

THE GYNECOLOGY OF THE ANCIENTS*

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AT PRESENT our knowledge of prehistoric time is limited to a few statues and bas-reliefs. These crude figures indicate that the anatomy of the external genitalia was known. Also the pregnant and the nursing mother is depicted. A double monster in bronze has been described. Only scant information of the medicine of Babylon and Assyria, the oldest countries of culture, has been handed down to us. It is entirely mythology, as the various gods and demons explained disease and its treatment.

Our knowledge of ancient gynecology begins with the oldest medical work, the Papyrus Ebers 1550 B.C., which deals with Egyptian medicine. Although it is not certain whether the priests were the actual practitioners or not, it is, however, certain, that the healing was chiefly performed in and around the temples either by the priest-physicians or physicians under the patronage of the official of the temple. As they combined prayers with medical treatment in sickness, they ascribed as much importance to the prayers as they did to their medical directions.

The Sacred or Hermetic books formed a kind of encyclopedia consisting of forty-two parts; the last six books covered the subject of medicine. Thoth, the god of wisdom, was looked upon as the author. The books formed the basis for instruction. As long as the physicians followed them implicitly, no blame was incurred even though the patient died. According to Herodotus, the idea of specialism originated in Egypt. He says: "The Art of Medicine is thus divided among them; each physician applies himself to one disease only, and not more. Some physicians are for the eyes, others for the head, others for the teeth, others for parts about the belly, and others for internal disorders."

The Papyrus Ebers, which is considered a kind of medical compendium contains the following references to gynecology. Prolapse

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of the uterus is mentioned and remedies are given to "enable the uterus of a woman to return to its proper region." One of the prescriptions is prepared with honey and petroleum which is to be smeared on the finger of the patient. The uterus is then to be pressed upon and returned to its place. The fumes of wax and hot charcoal are also recommended to be allowed to penetrate the uterine cavity of the prolapsed womb. Prescriptions are given to enable a woman to give birth to a child and to induce an abortion as follows: "The dried liver of a swallow is taken and rubbed up with some sour milk; this is then to be placed on the breast, belly, and joints." Peppermint water was used for vaginal injections. Palm fruits and cypress blended with oil was looked upon as an astringent remedy and used to cool the vulva or uterus and to disperse inflammation from these parts.

An analysis of the passages shows that even thus early some attention was paid to the diseases peculiar to women. Examination of the vagina and cervix was made as indicated by the above passages. They evidently made a distinction between the uterus, the vagina, and the external genitals, for three distinct words are used in the Papyrus. Thus, the term *met-ret* is used for uterus, *sed* for vagina and *at* for vulva, although the latter is rather general and can be taken in a broad sense to mean any of the others. The uterine canal was recognized, for fumigation is recommended first in case of prolapse, and another remedy given to be introduced into the uterus.

Their therapeutic measures were quite extensive. Vaginal and rectal injections with medicated fluids were much practiced and in the Papyrus Brugsch, there are twenty-eight medical recipes for enemas. As to the origin of the enema there is a fable handed down by Diodorus Siculus and Pliny, that the ibis enema gave the first idea of such a procedure. For it was generally supposed that the bird used its bill as a cannula for injecting water into its bowels.

The suppository, composed of drugs rolled into a bolus and introduced into the vagina is mentioned. The pessary is considered frequently. It is made by impregnating a piece of lint with various drugs, then rolling it into a rod-shaped body so as to apply it to the part to be treated. It may be here noted that the pessary had nothing in common with the mechanical pessary of today, except that it helped to support the womb in cases of prolapse.

Infections such as gonorrhoea were evidently present because it is an assured fact that prostitution existed. The infectious nature of the disease is alluded to in the following passage from Leviticus 15:2: "When any man hath a running issue out of his flesh, because of his issue he is unclean." Therefore, if gonorrhoea existed, all the usual foci were involved, that is the Bartholinian glands, urethra, cervix, and fallopian tubes. These diseases were treated and although the Egyptian women would not have the priest-physicians because of a

false modesty, the prostitutes probably furnished sufficient clinical material as they naturally would desire to be cured of their ailment.

The ancient history of the Hindus is divided into three epochs—the period of freedom from 1200 to 1000 B.C. when the Aryan race had recently settled in India, the second, an age of conquest from 1000 to 800 B.C. and the third, one of servitude or Brahmanam period, from 800 to 600 B.C. when there was a gradual advancement of the priestly class. It was during the third period Brahma produced the four sacred books, the Vedas, and later the second class of sacred books called the Upavedas. One of the Upavedas is called the Ayurveda, which contains the medical writings of highest antiquity and importance among the Hindus. The oldest of these is the Charaka Ayurveda, in which is a chapter devoted to the diseases of the generative organs. The Susruta Ayurveda is a still later work.

The dissection of bodies was not prohibited, but it was not very pleasant. The body was placed in a stream for some days, until it became putrid and then the skin was removed by a brush, and the different parts of the body were examined. One passage on the anatomy of the uterus is of interest, as it apparently refers to the fallopian tubes: "The menses have two canals, the roots of which are the uterus, and the dhamaanee vessels, which convey the menses. When they are wounded, barrenness is caused, and the menses cease."

As to the instruments, there were one hundred and twenty-five enumerated. Among these were twenty-four forms of forceps or pincers, twenty varieties of tubular instruments like catheters, thirty sorts of bougies, three-sided needles, and a rectal speculum. The actual cautery as well as enemata, suppositories, and pessaries are mentioned.

The information regarding the diseases of women in these works is not very full. Twenty-four diseases of the female generative organs are given with terms descriptive of each, such as, *Udaberta*, when the menses are discharged with great pain and are frothy. The treatment of these diseases varied according to the humor diseased. Thus when the air was diseased warm fomentations, such as steam baths and poultices were applied. A piece of cloth soaked in oil was to be kept in the vagina. If an odor arose a decoction of astringent barks was to be used. The treatment of menorrhagia resembled that of hemorrhage, that is, the application of cold and astringent medicines, avoiding venery, and living on cooling and simple food. If there was a stone in the female bladder it was removed by operation. If suprapubic operation was undertaken it was always performed by the husband of the woman, as it was considered dangerous. Abdominal operation was described as well as the use of the trocar in ascites.

Metal catheters were used for urethral injections. The bladders of pigs and buffaloes were used for injecting fluids into the bowel,

vagina, and bladder. The injection pipe was made of gold, silver, copper, iron, hard wood, or ivory. Nutrient enemata of animal and vegetable broths were often used.

Although the information regarding the disorders of the female generative organs was incomplete, there was considerable progress in surgery. The Hindu instruments were numerous, and included the three-sided surgical needle. Their knowledge of anatomy was superficial, yet they did not shrink from performing abdominal sections. The actual diseases mentioned under the heading of Gynecology were chiefly the disorders of menstruation; and the treatment of them by rest, fomentations, and vaginal injections, was excellent. In concluding this period and to truly express the progress made, one need but quote Wise who has given us the knowledge of these ancient works. He says, "Considering these various circumstances and points of resemblance, it is impossible to divest one's self of the conviction that there were once communities in Hindustan possessing eminent scholars, who cultivated literature and science, by which the Egyptian and Grecian philosophers profited. Such an early state of civilization in India reached back at least a thousand years before Christ, and the study of medicine was pursued with success centuries before it could have been so advanced in character and so permanent in its influence as Alexander the Great formed it in the fourth century B.C. It is to the Hindus we owe the first system of medicine."

As to the origin of Grecian medicine, there has been much speculation and there are two theories. The first is that it developed from the knowledge introduced from India and Egypt. The other view is that although a small amount of knowledge may have been derived from outside sources, yet medicine and philosophy were practically offsprings of the Grecian mind. The oldest documents on Grecian medicine are classed under the general title "The Works of Hippocrates," although it has been found with more careful study that many other medical works must have existed previous to 430 B.C., the period in which Hippocrates lived and flourished. This added knowledge came from a few fragments or quotations, preserved in later works. The early works were destroyed with the Alexandrian library by the Caliph Omar (642 A.D.).

Four books of the Hippocratic collection were devoted to the diseases of women. While Hippocrates was the first writer among the Greeks to deal with Gynecology, the passages in his genuine works are few and of little importance. He traveled extensively as a consultant and, therefore, he was prevented from giving much time to obstetrics and gynecology. He was acquainted, however, with the shape of the uterus and imagined that it acted in such a way as to suck and draw juices from various parts of the body. He says that the drinking of unwholesome water will cause dropsy of the uterus. He probably

referred to hydatidiform degeneration of the ovum. He also remarks that calculi do not form so readily in women, for in them the urethra is short and wide, so that the urine is easily expelled.

He mentions the use of pessaries and suppositories in puerperal fever and describes a case of miscarriage followed by death on the seventh day. Some of his other passages are: hemoptysis in a woman is removed by an eruption of the menses; if erysipelas of the womb seizes a woman with child, it will probably prove fatal; if you wish to stop the menses in a woman apply as large a cupping instrument as possible to the breasts. When women are with child, the mouth of the womb is closed. In the *Oath* this sentence is present, "I will not give to any woman a pessary to produce abortion." For a man of such extensive medical knowledge, Hippocrates gave us very little gynecology.

The Hippocratic works which are not considered genuine also contained gynecology. The anatomy of the female genital organs was not mentioned by Hippocrates or any author of this period, although he had some idea of the length of the uterus, for in giving instructions for dilating the cervix he directs that the dilators are to be introduced for a distance of four fingers' breadth, which would be 2.8 inches.

It is not clear whether the true position of the fundus was known. The chapters on displacement of the uterus would lead one to believe that the position of the fundus was often guessed at from the position of the cervix and often gave rise to absurd notions such as the uterus being displaced up to the liver and to the heart, because of ignorance of the bimanual method of examination. It is certain, however, that at a later period Herophilus dissected the human uterus.

As to physical examination, inspection and palpation of the abdomen and the organs of generation were practiced to some extent. Thus, in speaking of retention of the menstrual fluid, pain and pulsation of the hypogastric region are mentioned. Vaginal examinations were made by the medical man and the midwife as follows: "After the fumigation and the bath, the midwife introduces her finger and straightens and corrects the orifice of the uterus." Neither bimanual nor rectal examination is mentioned. There were several positions for the patient to assume during treatment. In some cases she lay on her back, with her feet elevated and her thighs separated. In other cases she lay on her side, or the foot of the bed was raised. In prolapse of the uterus, the body of the patient was attached to a framework, by which means she was inverted, and succussion was practiced.

In the long list of therapeutic agents employed, the vaginal speculum is not mentioned, but it may be presumed it was in use since Hippocrates mentions that the ulcerated parts of the rectum were examined by a speculum. Sounds were made of lead and were used for opening the mouth of the womb previous to fumigation and also

were used to straighten or rectify the deviating uterus. Uterine dilators were made of pine wood, lead or tin. The finger is also referred to as a dilator. After dilating the cervix, a hollow leaden pipe was used to keep up the dilatation.

Uterine catheters were used for washing out the uterine cavity and were made of silver. The extremity of this injection pipe was solid and polished like a sound while the rest of it was hollow. There was a perforation in the side near the small tip of the catheter and there were other perforations at equal distances on each side of the catheter throughout its length. These holes were not large but narrow. After a bladder of a sow had been well scraped it was attached to the pipe. The milk of a mare was used for injections. Infusions were also used in treating the uterus and differed from the injections in their consistence. They were poured into the vagina, the patient being in a position that prevented the escape of the fluid from the vagina for some time and by this means some of the fluid would enter the uterus.

Vaginal irrigation was used largely in all vaginal and uterine diseases. Sitz-baths were mentioned and consisted of a decoction of roses, or briars, of myrtle or of olive tree or sage. Rectal injections are also mentioned.

Fumigations were very extensively used in every class of vaginal and uterine disease. One of the notions of the ancients was that the uterus was attracted by fragrant odors and repelled by disagreeable ones. The technic of fumigation is well described by the following extract: "Take a vessel that holds about four gallons and fit a lid into it so that no vapor can escape from it; next pierce a hole in the lid, and into this aperture force a reed about a cubit (about eighteen inches) in length, in such a way that the vapor in the vessel cannot escape along the reed. The cover is then fixed on the vessel with clay. Then dig a hole about two feet deep and sufficiently large to receive the vessel, and burn wood until the sides of the hole become very hot. After this the next step is to remove the wood and the larger pieces of charcoal which have the most flame, but we should leave the ashes and cinders. When the vessel is placed in position and heated, and the vapor begins to issue out, if it is found to be too hot we should wait a time: if, however, it be of the proper temperature, the reed should be introduced into the uterine orifice, and the uterine fumigation be made. We should be careful to keep the patient covered, lest she take a chill."

"Before the heating of the vessel is begun, the materials to be used for the fumigation are placed in the vessels with some water. During the fumigation the patient if she can reach her os, should examine it to notice its condition." The fumigation was supposed to fill the uterus with vapor to open its orifice and sometimes even to rectify its

position. It was an important treatment and in their eyes as important as the antiseptic douche is to some of us nowadays.

Fomentations and cataplasms of honey and linseed meal were employed in treating pain in the lower abdomen. Also anointing portions of the body with grease in case of pain and in treating uterine affections, was practiced. Cautey is referred to in the operation for opening of a pelvic abscess above the pubes.

Bleeding is mentioned by Hippocrates in a case where labor was to be accelerated and in dealing with sterility.

Cupping is described as being used after the reduction of a prolapsed uterus, the cup being applied to the womb.

Pessaries and tampons were very commonly employed. They were prepared by rolling a piece of lint or wool into an oblong shaped body, and then applying the medical substances to the surface of the lint. To the pessary a string was attached so that it might more easily be abstracted. They were used to reduce inflammation in and around the womb and for softening the cervix. An example of an "emollient" pessary is one composed of myrrh, one part pitch wax and goose grease two parts. The "astringent" was used for restraining female discharges, an example of which is sumach with honey in dark wine. The "purgative" pessary was for ridding the uterus of discharges or the products of conception, and for producing the menstrual discharge. Pessaries were also in use for producing abortions and were made of cantharides, elaterium and colocynth. Hippocrates in his oath forbids the use of such. Thus, one can understand that pessaries were utilized quite extensively.

Before a pessary was applied, the patient generally bathed herself and had a fumigation, and then bathed herself again after the pessary was removed.

Suppositories were not frequently mentioned but were in use for the bowels. The ingredients were rolled into an oval ball, while in other cases wool was saturated with the ingredients.

Tents made of linen or raw flax rolled into a narrow rod-like body, were introduced into the mouth of the uterus in treating a case of induration of cervix and stenosis of the os. They varied in diameter and were four finger breadths long (2.8 inches). They were to be rubbed with goose grease and applied after an aromatic fumigation in order that they might slowly dilate the cervix.

The mechanical pessary was represented by a pomegranate split into two halves, one half being introduced into the vagina in case of prolapse of the uterus.

In describing the clinical course of hematometra and pyometra, Hippocrates was very accurate. He even cautions against the opening of the distended uterus from above.

Pelvic peritonitis, apart from general peritonitis, is not mentioned by him, nor are diseases of the ovary and fallopian tubes referred to. His knowledge of the uterus and its abnormalities, however, was quite extensive. For stenosis and rigidity of the cervix, he prescribes fumigations in order to prepare the cervix for dilatation which was accomplished by very greasy pine wood of graduated sizes. In addition to pine rods leaden pipes and sounds of tin and lead are also mentioned.

Under the heading of metritis, puerperal endometritis is described completely. It is noted that the same conditions may result after abortion or after a full-term delivery, especially, if the membranes remain after labor. The condition is described as follows: "If the womb becomes ulcerated, both blood and pus are discharged, there is a strong odor, acute pains in the loins, groin and lower part of the abdomen. The pains gradually ascend from the flanks to the sides and the shoulder blades and sometimes they reach to the clavicular regions, and there is intense headache and delirium. After a time the woman swells and grows weak, faints and is feverish and chilly. Her legs especially become swollen. The disease occurs after an accouchement in which a woman aborts and the fetus is found to be putrid, and the lochia do not appear and the uterus is very hot to the touch; it also may occur after discharges which are acrid, bilious and corrosive." In treating the patient with hot baths and hot fomentations to the painful parts, he also remarks that vaginal examinations aggravate the disease. Also if the woman is strong, uterine injections are made.

Displacements of the uterus are described and the symptoms resulting from them. No directions are given, however, as to how these various displacements are to be diagnosed. As displacements of the uterus to the liver and heart are described some of them must have been imaginary; especially when there is no evidence that bimanual examination was practiced by Hippocrates. Their ideas of the position may have been based upon the position of the cervix or by means of sounds and dilators. Prolapse of the uterus was recognized and was treated by fetid fumigations. The ancients thought that the uterus was like an animal, and that fetid odors repelled it. In complete prolapse, fumigations and raising of the foot of the bed are recommended.

Leucorrhœa is described as the flowing away of the seed of the woman. Also it is described as a flux similar to the urine of the ass, and is attributed to the diseased state of the humors of the body. The treatment recommended is that the patient drink enormous quantities of milk every day.

Metrorrhagia is dealt with and is noted to occur after abortion but no mention is made of any treatment resembling curettage. Hematopyo-, and hydrometra are described.

From the time of the death of Hippocrates (357 B.C.) Greece began to decline in prosperity. Over fifty years elapsed before the Alexandrian school was established and although during that time medical and surgical works were written, little of these works is known to us. The conquests of Alexander are of interest in medical history in that his empire extended towards India. Thus, there came about an interchange of ideas between the Hindu and Greek medical men. As the work of no author has been handed down to us, we have no accurate idea of the knowledge of the times. Galen, however, refers to Herophilus, the celebrated anatomist, who wrote a textbook on "Midwifery" and was probably also a gynecologist.

The schools of Alexandria continued to flourish and represented Greek science and medicine for hundreds of years. At the same time the Roman Empire was gradually approaching maturity. The Romans were entirely occupied with warlike pursuits and only little to the creation of a literature or the study of science. About the second century before the Christian era, medicine began to develop in Rome, having been introduced by Greek physicians. After the victories of Pompey, Caesar and Augustus, Rome settled down to a period of peace, luxury and vice. Therefore, venereal diseases must have run rampant, although this has not been proved. The Roman law compelled prostitutes to dye their hair blue or yellow. It would appear that yellow hair has a fascination even at the present day for many of the delicate. Even emperors' wives frequented brothels. Agrippina and Messalina were such examples. They had eczema of the vagina.

Although a great state of depravity entered, yet no author has left us a description of gonorrhoea as to enable us to say that that disease existed in those days. Although it is uncertain whether gonorrhoea existed we do know female diseases were common and gynecology was one of the specialties that existed in Rome.

The encyclopedists in the opening years of the Christian era collected and recorded what was known in literature and science. Celsus (53 B.C. to 7 A.D.) lived in the reign of Augustus, and though it is not certain whether he was a physician or studied medicine merely as a branch of general science, he left his work *De Medicina* in which are a few chapters and references to gynecology.

He describes the external genitalia and gives many prescriptions for pessaries (tampons) to produce the periods, to prevent inflammation of the uterus, to cause the expulsion of a dead fetus, one for hysteria due to uterine disease, and one for sterility. Digital dilatation of the uterus is referred to in describing an obstetric operation. The author remarks that, after the stomach, the uterus is the organ that is most frequently affected by disease, and that women affected with uterine disease sometimes lost their reason or fell as though suffering from

epilepsy. Cold applications above the pubes are advised. If ulceration of the womb is present, it is to be treated by local applications of caustic or cautery, and if there be pain in the uterine region, fumigations of sulphur are advised. Prolapse of the uterus was treated by astringent washes, and then held in place by a medicated pessary and binding the legs together.

Atresia of the vagina is discussed at length; Celsus differentiated between congenital and acquired atresias. If it were congenital a membrane would be found closing the mouth of the vagina; if due to ulceration, then the part was filled with a fleshy substance. Only crosswise incisions were necessary to divide a congenital membrane, being careful to avoid the urethra, while a vertical incision with excision of small strips of tissue was used for a case due to ulceration. The wound was dressed with greasy wool moistened with vinegar. When healing began, a leaden pipe, smeared with substances likely to cause a cicatrix and to prevent adhesion, was introduced, and various drugs injected through the pipe for the same purpose.

Pliny (A.D. 23 to A.D. 79) was the next of the encyclopedists and was the celebrated author of the *Historia Naturalis*. He was not a physician, but in giving an account of the properties and uses of plants and mineral and animal products, he also dealt with their medicinal virtues, thereby leaving an extensive work on *Materia Medica*. He referred to various herbs for use in the treatment of female complaints such as plants that were supposed to promote the menstrual discharge as elaterium, cabbage and others and plants that arrested hemorrhage from the uterus.

Pliny describes the practice of persons who had recovered from a disease, to describe in the temples of that god the remedies to which they owed their restoration to health, so that others might derive benefit therefrom in similar circumstance. These tablets were suspended on the walls and accompanying them there were frequently suspended casts of the part moulded in terra cotta, or small models of gold or silver. Uteri, ovaries and reproductions of the vulva have been found with the other organs. Uteri were gifts to the god to insure an easy labor or as a thanksgiving after safe delivery or after recovery from difficult labor or disease.

Small cakes in the form of the male and female organs of generation were sold by the bakers' girls for sacrifice to Venus and Priapus.

Rufus Ephesius, who lived during the reign of Trajan (98-117 A.D.), left some references to gynecology. He mentions calculus in the female bladder, as did Pliny, and gives a catalogue of terms applied to the various parts of the female genital organs. He must be accorded the honor of having given the first description of the fallopian tubes.

Pedanius Dioscorides (first century A.D.) need only be mentioned for his own work on the *Materia Medica* in which are drugs for the

diseases of women. He stated at the beginning of each chapter the disease for which the drugs in the chapter were used.

The work of Soranus on the diseases of women is the next in chronological order as the author practiced in Rome from 98-138 A.D. There are sixty-six chapters, of which forty-six make up the first part of the work and are chiefly obstetric. This part deals with the duties of midwives, the care of a natural labor and miscarriages, and with the care of the infant. The second part, the remainder, contains several chapters of gynecology. He deals with dystocia in such a manner as to show that the obstetric art had been brought to great perfection in those ages. His manner of study of various subjects is very methodical so that he stands superior to his predecessors. He was an able, original and judicious thinker and a specialist in gynecology. In describing a disease he sometimes gave a historical introduction concerning the views of his predecessors, the causes of the trouble, the prominent symptoms, and then discussed the various causes of the affection. Therefore, his work is justly considered one of the three most important gynecologic treatises written previous to the present century, the other two being the Pseudo-Hippocratic Treatise and the work of Aetius.

In the introductory chapter Soranus deals with the special qualities that a midwife should possess and, among other points, lays it down as a rule that her nails should be trimmed and rounded so that they will not wound the organs. He wisely remarks that she should be discreet, inasmuch as she is often trusted with family secrets.

Although he explains the structure of the female genital organs, he considers the knowledge of anatomy of little importance. His description is fairly accurate and is given below.

The uterus is given the Greek name for mother, for it is mother of the fetuses born from it, or because it makes those having it mothers. It lies in the space between the acetabula, between the bladder and the rectum, resting upon the latter, but beneath the bladder either in whole or in part, according to change in its size. For in infants, it is smaller than the bladder, and hence comes to be entirely under it; but in virgins at puberty it reaches the same height as the bladder. In those more advanced in age and in married persons, especially multiparae, it is even larger, so that it extends to where the colon stops. It is still larger in pregnancy, as anyone can see—the peritoneum and hypogastrium being pushed forward according to the development of the fetus with its membranes and fluids. After delivery it becomes contracted but retains a larger size than before pregnancy. Under these circumstances, accordingly, it is larger than the bladder and does not lie right under it; for in front the neck of the bladder projects beyond, ending in the urethra and being stretched alongside of the whole vagina, but it falls short of the uterus above. Behind, the

fundus of the uterus lies higher than the fundus of the bladder, being under the umbilicus so that the cavity of the bladder lies upon the neck of the uterus, and its fundus upon the cavity of the latter.

As to the ligaments, he says that the uterus is connected by thin membranes above with the bladder, below with the rectum, to the sides and behind with the parts springing from the ilia and sacrum. When these membranes are shortened by inflammation, it is dragged on and lies to the side; when they are weakened and relaxed, it falls down, not because it is an animal as some have thought, but having as it were a sensitiveness, being contracted by astringents and relaxed by emollients. The shape of the uterus is not convoluted as in the brutes, but more like a cupping glass. For, beginning from the rounded and broad end at the fundus, it contracts sensibly to the narrow mouth. The size of the os uteri varies and is in most persons normally as large as the outer end of the auditory canal. It opens at certain times, as in the orgasm of a coitus to receive the semen, during menstruation that the blood may escape, and in pregnancy according to the growth of the embryo, and in labor to the greatest extent until it will admit the full-sized head. In texture it is soft and fleshy in virgins, like the sponginess of the lungs or the smoothness of the sponge; but in those who have borne it becomes more callous, like the head of a polypus or like the end of a bronchus, becoming hard through the passage of discharges and by parturition.

The structure of the whole uterus is chiefly fibrous, not composed of fibers alone, but also of veins, arteries, and flesh. The ovaries grow out from the side near the isthmus about opposite to the middle of the uterus. They are not firm but they are glandular, and are covered with membranes. In shape they are, unlike the male organs, long and somewhat flat, and are round and broad at their base. The spermatic vessel from the uterus is carried out of each ovary, and, being placed along the sides of the uterus as far as the bladder, enters into the neck of the latter. Hence it appears that the seed of the female, inasmuch as it is poured out, does not play a part in the production of life.

The whole uterus is made up of two coats, which differ in their arrangement like parchment. The outer is more fibrous and smooth, and firm and white; the inner is more fleshy and villous, soft and red, intertwined throughout with vessels, which are most numerous and noteworthy over the broadest part of the body, where the seed becomes adherent, and from which the menstrual discharge takes place. "Diocles says that there are cotyledons in the cavity of the uterus, which are nipple-like growths broad at the base and narrowing to the top; that they lie on both sides, being devised by nature for the sake of teaching the embryo to practice beforehand how to draw at the nipples of the breast. But they make anatomy speak falsely, for the

cotyledons are not found, and what they say about them is contrary to Nature, as has been proved in treatises on generation."

He knew that the uterus was not essential to life for he says that not only does it fall down, but in some it may be cut away without causing death, as Themisa has recorded, and also it is said that in Galatia pigs fatten after the uterus is cut out. Nevertheless it affects sympathetically the stomach and membranes. It has, moreover, a certain sympathetic relation to the mammae. At puberty when it grows larger the breasts also swell out simultaneously; and although it brings the seed to perfection, yet the mammae prepare milk for the nourishment of the offspring when born, and when the menses flow freely the milk dries up, while as long as the milk comes freely, the discharge does not appear; so also in those past their prime, when the uterus grows smaller the mammae likewise somehow waste away. When in the pregnant we see the breasts fall away and contract, we anticipate that there will be a miscarriage.

His gross description of the vagina is as given today. His idea of the virgin vagina is different, however; he says that in virgins the vagina is closed and narrow, being furnished with folds held together by vessels taking their rise from the uterus; these cause pain in the first sexual intercourse, when the folds are opened out, for they are broken and discharge the blood usually seen. He thought there was no hymen because he did not find it on dissection.

His idea of the external genitalia is quite correct. The mons veneris was called "nymphe" through its being covered as brides are veiled.

Soranus mentions inspection, palpation and percussion. In discussing a septicemia after labor, he says that when the belly is percussed it is found to be tympanitic. In diagnosing a fibromyoma from dropsy, it is pointed out that in the case of the former the tumor does not yield to the pressure of the hand nor is there a depression formed as in cases of dropsy, while the tumor is further distinguished from tympanitis by the absence of the tympanitic sound on percussion, and from dropsy by the absence of a wave of fluctuation on palpation.

Vaginal examination is spoken of in the conduct of labor by midwives and in ascertaining deviations of the uterus. Women were accustomed to examine themselves and the following contraceptive advice is given: To prevent conception, the woman before coitus should smear her cervix with rancid oil or with honey or with a decoction of cedar oil, or she should push into the os a thin strip of lint, or introduce into the vagina an astringent pessary.

Rectal examination was utilized to differentiate inflammation of the rectum from periuterine inflammation.

Soranus alludes to the suspension of the patient's head downwards in case of prolapse of the uterus, but is not in favor of it. Other positions of the patient that he mentions are raising the foot of the

bed and the patient's legs to be crossed, while in some forms of dystocia he places the patient on her knees.

The therapeutic agents and instruments used in examinations and operations were many in number. The speculum was used to determine the bleeding point in cases of hemorrhage from the vulva. In plugging the os in case of hemorrhage a sound was to be used. Uterine dilatation was spoken of but the method of dilating by means of sounds was not mentioned. The finger was used as a dilator.

Catheters for drawing off urine, pipes for fumigating the uterus and a cannula for irrigating the uterine cavity, are all referred to by the author. In dystocia, if there be a stone in the bladder, it should be pushed up towards the fundus of the bladder by a catheter.

Sitz-baths, vapor baths, and baths of oil are frequently mentioned as methods of treatment.

Although he describes fumigations as practiced in his day, he points out that this treatment may result in the vagina being severely burnt.

Fomentations were applied by means of flax wool or sponges; the latter after being dipped in hot water or oil were squeezed, and on being applied were covered by cloths. Dry heat was applied by means of oval-shaped vessels filled with hot water, or by means of bladders filled with hot oil. The cataplasms were made of linseed or of warm flour in small bags.

Bleeding, cupping and leeches are frequently mentioned.

Massage of the uterus is advised if menstruation is absent after an illness, for the friction is to strengthen this organ. He states that the massage is to be performed by one specially trained in rubbing.

He only gives few recipes for pessaries and suppositories.

Vaginal plugs made of wool were used to retain the prolapsed uterus, and also to prevent conception. Uterine plugs made of soft linen soaked in an astringent liquid and inserted by means of a sound into the uterine orifice were utilized to check uterine hemorrhage.

The mechanical pessary was in the form of a pomegranate that had been peeled and soaked in vinegar and introduced into the vagina for preventing prolapse of the uterus. This was already described in the pseudo-Hippocratic work.

In considering the diseases of the ovaries he mentions the herniation of the ovary into a hernial sac.

Under affections of the uterus, Soranus discusses stenosis and rigidity of the uterus, giving as causes callosities, scirrhus or inflammation, ulceration and long widowhood. It was recognized as a cause of dystocia, as it resisted dilatation. In treating these conditions, he pointed out that any membrane or caruncles about the os which are causing stenosis must be removed, while the callosities and scirrhus must be attacked by an emollient. An erosion which succeeds an ulceration is given as a cause of uterine hemorrhage. Condylomata

and fissures of the mouth of the womb are mentioned by him but not described. He says that a rugose condition of the mouth of the womb is often found in those patients who have suffered from inflammation above the cervix.

In his chapter on metritis, perimetritis and salpingitis, Soranus gives an excellent description of acute metritis. The causes of inflammation of the uterus are attributed to chills, fatigue, abortion, and to labors that have been improperly attended. Sometimes there is a general inflammation of the whole uterus; at other times it is the mouth, the cervix, the fundus, the superior or inferior parts or the sides of the womb.

The general symptoms are given as follows: "fever, pain in the affected region, pulsation of the vessels, hypogastric swelling, heat and dryness of the pudendum, and tension in the gluteal region, heaviness about the loins, flanks, and lower part of the abdomen, and of the groins and thigh; a feeling of cold, sharp, wandering pains, and torpor of the feet and coldness of the knees, with a sweating of the whole surface of the body. The pulse is small and very rapid, whilst the stomach is affected sympathetically, and the patient's spirits are depressed and she becomes faint. There may be a headache and pain in the eyes, while the sufferer passes little urine and feces. Should the inflammation become very intense, then the temperature rises still higher and the hypogastric swelling may increase; then follow delirium, chattering of the teeth and convulsive movements."

The local symptoms are these: if the mouth of the womb is only partially inflamed, it closes with pain but it is inclined towards the anus and the tension about the groins and pelvic region is markedly increased. The part also seems to project out, and to be inclined to the side opposite the side on which the lesion is.

"If the whole neck of the uterus be inflamed the pains become very severe and a swelling forms behind the mouth of the womb. When the right side is inflamed the leg on that side becomes affected, and the groin swells; when the left side is affected the opposite side is the seat of pain, but as the lowest portion of the inflamed parts rests on the first part of the rectum, the passage of the feces is difficult and they are retained; also, there will be a desire on the patient's part to go to stool, but any movement will be attended with pain in the region of the lesion." In this manner Soranus describes very carefully the symptoms resulting from involvement of different portions of the uterus as he interpreted the symptoms and findings. He then differentiates between inflammation in the hypogastric region of the abdomen accompanied by swelling, a local peritonitis unaccompanied by swelling, and inflammation of the whole uterus. His treatment is

the same as for retention of the menses; that is, hot baths, hot drinks, counter-irritation, cupping, leeches, sitz-baths, fomentations, injections of hot oil and pessaries.

In regard to chronic metritis, he describes this condition under debilitated or atonic uterus. The periods are very profuse, irregular, and often occur three or four times in a month. Abortions or premature births are frequent in these patients. At the menstrual period there is pain in the lower part of the belly, and in the loins and thighs. The treatment advocated is a general tonic, one with uterine injections and the patient is advised to take exercise.

In one of the following chapters Soranus deals with an accumulation of gas in the uterus. He evidently refers to cases of putrid infection and septicemia following a parturition. He says that it occurs after a labor where the patient gets a chill, which causes the mouth of the uterus to become closed, a clot being by these means formed. The various symptoms described point to peritonitis and the treatment given consisted of injections, cataplasms, wet and dry cupping, sitz-baths, leeches, purgatives and uterine injections by means of a cannula. He further states that if a blood clot appears to be the cause of the gaseous accumulation the patient should have a sitz-bath, and immediately after the bath the midwife should introduce a well oiled finger to loosen the clot.

Displacements of the uterus are well described, although bimanual examination is not mentioned, vaginal examination is. The mechanical pessary is not mentioned.

His description of the mole applies to ours of a fibroid tumor of the womb. This will be considered in more detail in Oribasius' description.

In discussing the causes of prolapse of the uterus, Soranus gives the views of different men. A blow may rupture or relax the membranes and muscles which support the uterus. Some thought that the mouth of the womb will prolapse. Inflammation of the mouth of the womb can resemble a species of prolapse. Others thought that prolapse is produced through inversion, some maintaining that the external coat, others that the internal coat, prolapses.

Considering the treatment, he did not approve of the treatment adopted by Euryphon of suspending the patient head downwards on a ladder for a day and a night, and of keeping recumbent after this and giving her cold ptisan tea. The reasons for his disapproval are that this suspension is intolerable to the patient, while the drink causes flatulence. He also objected to Evenor's method of placing beef in the vagina, because the putrefaction would bring on ulceration. Diocles replaces the womb by forcing into it air by means of a blacksmith's bellows. He then introduces into the vagina a pomegranate

that had been peeled and soaked in vinegar. Irritation of the parts by a bag of hair to cause contraction is mentioned, as well as fumigation.

The treatment advised by Soranus is as follows: The bowels and bladder should be emptied by an enema and catheter respectively, as retention of feces and urine is common in these cases, because the displaced organ pressed on these parts and so narrows the outlets. After this preliminary treatment the patient is placed on her back, the pelvis is elevated, the thighs flexed and separated. The prolapsed parts are then well smeared with hot oil, and a plug of wool the size of the vaginal canal is made ready by tying a piece of thread around it, after which it is dipped in some medicinal substance, such as posca, or warm decoction of myrtle or mastich, then the whole of the prolapsed parts by gentle pressure are borne upwards until the uterus regains its normal position, and the whole of the plug is introduced into the vagina. Then a pad of wool soaked in astringent wine is applied to the vulva, and the abdomen is covered with sponges or wool soaked in vinegar, while bandages encircle the hypogastrium, pubes and loins, and the thighs are crossed one over the other. On the third day, the plug of wool being still retained in the vagina, the patient should be given a sitz-bath of warm dark astringent wine, after which she should again be placed on her back, the buttocks raised and the plug carefully removed from the vagina and replaced by another, and a cataplasm should then be placed on the hypogastric region. Three days later the bath is again given and the plug renewed, and the treatment is continued until the patient has improved.

If the uterus remains prolapsed, and is much inflamed and painful, it is better to irrigate it or to apply linseed meal poultices, and after this preliminary treatment to proceed as directed above. In the obstinate cases local applications are to be persevered with, and the general health is to be attended to. If parts or whole of the uterus become black through, the womb having remained prolapsed for a considerable time, it should be resected partially or entirely. This procedure is possible, because he says, that the lobe of a liver or of a lung which has been gangrenous, following a prolapse of these organs, has been resected.

Inversion of the uterus is spoken of, and traction on the cord, is given as a cause. In case of inversion of the whole periphery a rounded tumor is found projecting like an egg, but remaining within the vagina, or else protruding in front of the labia, its tint being at first red, then later on white.

The passages alluding to diseases of the vagina, are those referring to atresia, and imperforate hymen; and directions are given to incise the membranes if this forms an obstacle to the escape of the menstrual fluid.

The subject of amenorrhœa is discussed excellently by Soranus. He states that dietetic treatment should be first instituted in a case of retention of the menses, for the reason that menstrual purgation is the first function of the uterus. First, he definitely established the presence of suppression of menses by differentiating from menstruation accompanied by pain (dysmenorrhœa) or obstruction to the menstrual flow.

The conditions in which amenorrhœa is present, he lists as follows: the youthful, the aged, the pregnant, singers and those who take much exercise. Also diseases of the uterus as atresia, callosities, scirrhus, or inflammation may be a cause as well as general conditions as poor, general health, fevers, prolonged sickness, and bleeding from the stomach and the nose.

Before going on to treatment he obtains a careful history as to age and presence of pregnancy. Then he proceeds to direct his treatment toward eliminating the cause. Thus, locally, incision of membranes when hymen imperforate, agents to soften the relax parts when callosities, fibrous masses or inflammation are present. If the result of general debility, then massage of the uterus should be instituted. When pain is also present, pressure employed at the site of pain, to reduce the internal heat, then fomentations, hot compresses of wool or flax, oval-shaped vessels filled with hot water or bladders filled with hot oil. Heat is thus applied by various means. Linseed poultices, sitz-baths, pessaries, and douches are advised. In strong patients, bleeding is done, while in weak ones dry cupping and needle punctures when the pain is severe. During convalescence, wine, exercise, general massage and also special massage to the uterus are of value.

As to menorrhagia, the causes given are difficult labor, abortion, an ulcer, an erosion and rupture of any blood vessel. He also points out that hemorrhage from a uterus or vagina is really dangerous because it cannot be arrested by digital pressure, by picking up the bleeding vessel with the surgical hook, by the mere compression of tampons, by ligatures, or by sutures.

Leucorrhœa is considered by Soranus but nothing of special interest is present.

Although we credit Soranus for the above writings, it must be understood he drew from other writers.

In looking back over the progress of medical science and the growth of specialties, including gynecology, among the Roman people at the end of the first century A.D. it is observed that it was transplanted Greek medicine, whose influence remained for the next six centuries. Although specialism became common in Egypt ages before, it now developed afresh, because the Roman doctors found that they were unable and perhaps unwilling to acquire a full knowledge of every branch of medicine and so they sought to cloak their ignorance by

pretending to a knowledge of an individual subject. This could only lead to errors and it soon brought medicine into deserved contempt. While gynecology was practiced by physicians, midwives also attended to the simpler diseases peculiar to women.

From the surgeons of the Alexandrian schools came the first real impulse to operative surgery, for they had every opportunity of studying anatomy and became familiar with the positions of the organs of the body from vivisection. When the ligature was introduced to control hemorrhage from severed vessels during an operation, the first real advance in surgery was made. Celsus is one of the first writers to allude to the ligature, but he does not mention the material of which it was composed. Later Heliodorus and Galen describe torsion of the small vessels, after having seized them with a hook. The acme of the fame of the ligature was reached when Antyllus (350 A.D.) employed it in his well-known operation for aneurysm.

Various surgical procedures were now carried out and similar progress was made in gynecology. Specialists operated on the female genital organs, removing small growths from the cervix, sometimes attempting hysterectomy, and performing plastic operations in cases of atresia and other conditions. The vaginal speculum was in use before the year 79 A.D. in which year Hereulaneum and Pompeii were destroyed, and in the ruins of these cities a three-bladed speculum was discovered in the beginning of this century. In obstetric cases when the necessity arose the child was removed by the operation of embryotomy and, cesarean section was occasionally practiced. Many instruments were now in use such as needles and forceps of various shapes and kinds, catheters, cupping instruments, sharp and blunt hooks, cauteries, knives, lancets, bistouries, rectal and vaginal specula.

Aretaeus, who lived about in the middle of the second century of the Christian era is remembered by his work on *Acute and Chronic Diseases*. In the section of *Chronic Diseases* there is a chapter "on affections of the womb of hysterics." Abstracts from which are as follows: the uterus in women is benefited by purgation and parturition, but it is the common source of innumerable and bad diseases. The chronic affections are the two species of fluor; hardness; ulcers, part mild but part malignant; prolapsus of the whole or of part of the uterus. He describes a red and white fluor. Also various ulcers from the mild to the phagadenic and carcinomatous types are described. He adds nothing new to what has already been said about the causes and treatment of prolapsed uterus.

Claudius Galenus, one of the greatest contributors to medical science was born at Pergamus, in Mysia, 130 A.D. He is said to have composed at least four hundred distinct treatises and, as these deal with every branch of medicine, his works were for centuries the standard authority on all things medical, but it is surprising that amidst this wealth

of ancient learning, there is no systematic treatise on gynecology. Throughout his various writings, however, scattered remarks concerning the diseases peculiar to women are found but are so lacking in detail, that they are of no value.

Galen, like other ancient authors sought to establish an analogy between the male and female parts of the genital organs. Thus he endeavored to show that the labia are analogous to the prepuce of male, the uterus to correspond to the scrotum, and the ovaries to the testicles. The canal of the uterus that receives the sperm of the male is called the neck, and it opens into the vagina. The cornua are for conducting the sperm of the female's testicles; these horns are turned towards the iliac fossae, and growing gradually attenuated, they terminate by the extremities becoming very narrow, each being attached to an ovary situated on either side.

He explained that the various displacements of the womb are due to the retention of the menses which causes a congestion of the ligaments. Deviation to either side depended on the unequal congestion of the ligaments.

If the menses are suppressed and the patient has nausea and a deranged appetite, the midwife must examine the neck of the womb with her finger and if she finds it closed but without being hard then this is a sign that the patient is pregnant. When the mouth of the womb is closed and the neck is at the same time hard to the touch, this points to the uterus being diseased, and the midwife must then make a careful examination by touch to find out towards which part the uterus is inclined or displaced, for it will be there that the uterine disease will be found. In some cases there will be pain and bearing down on the affected side, the pain affecting also the hip region, while the patient will limp with the leg of the affected side in walking. Then he describes the development of a pelvic abscess from cellulitis and mentions incision when pointing in the loin and remarks about the complications as fistula into the colon.

In his description of the anatomy of the uterus and fallopian tubes his knowledge was not obtained by first-hand study. Although his knowledge was second-hand or derived from animals, he was the first to clearly point out that the fallopian tubes were pervious and that they conveyed the ova to the uterus. These points were entirely missed by Soranus and the other ancient writers.

Thus, it is seen that Galen did not attempt the difficult problems of gynecology but mentioned the commoner complaints of women such as suppression of the menses, menorrhagia and the flux, therefore, his contribution to gynecology was small and to operative procedures, nothing.

The works of Galen represent the highest point to which medical science attained in ancient times and after his death (A.D. 200), an

abrupt decline occurred, so that the works encountered for the next thousand years are but the shadows of those written by Galen and his predecessors. In regards to gynecology, Soranus is the outstanding figure among the ancients. The rapid decline of intellectual vigor and original research is shown by the subject material and language.

With the fall of the Roman state the further progress of medicine is to be recorded from Byzantium where science and learning were destined to lead a sickly existence for a thousand years. For Constantine made Byzantium the capital of the empire (328 A.D.) after he had captured Rome 312 A.D., and defeated his rival Licinius in 323 A.D. Thus it is seen that medicine returned to its source, Greece.

Another influence on medical progress also developed. Christianity was gradually developing and growing so that at this time the rich and powerful had become converted to its tenets, even Constantine, the autocrat of the empire. As the church believed in the preternatural it was, therefore, antagonistic to science in all its branches, and replaced scientific medicine by a system of faith-healing, in which miracles, prayers, charms, and amulets occupied the foreground. Anatomy suffered most for dissection was not allowed, not even on animals. The redeeming point of the Christian influence was the establishment of hospitals, which were supported by contributions from charitable people.

Fabiola founded the first Christian infirmary at Rome, at the close of the fourth century; St. Basil established a large charity at Caesarea, while at Edessa, Bishop Rabboula built a hospital which was exclusively for women. Foundling hospitals came into existence first at Treves, then at Angers and Milan.

Now follows the work of compilers such as Oribasius, Aetius and Paulus Aegineta who copied what was valuable in the work of their predecessors but they have given little that was original. The reason was as stated above, that original research was checked by the controlling power, the church. But these authors warrant notice because of the enormous work that they carried out.

Oribasius who was born about 325 A.D. at Pergamus, compiled an encyclopedia which was an epitome of Galen's works and extracts of other authors. Therefore, he had nothing original to say, but his work is of value because it gives glimpses of other men's works which have not been found. Passages taken from his work concerning gynecology are as follows: Rectal injections of milk are recommended in cases of inflammation of the bladder or the uterus. The uterus has a certain affinity in suffering with the colon; it is natural, therefore, to suppose that, in case of inflammation of the uterus injections into the colon will have a soothing effect. Oil and a decoction of linseed meal are recommended for such injections. Not only is the position of the

patient during the administration of an enema described but also the various causes that prevent the fluid from being successfully injected are dealt with.

Fumigation is described as recommended by Antyllus and the method is the same as described above in the Hippocratic works.

The means for increasing the flow of milk or for increasing the menstrual flow as given by Galen are noted. The view is held that the same substances that will excite the secretion of milk will also increase the periods since the blood contained in the veins is the source common to both. Oribasius observes that there are veins which are common to both the breasts and the uterus, and that if the blood is carried more to one of the parts than to the other, the part deprived of the blood becomes, for the time, devoid of secretion.

Galen's description of the fallopian tubes conveying the sperm from the ovaries to the uterus is present and also Soranus' idea that the ovaries discharged their products into the bladder. Galen's observation is as follows: "The epididymes of females are not manifest, because the testicles (ovaries) and the sperm vessels (tubes) are equally small, indeed the testicles, which are much smaller than in the male, are situated in the lower region of the abdomen by the side of the fundus of the uterus, one on each side and they receive twisted vessels similar to those that exist in the male. The female ejaculates her sperm into the uterus and it is warm but less abundant than in the male. In consequence the vessel that takes its rise in the testicle implants itself in the horn of the uterus, and is full of sperm, and pours through the horns of the uterus by means of a narrow orifice a similar fluid into the cavity of the uterus." Thus it is seen that Galen hit upon the function of the fallopian tube, but he did not recognize that the ovum was the body transmitted but mistook the normal secretion of the tube for the sperm of the female, and imagined that this had been secreted by the ovaries.

As mentioned before Oribasius did not contribute anything original to progress of medicine and to give further extracts of his work is but to repeat what has been said of the preceding men's works.

The next author, Moschion, was supposed to have lived during the fifth or sixth century A.D. and was considered an original writer until the nineteenth century. Several new Greek works were translated by Dewez, Dietz, Ermerins, Rose, and Hergott who proved that Moschion was merely an abbreviator of Soranus. His work was in the form of a compend. Therefore nothing can be added by quoting extracts from his work.

Aetius, who lived in the middle of the sixth century, and was the chief officer in attendance on the Emperor, probably Justinian I (527 to 565 A.D.) though also a compiler contributed some new information in his works. He was the first writer to mention such Eastern

drugs as cloves and camphor, and he was the first important Christian Greek author on medicine, whose works we possess, who has left us examples of the spells and charms in use in his day.

In the physical examination of the pelvic organs, palpation, percussion and inspection are frequently mentioned. They are well described in the diagnosis of a fibroid from ascites and pregnancy. Vaginal examinations was employed for diagnosis, both digitally and by speculum. In the chapter on inflammation of the uterus it is noted that if a vaginal examination be made and the finger be placed in the os, it will be found hard and closed, hot and retracted, especially if the inflammation is in the cervical portion of the uterus. Also the direction in which the uterus is inclined may be told by the introduction of the finger into the vagina. Both hands were used in some cases; the patient being placed in position two fingers of the left hand were inserted into the vagina, while the right hand compressed the bladder from above. Rectal examination was described in its application to reducing a retroflexed uterus or to palpate a calculus of the womb.

As to the various positions of the patient for examination or treatment the lithotomy position is described as well as the knee-elbow and lateral positions.

The various therapeutic agents alluded to by Aetius had been described already by the previous authors, therefore, need not be repeated. The mechanical pessary is not yet mentioned. Aetius, however, was the first to have mentioned the use of sponge tents for the purpose of dilating the cervix.

The anatomy of the uterus is described; first, the synonyms, metra, matrix, and hystera are given with their various origins; second, the situation is mentioned which is probably from Galen. In the taking the last from Galen, he follows him in his mistake by saying that the fundus extends far beyond the bladder, reaching up to near the umbilicus. He remarks that the fundus is similar in shape to the bladder, but it differs from that organ in having nipple-like projections, called cornua, produced from either side and facing toward the loins. The cornua run upwards, then downwards and become gradually narrower, so as to resemble veins. These narrowed portions of the horns with sinuous curves reach to the ovaries, which are placed by the side of the uterus, one ovary on either side of the fundus close to the cornua, and through these sinuous curves of the cornua the uterus draws the semen from the ovaries during coitus.

His description of pelvic suppuration was taken from Archigenes. The origin of this infection he thought was from preceding inflammation, as a rule elsewhere in the body. To aid the suppuration, he suggested poultices containing linseed-meal, turpentine and other substances which were applied to the lower portion of the abdomen and

to the lumbar regions. He also suggested, to foment the vagina with a sponge and conduct into it vapors by means of a reed which was inserted into the perforated cover of a jar. Sitz-baths of fluids with drawing properties were also advised.

In the directions for operating on an abscess situated about the mouth of the womb, he cautions not to be too prompt in having recourse to incision but to wait until the disease is matured and the inflammation has increased to its utmost and the parts pressing on the pus are thinned. After describing the lithotomy position with legs drawn up and separated, he tells of inserting a speculum, of such size as is proportionate to the age. When the abscess is exposed and is found to be soft, then its apex is to be divided with the scalpel or sharpened probe. After the pus has been evacuated a very soft tent soaked in rose-oil is placed in the incision, or, rather away from the opening in the vagina of the patient, so as not to produce compression. The vulva and loins are to be covered by unwashed or clean wool that has been dipped in oil, and that on the third day the patient should have a sitz-bath, followed by the introduction of a tent. If the part is cleansed with difficulty, an injection of the decoction of iris may be thrown up with an ear-syringe. The various complications of an unopened abscess are mentioned, such as rupture into the bladder, rectum, vagina, peritoneal cavity or out through the skin.

Among the affections of the uterus, stenosis and rigidity of the cervix are given as causes for sterility and for dangerous parturition. He indicates that inflammation may be induced when dilatation is performed. Lacerations of the cervix were recognized as end-results of difficult parturition on account of the size of the child's head; while those of the pudendum were produced by the escape of irritating humours. Erosion of the cervix is given as a cause of menorrhagia. Ulceration of the uterus is due to an eroding flux, to injuries from acrid medications, from the bursting of an abscess, from difficult labor, after extraction of the fetus or from the latter becoming corrupted. Shooting pains are present in the parts affected, while, if the ulcer is foul and fetid sanious discharges may be produced, and also reflex symptoms, such as pains in the head, eyes, and hands. The treatment given is sitz-baths, injections, pessaries, and a decoction of poppy-heads is recommended when the pains are severe.

Carcinoma of the uterus is described clinically but no operative procedures are mentioned. Remedies are given to alleviate pain and stop hemorrhage.

Inflammation of the uterus is discussed in detail as described by Philumenus. In addition to the usual rest, massage, fomentations to the feet and hands, bleeding, pessaries and vaginal injections were practiced.

Aetius gives Aspasia's views in describing displacements of the uterus. Although he gives some highly imaginative ideas as factors producing lateroversion such as the liver on the right, the spleen on the left, the results of the displacements were well described. Pro-lapse of the uterus is discussed as Soranus has, but his statement concerning hysterectomy is interesting. He says that it is reported that when the whole uterus has become putrid, it has sometimes been removed and the woman has nevertheless gone on living.

Fibromyoma of the uterus is mentioned and is called a mole because the sufferers from the affection move with difficulty and slowness. While polyps of the uterus are described under the heading "Decauda," because he says that the fleshy body springs from the mouth of the womb, filling the woman's vagina and even projecting beyond the vulva like a tail.

Under affections of the vagina and vulva, atresia of the vagina and atresia of the hymen are well described, differentiated and surgical treatment given which is supplemented by such remedies as will aid the cure by causing suppuration. The cicatrix is prevented from contracting down by dilatations with the speculum and by a tube made of tin. Benign and malignant papillomata were also observed and surgical removal of the former is advised while he advises against excision of the latter form because of the bleeding.

In treating menorrhagia and metrorrhagia, Aetius advises putting ligatures round the extremities and bandages around the arm pits and groins. He also uses injections and astringent remedies. Amenorrhea is dealt with very thoroughly. Dysmenorrhea is merely an extraction of Soranus' chapter.

Excision of the Nympha (clitoris) was performed if it was very large for it was considered a shameful deformity and when irritated by the woman's clothing, it excited the woman to venery.

It is thus seen that although Aetius is only a compiler his works at least give an insight into the works of the men of his time or his predecessors, the originals of which have not yet been found.

Paulus Aegineta, the next author to be considered, of whose life nothing is known, lived in the sixth century A.D. His works are compilations of a learned physician, a skillful surgeon and a man well versed in gynecology. He drew his material from all available sources particularly from Galen, Oribasius, Aetius, and Alexander Trallianus, although he seldom acknowledges the authorities from whom he derives his facts. Paulus appears to be the first instance of a professional man midwife. His works justify no summary for they are merely repetitions of works already described above with only few exceptions. Thus, on pessaries, from Antyllus, he described three different kinds. The emollient, the astringent and the anastomotic. They were applied to the womb. The emollient were prepared from

Tuseon wax, the oil of privet and of lilies, the fat of geese and of fowls, unsalted butter, burnt resin, stags' marrow and fenugreek, and are used in inflammations and ulcerations of the womb. The anastomotic were prepared from honey, mugwort, dittany, the juice of cabbage, liquorice, the juice horehound, rue and scammony and are used to open the mouths of the vessels as in the case where the menstrual purgation has been stopped or to correct the state of the womb when it is shut up or contracted. The astringent were used to restrain the female discharges, to contract the womb when it was open and to force it upwards when prolapsed. The pessary is made from wool into a narrow tent which is doubled and dipped in the medicine and applied to the mouth of the womb, having a long thread attached to it to draw down the pessary readily when it is thought proper.

Paulus gives an extensive exposition on the closure of abdominal wounds, as to method employed, suture material used and the after-care.

With the death of Paulus Aegineta, the last of the eminent Greek authors on medicine passed away. Although Constantinople was not conquered by the Turks until 1453, nevertheless there was no medical writer connected with that city worthy of mention after Paulus' death, except perhaps Actuarius, who lived there as court physician (1000 A.D.) and in whose works there are a few references to the diseases of women.

In 646 A.D. Alexandria was captured by Amrou during the Caliphate of Omar II who expelled the professors from their seats of learning, pillaged the city and burnt the great library of 700,000 volumes. Some of the medical works must have been rescued, however, for it was from these remnants that the Arabians copied their knowledge. They contributed nothing new for they had a very limited experience in gynecology. The religious laws of the people forbade a man to examine the genital organs of a woman, in consequence of which gynecology and obstetrics were left in the hands of women, who not only did the minor operations, but even performed embryotomy and lithotomy.

Many works were conveyed to Greece and Italy which were translated into Latin, and formed a valuable foundation for the revival of learning during the fifteenth century. Therefore, the contributions to gynecology by the ancients ceased with the death of Paulus Aegineta. The science of medicine was buried during the dark ages and it was not until about the fifteenth century that its resurrection occurred.

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