Bologna, in 1507, describes the removal of the inverted uterus with a ligature. For malignant disease Patella was probably the first operator to remove the uterus. The operation was performed on April 13, 1812. According to Senn, Patella did not know that he had extirpated the entire uterus until he had examined the specimen after the completion of the operation. The patient died at the end of the third day. Senn says that J. C. M. Langenbeck, the grandfather of the Langenbeck of our time, living in Göttingen, made the first deliberate attempt for removal of the uterus through the vagina for cancer in the year 1813. Senn gives a long and very interesting description of this first operation, which was done, as all operations were at that time, without the aid of any anesthetic. In this operation the surgeon dissected the uterus out of its peritoneal coat without opening the abdominal cavity. His colleague, who was very gouty, toward the latter part of the operation gave up entirely and could be of no assistance. Langenbeck found it necessary to tie the ligatures holding one end in his teeth, and to stop the tremendous hemorrhage which followed the removal of the uterus by thrusting his closed fist into the cavity from which the organ had been removed. The patient apparently died upon the table, but later revived, and lived without return of the growth for twenty-six years. Langenbeck's assistant soon dying of the gout there was no one to corroborate his story and his report of the operation was never believed until the autopsy was performed twenty-six years after the original operation. The second operation for deliberate vaginal hysterectomy was performed in the year 1882 by Sauter. Billroth, Velpeau and others have given the credit to Sauter of first performing this operation, when it should rightfully belong to Langenbeck.

After the invasion of Rome by the barbarians from the north of Europe and the consequent downfall of the Roman empire, all scientific knowledge received a set-back from which it did not recover until the great renaissance in the fifteenth century. Medicine and surgery suffered with the other sciences, the Arabs and the Catholic clergy being the only ones to keep alive the ancient knowledge. The diseases of women suffered more than general medicine and surgery, because of the seclusion of the women by the Mohammedans and on account of the celibacy of the priests.

France was the first to revive the study of the diseases of women, and under such men as Ambroise Paré, who revived the use of the speculum forgotten since the days of Soranus; Recamier, who has given us the uterine sound and the curette; Jobert de Lambelle, who successfully operated upon vesico-vaginal fistulæ; Madame Boivin and many others, has helped to bring gynecology up to its present standing.

As Americans we can justly be very proud of our part in furthering all gynecologic and abdominal surgery. Ovariotomy, although it had been suggested and advised by John Bell, instructor in anatomy and surgery in the University of Edinburgh, was never performed by him nor by any of his students excepting the courageous Ephraim McDowell, of Danville, Ky. Young McDowell had graduated from the University of Edinburgh, had listened to the lectures of his preceptor and afterward lived with him as a student and assistant. Several years after McDowell had entered upon the practice of his profession in Kentucky he met with his first case of ovarian cyst. He suggested to his patient, Mrs. Crawford, the only chance of escape from her disease, and she accepted it without hesitation. This, the first operation of the kind ever performed, was done while a mob of enraged neighbors awaited upon the outside of the house the result of the operation, determined to lynch McDowell if his patient did not recover. Fortunately for him and for her the operation was crowned with success and she lived for many years. In 1818 McDowell prepared a brief report of his first three cases and sent it to the *Eclectic Repertory and Analytical Review*, published in October, 1816, in Philadelphia.

Mr. Lizars, associated with Mr. Bell in Glasgow, received a report of these cases sent him by McDowell and a few years later operated for the removal of an ovarian tumor in Edinburgh. Tait and others have tried to claim that Lizars was the first ovariotomist, but history will not bear them out. One or two operations had been performed before the time of McDowell's, but they were simply the tapping or opening of ovarian cysts with a knife, no attempt being made to remove the sack or to ligate the pedicle. Probably no other one operation since surgery became an art has done so much to save life and to alleviate suffering as has ovariotomy, and certainly all honor should be due to the father of ovariotomy who has had the courage to perform this operation.

Nothing that has ever happened has done more to develop surgery than the discovery of anesthesia. On October 16, 1846, Dr. Morton, a dentist living near Boston, having experimented upon himself and a few of his friends, etherized a patient at the Massachusetts General Hospital, making it possible to per-

form considerable of an operation without giving the patient any pain. That the dread of surgery to-day is bad enough we all must admit, but what could it have been before the days of ether and chloroform? It is certainly wonderful that so much was accomplished and that patients, and especially women, could be brought to the point of undergoing such terrible suffering as must have been inflicted by even the slightest surgical operation before the days of anesthetics. Gynecologic, and especially plastic surgery of the vagina, made very rapid progress after the introduction of ether. The two men in this country who have done the most to develop a high standing of American gynecology are Marion Sims and Thomas Addis Emmett, both of New York. Sims, when he was a country practitioner in Georgia, in an emergency needing a speculum, improvised one from a piece of malleable metal, from which grew the Sims speculum of to-day, upon which all of the perineal retracting specula are modeled. The use of the Sims speculum and Sims position allowed a thorough inspection of the vagina and made the cure of vesico-vaginal fistula a certainty, where before it had been the exception when such conditions were cured. Emmett, by his introduction of silver wire as a suture material, also greatly aided vaginal plastic surgery.

In the Johns Hopkins Hospital in the last few months investigations have been carried out to prove that silver has an inhibitory action upon growing bacteria. Perhaps this was one of the reasons why Emmett, with his silver wire, was able to secure such excellent results in distinction to any other suture material then in use. Emmett discovered the condition known as laceration of the cervix, and invented the operation for its cure which bears his name. His perineal operation is founded upon sound surgical principles, and so far as my observation has led me, every surgeon who has ever mastered this intricate procedure believes, with its author, that it is the only perineal operation.

Abdominal hysterectomy, which a few years ago was one of the most dangerous of all abdominal operations, has become to-day no more dangerous than ovariotomy was five years ago. This has been accomplished by the observation of another American, Baer, of Philadelphia. The old operation, in which the cervix was constructed in mass and fastened in the lower angle of the abdominal wound, where it was left to slough off, has been superceded by the intra-peritoneal treatment of the stump which consists of the ligation of the four arteries which supply the uterus with blood and the suture of a flap of the periotomy over the stump of the cervix, which is not constricted in any way.

One of the most brilliant recent advances in surgery must be credited to Howard A. Kelly, of Johns Hopkins. By the use of his ureteral specula and the placing of the patient in the knee-chest position, he has made it possible to see the entire mucous lining of the bladder and to catheterize the ureters upon sight, and even pass his long elastic catheters into the pelvis of the kidney itself, making possible accuracy in diagnosis and treatment which would not have been thought possible a few months ago.

You are entering or have entered upon the study of the most interesting of all human problems, the study of the secrets of life itself; that you may all attain your highest ambitions in your chosen profession is the sincere desire of myself and of all your instructors.