OBSTETRICAL PRACTICES

PAST AND PRESENT

VI.

Kathleen Shepard

CHAPTERS

OBSTETRICAL PRACTICES: PAST AND PRESENT

CHAPTER I

INTRODUCTION

Just where and when the first baby was born is a mystery, but we do know of course, that Obstetrical history dates from the beginning of human life.

There is a legend among the gods of accouchements with the birth of Dionysus. He was born when his mother Semele was dying. After this first birth the infant was placed in the thigh of a god where he remained for nine months and was then born again.

Egyptian records which date back to 5000 B.C. give to us the first knowledge of obstetrics. Writings and pictures carved in stone prove this to us. However, at that time, mysticism controlled man. Superstition played a very definite part in their practice. Priests and priest physicians acted as "go-betweens" between the gods and godesses and the mothers. If the results were satisfactory it was because the good demons had been present; if there was a mishap, it was because the bad demons had influenced the situation.

Primitive man had no morals and no doctrines--just fear. Because of the fear of evil spirits and fiends, the mothers went to medicine men, priest and witch doctors to be advised and cared for. * "These

* Finley, Story of Childbirth

witch doctors with their nauseus remedies, their beatings and squeezings, their hideous make-ups, chatter and bombilations, created an atmosphere of mystery that never failed to captivate the gullible savage, whatever the effect upon the evil spirits."

From this terrible state, practitioners who were very skillful in dressing wounds evolved. They also knew something of the healing qualities of drugs which reduced fever a bit and relieved pain a little. The expectant mother went to these practitioners for aid. Uncivilized people and some folks of low cultures, still believe in these practitioners, demons, goblins and ghosts, and it was not until the time of scientists and outstanding men such as Pasteur, Semmelwies and Holmes that the tragedies of motherhood occured, not because of the ill-will of the dieties, but because of the organisms. All of this research was greatly aided, of course, by the invention of the microscope.

CHAPTER II

"LABOR AND POSITIONS"

It is known that both the old and present day savages have easy labor. They lived and live in a natural enviroment, the conditions allowed them perfect freedom of action and they were and are unhampered by civilizing influences. Their children were born quickly and easily, and because of this we almost frown upon all of our modern "exactions". The most brilliant of modern expectant mothers, when seized with the sensation of agonizing pain, may rather instictively assume the squatting or kneeling position of the savage. When a mother is having the pains of labor she always tries to find a more comfortable position--that is her motive--and one which will help her to deliver her baby.

Many uncivilized people stand erect to deliver their babes. The mothers of some Hindu tribes of the Boers of Central Africa, some of the inhabitants of the Phillipine Islands and of Equatorial Africa do this. The reason for this is that it makes a head presentation easier and it makes for a less difficult delivery. The mothers of some of the other groups of people in this world assume a partially suspended

position, or swing from the limb of a tree, or tie a rope from the branch of a tree and allow the rope to be looped around them and under their arms, thus partially suspending themselves. Others cling to the necks of their assistants for similar support. Some of the North American Indians used to stand with their hands tied above their heads until they delivered. Other of the Indians did as Dr. Faulkner describes in his observations of the Sioux. It was in the dead of winter and deep snow covered the ground. An expectant squaw went out to gather wood and when she returned to the cabin she had in one arm a load of fuel and in the other arm she carried her newly born babe. Another squaw was riding horseback with her party. When she was in active labor she dismounted, spread a blanket on the ground, had her baby, got back on her pony and rode on. This seems much like the simple ordeal of the lower animals, doesn't it?

The Siamese use rather cruel tactics in obstetrical practices. They massage the mothers abdomen to aid her in delivery. If there is no immediate result from this they tramp on the woman. If the body has not yet come to the outside world they suspend the mother by a band under her arms and men or attendants grasp her about the waist and pull and pound on her lower abdomen and pelvis until something very definite happens. In Mexico men repeatedly lift the mother and let her fall with the idea that the babe must be shaken out. Among the

Nez-Perce Indians, the practise of bouncing the mother was not unusual. After a thourough bouncing, a midwife would insert her dirty hands into the genital tract and pull down whatever she found, but the mothers never survived this last maneuver. Mothers in certain tribes in Australia, South America, Russia, and Africa sit on tree stumps, on stones or the ground in order to assume a position that will make them a little more comfortable and that will make it a bit easier to deliver the babes. Concerning many births among the savage and uncivilized groups, it has been said:

"So easily she yields her bosom's load,
You'd almost think she found it on the road."

The American Indians used the practice of the mother interlocking her arms with her attendant in a back to back position and then both squatted on the ground. This arrangement furnished support to the patient. In this instance the medicine man knelt in front of the mother and as he smoked his pipe he blew the smoke under her garments.

The Earliest evidence of deliveries using the husband's or attendant's lap for an obstetrical chair is seen in a marble carved picture which was made by an artist in 400 B.C., and which was found in Cyprus. This was the forerunner of the birth stool. The lap was more popular and also sometimes more preferable than the wooden stool because the former was always available and, too, it offered pliability and sympathetic support. In Germany, Wales and Scotland

some people still use the lap of the husband or of the mother's mother for delivery chair.

For a long time midwives used birth stools--and the two were inseparable. This particular piece of furniture was built like a armchair, had a rounding and slanting back on it and arm rests. Instead of having a solid seat in it a rounding portion was put out of the front edge so that the remaining part was shaped like a horseshoe. No one knows the origin of this device, but it is known to be a very old one. Golen wrote about it.

Mauriceau, a Frenchman who lived in the 17th century was the first to use a bed for obstetrical cases. But even after this position was introduced, the birth stool was used for a hundred years. The Greeks, Romans, and all of Europe used the obstetrical chair until the early part of the 18th century when the article was replaced by the couch. In the Far East, the chair was used, too, but when it was not available the mothers sat on the floor. The Japanese, Chinese, Turks, Asyrians and Egyptians still frequently use the birthstool.

By most of the civilized people, the bed or obstetrical table is used. This was introduced by Dr. White of Manchester in 1773. Obstetricians in the 19th century often recommended the "knee-elbow", "knee face" or "knee hand" position for the mother during delivery.

CHAPTER III

"MEN, WOMEN, AND OBSTETRICS"

From the time of Hypocrates in 460 B.C., until the time of Ambrose Pare in 1550 A.D., the mothers were comforted by the babblings of priests who were superstitious, who made sacrifices to dieties, who knew nothing of anaesthesia, used neither antisepsis nor asepsis, had no knowledge of labor and who gave no intelligent assistance.

The Greeks are credited with genuine art in Obstetrics, but soon came the Dark Ages and all of that art was lost. Little is known about medieval obstetrics, but we infer that it was the darkest period in the history of woman. The Renaissance period offered little better practices with motherhood. Those mothers had just an even chance between life and death in childbirth. They died in great numbers from infections, puerperal fever and eclampsia. If the labor or post-partum period included complications, there was no opportunity at all for the mother to live. If the delivery was a hard one, a barber surgeon was called for the case and he bled the mother and mutilated both the baby and its parent. At this time Paré had not yet introduced the procedure of turning the baby.

Soronus of Ephesus, who lived in the second

Century A.D., was a follower of the Methodist School of Ascelepiadis. He is our leading authority on obstetrics, gynecology and pediatrics of antiquity. He must have been a very brilliant person; he thought of and accomplished so many things. He wrote a treatise on "Midwifery and Diseases in Women"; wrote about and introduced the obstetrical chair, wrote of the possibility of podalic version, made drawings of the female genetalia and the foetus in-utero, introduced the vaginal speculum, denounced pummelling, bouncing, rolling and shaking the mother, recommended a clean and educated midwife, and last and certainly a most wonderful achievement, counselled gentleness in handling a woman in labor.

Albucasis (1013-1106) was the first to write on deformities of the mouth and dental arches. He made an attempt to analyze hare lip and cleft palate.

The Early Christians tended to release superstitions from many minds. Finley states that scientific obstetrics began when in 1306 and again in 1315, Mondini, who was a Professor of Medicine at Bologna, dissected female bodies and carefully studied the anatomy. However, there were so few scientific men in that era that the 14th century surgeon and obstetrician as he is pictured to us, was typically a blond bearded Saxon, who wore a long gown, a cloak and cap, rings and other finery, who was very pompous, and who sat in a throne-like chair. Petrarch ridiculed so severely this sort of man that they began to

dress in dirty rags and sit in the lowest munials of the halls.

From this empirical class of king-like practitioners and tramp-like medicine men, women again arose as midwives. These women were, for the most part, from the lower class. For thousands of years the fairer sex assisted in all obstetrical cases. Men and physicians had little to do with child birth and for years and years "mock modesty" kept men from practicing obstetrics. Queens, not doctors ruled the fashion for the expectant mother. Queens introduced the special maternity corset, the brassiere which raised the breasts upward and did not compress or flatten them, low-heeled shoes which tended to not exaggerate the abdomen and avoided tipping of the body, and garters that were not binding and constricting.

The 15th century , by means of drawings and paintings, pictures for us the lying-in chambers of that time. These "sick rooms" are thronged with people. Some of the pictures frankly represent the moment of the delivery. Some show the foreground,a nursemaid washing the newborn infant, and from some we gather the curious fact that in the Middle Ages, the sensitive naked foot was used as a sort of clinical thermometer. In a fresco of Luini's, in the Brera Gallery at Millon, the nursemaid is dipping her hand into the water to ascertain if the water is too hot or too cold for the infant. In most of the pictures a wooden tub is used, and in those representing "The Birth of the Virgin", by Holbien and others, the nurse-

maid is represented like the Highland laundressess in "Waverly" with "kilted kirtle"-her bare feet testing the water in the tub. The baby was shown, in the next stage, dressed in swaddling clothes.

In 1555 there was in the city of Ralisbon, and ordinance established stating that all midwives must use the book "The Byrthe of Monkynde". This was the first public document of that type.

To Ambrose Paré (1510-1590) who had a great reputation not only as a surgeon but also as an accoucheur, both the profession and the public are much indebted for having the courage to induce labor artificially in cases of uterine hemorrhages.

In Paré's century mothers were generally attended either by a Sairey Gamp of the time or by one of the vagabond butcher surgeons. In 1580 a law was passed in Germany preventing shepherds and herds-men from attending obstetrical cases. Many people, all fussing around, still filled the delivery room.

Paul Porter of Montpellier wrote, in 1685, a treatise in which he taught that version could be done by one foot and that face presentations usually run a normal course.

A Hollander and goldsmith, Van Deventer, at seventeen years of age turned to medicine and obstetrics. He is known as the "Father of Modern Midwifery". Van Deventer gave the first accurate description of the pelvis and deformities and the effect of the latter in complicating labor.

Hendrik von Roonhuyze is known to have success-

fully accomplished a Caesarean section in 1625. He had a special mode of incising, and he gives case reports concerning extra-uterine pregnancy and rupture of the uterus.

A definite advance in obstetrics was noted in Great Britain in the 18th century. William Hunter was the cause of this advancement. The practice turned from midwives to trained male obstetricians. Great ladies of the court such as Queen Henrietta Maria and La Valliere, set the fashion to have male midwives. Slow progress, however, was made along this line.

William Smellie (1697-1763) learned obstetrics in Paris, but he settled in London. In that city he taught the practice of obstetrics in his own house. He used for demonstrations a leather-covered manakin which was supported by actual bones. For this course he charged three guineas. *"In spite of his uncultivated bearing and the bitter opposition of Mrs. Nihell, the Hay market midwife who called him'a great horse godmother of a he-midwife', Smellie acquired a large practice, and to him William Hunter came as a resident pupil in 1741." Smellie introduced the steel lock forceps and the curved and double curved forceps. His "Midwifery" was the first book to lay down safe rules for using the forceps and for differentiating contracted from the normal pelvis by actual measurements. The advantages of external manual expression of the placenta over traction or internal manipulation was also realized. At that time pregnancy was called "the nine months disease". Smellie performed the

* Principles and Practice of Obstetrics"-Dr. DeLee

radical operation known as symphysiotomy, and he did it aseptically. Hunter discovered the decidua reflexa, a portion of the membranes and walls surrounding the nidated ovum. To this man, too, is given the credit for discerning the separation between the maternal and the fetal circulation.

In the 19th century, the greatest single achievement of the New Vienna School was the determination of the true course and prophylaxis of puerperal fever. On February 13, 1843, Oliver Wendell Holmes read to the Boston Society for Medical Improvement his paper "On the Contagiousness of Puerperal Fever" in which he affirmed that women in childbed should not be attended by physicians who either had been conducting post-mortem sections or cases of puerperal fever. Holmes stated that the disease could be easily transfered in this manner from patient to patient-even from a case of erysipelas, and that washing one's hands in calcium chloride and changing one's clothes after leaving such cases would be two steps in preventing further infections.

Two Philadelphia obstetricians were stirred violently by this essay and they said that they themselves lessened mortality a great percentage by using chloride of lime and a nail brush on their hands following a septicercia or other infectious case.

In Vienna, about 1846, there were wards for obstetrical cases in the hospital "Allgemeines Krankenhaus". One ward had acquired such a high mortality that women begged in tears not to be taken into it.

Philip Semmelwies , a Hugarian and a pupil in that hospital, noticed that the ward in nearest proximity to the entrance differed from the second ward , in that the latter had lower mortality rate. The students came into the first ward directly from the dissecting room where they received instructions and, often with unclean hands, they made vaginal examinations on the mothers in that ward. The second ward was devoted to instructing midwives who paid much greater attention to personal cleanliness than did the medical students. With this whole picture in mind, Semmelwies also made careful studies of the autopsies of the fatal fever cases. One day one of the Doctor's assistants cut his hand while dissecting one of those bodies. He became very ill and died. A post-mortem was performed on his body, and Semmelwies attended it. The Doctor noticed, in the body of his former assistant, that the pathological appearances were the same as in the unfortunate puerperae of the first ward. This made his chain of evidence complete. Immediately he instituted rules and precautions for cleanliness. Simply by washing the hands in calcium chloride, used because of its antiseptic power, the mortality rate was suprisingly decreased. Semmelwies was the one who recognized puerperal fever as a blood poisoning or septicemia. However, this great man met such opposition in Vienna that he suddenly left for Budapest where he practiced obstetrics and wrote a treatise on the subject. His sensitive nature was not equal to the strain of violent controversy which yet

existed, and brooding over his wrongs, he became sick and died.

Although antisepsis and even asepsis had been introduced into obstetrics long before the time of Lister, the principle did not begin to take hold until surgeon and obstetrician alike began to cleanse their hands in carbolic-bichloride solutions. The first man to employ carbolic solution in obstetrics was Etienne Tarnier of Paris (1881). Tarnier was the inventor of the well known axis-traction forceps and he was also the introducer of the milk diet for the pregnant mother.

There was in the century just past, a Scotchman whose name was Sir James Young Simpson. Through his ability and facinating personality, he acquired and enormous practice. He was the first to use chloroform in obstetrics. He introduced iron wire sutures, the long obstetrical forceps, the uterine sound, the sponge tent, dilitation of the cervix in diagnosis, "Simpsons pains" in uterine cancer, and version in deformed pelvis.

There was at that period of the past an outstanding German, Carl Siegmund Franz Credé. It was he who introduced two things of capital importance in obstetrical procedures-one, the method of removing the placenta by certain external maual expression--the other, the prevention of infantile (gonorrheal) conjunctivitis by the instilation of silver nitrate ($AgNo_3$) into the eyes of the newborn.

There was also an English contemporary, John Braxton Hicks, who was a famous London teacher. His name is honored because he introduced the obstetrical procedure of podalic version by combined internal and external manipulation-which forms a connecting link across the ages with Ambrose Pare's famous paper.

Abraham Jacobi, who was born in 1830, was the founder of the American Journal of Obstetrics. He collected and published many articles on "Infant Feedings" in which he writes of the substitution for mother's milk of cow's milk by calculating the percentage of necessary ingredients.

In the 19th century there was, too, a Dr. John Stearns in New York State. This Doctor first introduced the use of ergot in regular practice. Ergot is very efficient in exciting uterine contractions. It is given routinely in practically every modern hospital.

In the British Isles Dr. Lever of London and Dr. Simpson of Edinburgh, about the year 1842 discovered albumin in the urine of several pregnant women. This condition of albuminunia suggests that the mother may be toxic. After, coexisting, there would be present, too, and anasarcaus condition-edema or swelling in the limbs of the body. In France Madame Lachapelle was a prominent midwife and accoucheur. She both described the correct method for delivering a baby in face presentation, and taught students how to apply forceps.

It is known that the French women learned the art of midwifery hundreds of years ago either by being

admitted as apprentices to the Hotel Dieu of Paris or by working for three years with a licensed midwife. Until the middle of the 18th century, medical students learned the art of obstetrics from midwives. Two very capable midwives of the last century were Madame Lachapelle (mentioned previously) and Madame Boivin. For years and years there was a fight for supremacy and popularity in obstetrical practice--a fight between the midwife and the male accoucheur. This controversy between the two sexes was often called the "Midnight Industrial of England". Today we recognize in deliveries, men as the better of the two sexes. They seem to be more emotionally stable and they are stronger physically than women.

The first midwife in the United States was the wife of Dr. Samuel Fuller. She and the doctor both came over on the Mayflower and, to be sure, the Pilgrims had very strict rules governing their practice.

Incidentally, midwives always deliver Hindu babies in the Far East. The mother is sent out to a secluded little shelter because she is considered "unclean". There on a heap of dirty rags, the midwife delivers her babe. The woman accoucheur is paid on the average of fifteen cents per babe, and she is always given a better price for boys than for girls.

Yet, with our many fine obstetricians, there are still today in the United States alone forty seven thousand midwives. The stereotyped picture of the majority of these women up until recent years, was one of a little, wrinkled, dirty, ragged white person or else a negress either under-dressed in rags or over-dressed in satin and cheap jewelry.

All of them were extremely superstitious, and their practices in soothing the evil spirits were unbelievable and uncanny. Today, especially in the Southern States, much is being done to educate the midwives. Large clubs are formed, usually by a very efficient nurse such as is Mary Breckenridge. There the midwives are taught to make proper examinations, to deliver babies aseptically, instructed to make good pre-natal and post partem calls, to care for the babies eyes by Crede's method, to dress, not in dirty dresses, but in clean and neat uniforms, to carry a well equiped pre-natal bag instead of a cuspidor, and to call a Doctor in complicated cases. These classes in the clubs have certainly decreased maternal and infant mortality and have greatly lessened the number of infections. There are now some well educated nurses and other women who want to be licensed midwives. Until the last four or five years they have had to go to England and Scotland to recieve their degrees in this specialty. But there is no longer a need to cross the ocean to get this training because in New York there is a clinic-the Lobenstien Clinic, where very good theory and practice can be learned. There are only a very few graduates from the Lobenstien Clinic, though, and very few students because the average and educated people in the United States want a male obstetrician, not a midwife for the delivery. The demand for a midwife is very meager now, but there are a few people in this nation who believe that women as midwives, sometimes in the future, will again resume the supremacy. This might be possible, but it seems a

little out of reason at present.

OBSTETRICAL PRACTICES: PAST AND PRESENT

CHAPTER IV

"FORCEPS"

The forceps is an instrument designed to extract the fetus by the head from the maternal passages, without injury to it or to the mother. If there is injury to either the mother or the baby, the instrument is no longer considered an obstetrical forcep, but only an instrument of extraction, much like the craniotomy forceps.

Hippocrates advised manual pulling on the head, but this was probably used for small heads only. The Arabians used a three or four bladed hooked tractor to remove a dead fetus from the mother. In 1554 Rueff of Zurich created and practiced with a jointed forcep; this type was similar to a lithotomy forceps. Pieré Franco, in 1561 tried to use a three bladed duckbill speculum to help deliver the baby; this proved to be entirely unpractical. Centuries ago the Japanese quite successfully placed whalebone loops and silk nets over the baby's head and extracted it. William Smellie used fillets over the baby's occiput and chin.

For so many years men were allowed in maternity cases only when the delivery was very difficult; and that is probably the reason why the obstetrical forcep was so long in being invented. Men had had no experience with normal deliveries so that when they were called in they used hooks in trying to extract the baby or the mother often they mutilated either the baby

and quite frequently both. In difficult deliveries, it is no wonder that either or both lives were lost, for unless it was a breach or shoulder presentation so that the accoucheur could grasp a leg or arm on which to pull, he was powerless .

Universally, Dr. Paul Chamberlen and his two sons, Hugh and Peter, are recognized as the inventors of the modern obstetrical forcep. Peter Chamberlen published "A Voice of Rhoma" in which he mentions his father's discovery of an instrument for the saving of infantile life. That this was the obstetric forcep has been positively proved by the discovery in 1815 of a box of obstetric instruments in a vault in a house in Essex, England, originally the property of Peter Chamberlen.

One of the sons, Hugh, went to Paris in 1670 to try to sell the instrument for seventy five hundred dollars. Mauriceau wanted Chamberlen to prove the value of the forceps, so he suggested that Chamberlen deliver a woman on whom it had already been decided to do a Caesarean section. Chamberlen was sure that this would be a simple process, so in a private room he attempted to prove his ability with the instrument. For three hours he tried with no success and the mother died from internal injury. Chamberlen returned to England, still not revealing his great secret. In England, after ruining a bank, Chamberlen fled to Holland where he met Roonhuyzen of Amsterdam. This man bought "the secret". But this Dutchman was a rascal. He sold the forceps to any doctor who could voice the enormous price that was asked for the forceps

and pledged each doctor to secrecy about the matter--but Roonhuyzen gave them in return only one half the instrument, the vectis.

In 1720 Palfyn presented a forceps to the Academy of Medicine in Paris--a forcep which would not mutilate the child. This instrument consisted of two curved blades with handles on them. The handles were crossed. Improvements were then made on them by a number of men. Dusse crossed the blades and lengthened them. Leuret, in 1746, added the pelvic curve and the French lock. It was not until 1753 that Vishner and dePall bought the secret and made it public. However, Palfyn, Drinkwater and others had already made the forceps of common use. Palfyn's life is the story of another one of the great men who lived in poverty and then, several years later was made a hero and was greatly honored. This man, when he was seventy years old, walked to Paris to present and demonstrate his invention, found that it was neither well recieved nor appreciated, and was turned away and died a pauper. After a few years Palfyn's grave in Ghent was marked by the statue of a weeping woman.

Tarnier presented the axis-traction forceps in 1877. This was an improvement on the place where the blades crossed and it made the forcep more accurate and competent. Although many have tried to improve upon Tarnier's axis-traction instrument and Simpson's forceps, these are, in America, still conidered two of the best ever made for: 1. They allow traction to be made in the axis at the inlet; 2. When the forceps

is completely on, the head is allowed free mobility and can also follow the contractions of labor; 3. The handles of the forceps can move and be "read", thus indicating the lines that the baby's head is following.

Germany has accepted to some extent Kielland's forceps which were invented in 1915. These eliminate the pelvic curve. Dr. DeLee of Chicago, however, states that "it is the man behind the forceps more than the instrument itself that accomplishes the results."

CHAPTER V

"CAESAREAN SECTION"

Caesarean section is the removal of the child from the uterus through an incision made in the mother's abdominal wall. This, however, does not apply either to removal following ruptured uterii or to ectopic pregnancy operations.

The term "caesarean" is derived from the Latin words portus caesareus. "Caesareus", in turn, is taken from the word "credere" meaning "to cut". One often hears that the name of this operation was due to the fact that Julius Caesar was born by that method; but there is no evidence supporting this legend. Anyway, Caesarean sections at that time were performed only on the dead, and Caesar's mother was still living when he had become a man. He wrote letters to her.

The early Egyptians did Caesarean sections. The operation is referred to in the myths and legends of European races. It is known that often the baby was removed from the body of its dead mother, and it is possible that earlier people did sections on the living mother, but its history is more recent.

The ancient Jews called flank deliveries "Kariyoth Hobbetens", and named Caesarean sections "Jotye Dofan".

In 1879, in the Interior of Uganda, Dr. Felkin observed a Caesarean Section which was performed by a native. The surgeon was a specialist. He both washed

his hands and the operative field with banana wine--which means that he used antiseptic technique. He also had the mother drunk with the same kind of wine, which means that an anaesthetic was used. A quick incision opened the uterus. After the cord was cut and the placenta had been removed, the cervix was dilated from above, the uterus was massaged and compressed, the peritoneal cavity was cleaned by raising the mother up, the abdomen was closed with pin and figure-of-8 sutures, and the wound was dressed with a paste of crushed herbs. The incisions healed in eleven days, and the temperature of the patient was always below 101 degrees F. Perhaps these natives have been doing this operation and using this technique for ages.

Christopher Bean reported a Caesarean section in 1540. Bishop Paulus of Meiradu, Spain, is said to have performed one in the thirteenth century. A gentleman in Switzerland, J. Nufer, delivered by section a baby from his own wife after several midwives and barbers had failed to get the babe through the normal pelvis passages. In 1581, Rousset was supposed to have done fifteen sections, but some of these were probably extra-uterine pregnancies.

Although, throughout history, there have been many fatalities, many mothers who would have died without the operation were saved.

The first generally accepted Caesarean section was done by Dr. J. Fautman of Wittenburg, in 1610, on a case of hernia uteri gravidæ. For only a few years Sigault's symphisiotomy was a competitor of the Caesarean. However, Caesarean section had not been very successful

and in 1864 there was still a 90% mortality. This number of deaths was due to hemorrhage, infection, and lack of sutures in the uterus. They used to remove all sutures in the early days, so there were frequent hemorrhages into the peritoneal cavity and peritonitis developed. For the same reason, lochia seeped up into the abdominal cavity. No aseptic technique was used.

Lebos, in 1769, sewed the uterine wall with three separate uteres. After a short period the stitches were removed, often there were failures. It was not until 1882 that uterine suturing was a successful procedure. Säm-ger was the doctor who made it so. In 1877, Parro of Pania supravaginally amputated the uterus, after the child had been delivered, to prevent the development of peritonitis caused by lochia drainage. He employed extreme asepsis. He, too, was the one who made all incisions in the midline of the abdominal and uterine walls. Before that incisions had been all different sizes, varied places and of many sorts. At this time some doctors ceased cutting into the peritoneal cavity. Instead they made the incision for Caesarean section parallel to and above Paupart's ligament. They dissected under the peritoneum to the cervix and vagina. This was followed by a flank delivery. Sanger's procedure replaced Parro's because it was proven to be a better one. As years passed aseptic technique became more and more perfect and popular. The objects of all of these different types of operation were to avoid hemorrhage, to prevent lochia from seeping into the peritoneal cavity, to lessen the opportunity for adhesions

of the uterus to the abdominal wall , and to decrease the danger of the scar rupturing in following pregnancies.

In 1906, Dr. Frank of Bonn opened the peritoneal cavity just above the pubis and united the parietal to the visceral peritoneum of the lower uterine segment, thereby shutting off the connection to the peritoneal cavity. Dr. Sellhiem thoroughly studied and described surgically the anatomy of the reproductive organs. He then demonstrated the advantages of delivering the baby through the zone of dilitation rather than through the contracting portions of the uterus. He devised several methods of approach to the lower uterine segment. Dr. Letzko performed his sections by putting the urinary bladder aside, thus avoiding an opening into the peritoneal cavity.

Yet, with all this experimenting, Caesarean sections are not always successful. There is still about a 2% mortality. However, today hemorrhages in this manner of delivery are very rare. It is sometimes wise to give ergot to the patient before the anaesthetic and to administer pituitrin immediately after the child has been removed from the uterus. If there is present in the patient an infection such as gonorrhea, Parro's section is advised. If it so happens that there is not proper drainage through the cervix and vagina, the uterus is to be amputated.

There is much disagreement on the point "Once a Caesarean, always a Caesarean"- a point which cannot be decided upon until someone makes a thorough research to actually find out how many uteri rupture in subse-

quent labors. Dr. Findley and Spalding find numerous reports of such fatalities. Dr. Holland discovered that the frequency of rupture was 4% with a maternal mortality of 30% and a fetal mortality of 70%. There is no doubt that the organ is weakened in the field of the scar. It is even more marked when the incision has been improperly sewn or its healing has been disturbed by infection. Sometimes the muscles unite only by scar tissue, and, in rare cases, only the peritoneun and the mucosa unite. This makes ruptures in subsequent pregnanciess almost inevitable. But in the majority of the cases the uterus stands another labor well.

Dr. De Lee does a second section if there are indications for it such as: 1. The reason for it exists, that is if the pelvis is contracted; 2. When infection occurs after the first section; 3. When it is known that the first operation was done imperfectly; 4. When other conditions such as a hernia over the scar, wishing to tie off the ubes, presence of an acute or chronic appendix irritation or presence of a fibroid make it desirable to re-open the abdomen.

CHAPTER VI

"PUERPERAL FEVER"

"Puerperal fever" is the general term for any infection or septecemia originating from the genital tract at any point of its extent. Undoubtedly cases have occured at all times where lying-in women have been attacked by septic infection and died, and mention of this is made by even the most ancient writers.

Among the very early savages there were many cases of puerperal infections; they too had rules for prevention of this disease. The parturients of the tribe were given a bath in a fast flowing stream after delivery; their abdomens were washed with banana wine; the vulvae were fumigated with aromatic herbs; the huts were fumigated, also, after the mothers had left them. The infection was mentioned by Ayur Veda of Susruta a thousand years B.C. Hippocrates gives the history of cases which, in all probability, were due to it, and so do Galen, Celsus, Avicenna, and other authors down to the seventeenth century. It is a thing which has been written about in all history.

But epidemics proper are only mentioned since special lying in hospitals or special departments in general hospitals have been established. The first institution of that kind, in which men like Mauriceau and De la Motte recieved thier obstetric education, was established in the Hotel Dieu of Paris. Mauriceau

said that in 1660, two thirds of the mothers died from puerperal septicemia. Pue tells us that the mortality amongst lying in women in that institution was sometimes immense, and especially in 1664. At the post mortem examination the bodies were found to be full of abscesses. De La Motte also mentions an epidemic in the Hotel Dieu in 1678, and another at the commencement of the eighteenth century in Normandy, especially in Caen and Rouen. Even in 1831, nine per cent of the mothers in the Paris Maternite died from this infection. In 1750 and 1761 there were epidemics in London; in 1772 in Edinburgh; in 1778 in Berlin. At that time maternities were opened to students. It is easy then for us to see why there was so much infection. With the admission of these students the disease just raged. Every day these fellows would observe two or three post-mortems and from the morgue they would go directly into the lying-in words. No antiseptic technique at all was used. There is yet today an inexcusable amount of puerperal fever.

Until very recent years, the true cause for this disease was unknown. Hippocrates took the effect for the cause and said that it was due to lack of lochia. Celus, Galen and Mauriseau accepted this theory. There was also put forth the so called " milk " theory--that if there was no secretion from the breasts (due to catching colds and having fevers) a " milk metastases " occured and thus created a sepsis. Again, this theory confused the cause and the effect, but Puzos of Paris sincerely believed in it and taught it. The milk, instead

of coming out through the nipples, supposedly appeared in the lochia, peritoneal cavity, pleural cavity, or in the joints. Chemists claimed that they could make butter from the exudate in the peritoneal cavity. One doctor even claimed that he found butter and sour milk under the skin of a woman who had died from puerperal sepsis.

There were many other notions and theories regarding the disease: Plater, in 1602, offered the purely miasmic theory that it was due to an infection with a specific material formed under atmospheric, cosmic and telluric influences, which, acting exclusively upon puerperal women, caused the disease, so that it rarely became a malarial fever; Hunter, in 1780, stated that it was a peritonitis; Tomelle, in 1830, a lymphangitis; others called it a gastric or billious fever, puerperal eryaipelas, typhus, omentitis and putrid fever.

Leuret of Paris, in1770, thought that Smellies' leather covered forceps on which there was often dried blood could have carried the contageon. Charles White in England in 1772, had an idea that other persons could be infected by discharges from septic puerperae. Denman, in 1768, said that it could be carried by physicians and midwives from one mother to another, or transmitted on sponges. In 1842, Thomas Watson of London reported that it was transferred by infected hands, so he recommended chlorin water ablutions to be used by the accoucheur. Doctor Blackman of Edinburgh thought that it was conveyed by dirt under the finger nails.

The late Oliver Wendell Holmes, in 1843, wrote much about puerperal fever (discussed in an earlier chapter), and proved that it was carried by contacts. Semmelwies, after years of study, announced that it was caused by the absorption into the blood of decomposed animal matter from the genitals. The introduction of the hands and other articles into the genital tract caused infection. In the doctors' clinic there were many more cases of sepsis than in the midwives' section. Children could also be affected with sepsis. The patients begged that they would not be placed in the doctors clinic. Semmelwies observed that there was much more puerperal fever in the hospital than in home-delivered cases. Instrument deliveries practically always accompanied infection, and where there were no students, there was less infection. It made no difference in the percentage of infections if the hospital was crowded or if it was not; fright and nervousness of the patients had no effect; married and single patients were affected alike; the newborn often died from the same disease the mother had; diets and methods of ventilation did not aid in the treatment. The fact that it was safer for a mother to be delivered by a midwife impressed Semmelwies greatly. He said," Everything was in question; everything was unexplained; everything was doubtful--only the large number of deaths was a pesitive fact." Then Professor Kolletschka pricked his finger while performing an autopsy on a puerperal fever patient

and he died from the identical infection. It was that incident that finally proved Semmelwies theory.

After the cause was found, the treatments and the preventives were next to be discovered. The doctors and midwives began to clean their finger nails and use chlorin water on their hands. The results were amazing. It was decided that the animal matter which caused puerperal fever could come from cadavers and infected wounds, and that it could be carried by the examiner to the genitals by the hands, instruments, sponges, douche nozzles, linen, bed pans, and from surgical cases.

But no one listened to that great doctor, Semmelwies. The truth was not accepted, although for fifteen years he tried to convince the people of it. And, as I stated in a previous chapter, he died without recognition and was an inmate of an insane asylum. Strangely, his death was caused by pyemia--a septic infection.

Doctor Semmelwies was not appreciated until the eighteenth century when Pasteur, Bretonneau, Kock and Lister did so much for the advancement of science, when modern antisepsis and asepsis was finally given to an obstetrician.

After 1870, under Listers' supervision, women delivered their babies under a carbolic spray because the air was considered " bad ". Later it was clearly recognized that the hands and instruments were the actual carriers---which was Semmelwies' identical discovery--so asepsis developed.

CHAPTER VII

ANAESTHESIA, ANALGESIA AND DRUGS

Narcotic potions were administered by the ancients during a labor. Theocritus mentioned them as they were given to antigone. In Biblical times it was thought that women in labor had to suffer; therefore, analgesics and anaesthetics were lacking.

Until the 18th century there were no discoveries of anaesthetics such as ether, chloroform or nitrous oxide. And even after they had been found, the doctors were a little afraid to use them because the materials were so new and , too, because they thought that the lives of the mother or babies might be lost.

Nitrous oxide was the first anaesthetic to be created. In 1772 a chemist, Joseph Priestly discovered it, but it was not used on humans until 1884 when Horace Wells gave a patient nitrous oxide while extracting a tooth. Since that time this gas has become very popular for obstetrical cases. Nitrous oxide has some advantages over other forms of anaesthesia. It is easy to administer; when the patient feels that a pain is starting, she can tell the anasthetist and he or she can give the gas just during the pain; the patient will cooperate and thus aid with the expulsion of the baby; just before the baby's cord is cut oxygen can be given to revive the mother; if there is a repair to be done,

nitrous oxide affords excellent relaxation; there is very little nausea following the delivery; the patient is able to take food and fluids soon after she leaves the birth room.

Ether was first used by Dr. Morton of Boston on September 30, 1846, when he extracted a tooth from a patient without giving pain. Dr Hayward of Boston, in consultation with Dr. Warren on the 7th of November in that same year, amputated the thigh while the patient was insensible under the influence of ether administered by Dr. Morton. A report of these cases had very satisfactory and positive influence upon the public. Professor Simpson, of Edinburgh, was the first to suggest its application to obstetrics, and in January 1847, having etherized a mother during her labor, delivered her by the operation of version and extraction. Today ether is universally and very successfully used in obstetrics. The ether is allowed to drip from the can onto an ether mask over the mothers nose and mouth. Although it retards labor when too much is given, it does relax the patient well. It has replaced chloroform almost completely. Death from the administration of ether, not-with-standing its almost universal employment is severe surgical operations, has rarely, if ever occured; while deaths from chloroform have been frequently recorded. This has been attributed to the impure character of the article, to its careless exhibition and to its cummulative influence; but whatever may be the true explanation, the fact of its occassional fatal-

ities cannot be denied. However, very few cases have been reported due to the inhalation of chloroform during the process of labor.

Simpson, in November, 1847, first discovered the anaesthetic value of chloroform. It was widely used and advocated in obstetrical practices. The use of anaesthesia in labor spread quickly, especially after Queen Victoria benefited from it. It was called the Queen's chloroform or "anaesthesia a la reine". Chloroform acts very rapidly, and in small doses; perfect insensibility and relaxation are assured. It is very economical and portable, but it is so often in the hands of an inefficient administrator, that it is not a safe anaesthetic to give.

For years Dr. De Lee of Chicago used chloroform exclusively in his obstetrical work, because it was easier to carry, quicker in action, more pleasant to take, seldom caused nausea and vomiting, prevented shock and exhaustion and aided in the expulsion of the baby. But after one secondary death and two following eclampsia, serious questions arose in his mind and now he uses ether in practically all of his cases because it is definitely safer.

Ethylen is seldom used for mothers in delivery because it stops labor. Amylene is a very dangerous anaesthetic, and so is not used.

Dr. Hugh L. Hodge, who wrote his "Prinicples and Practices of Obstetrics" in 1864, states that just prior to the discovery of ether and chloroform, great

varieties of methods were used to aid in relieving the laboring mother and to help dilate the cervix or os uteri. "Blood-letting" was not at all uncommon. It diminished the general vascular excitement, caused syncope and relaxation, calmed the mental and nervous agitation, moderated pain, relieved cramps, spasms and convulsions, and promoted free perspiration and all secretions and excretions. The results were rapid and really quite wonderful. Large enemata were given, as another method, to shorten labor and to remove congestion. Nauseating laxatives were used to good advantage, especially oleum ricini (castor oil). Nauseating remedies recieved much attention, and more so after Dr. E. Kennedy of Dublin suggested the employment of tatarized antimony to the extent, occasionally, of complete emesis, carrying out the surgical principle of producting muscular relaxations by exciting nausea and comfirming the old adage that "sick labors are easy labors". Ipecacuanha was much employed and often preferred-especially in "delicate women", as it influences were more transitory, and not so apt to be followed by symptoms of languor and exhaustion, which were often produced by antimony preparations. All types of diaphoretics and diuretics, embracing the alkalies and neutral salts, were used to diminish vascular excitement and to facilitate the various excretory functions.

Warm baths during labor were recommended as a substitute, but more frequently as an accessory to

to the above measures. Rather than giving a complete bath, local baths, fomentations, vapor baths or poultices were used advantageously. Quantities of warm water, mucilages or oils were often injected into the rectum and vagina to relax the cervix. It was a habit of Dr. Hodge himself, to anoint the mother's external genetitalia freely and frequently with lard, and also to introduce large portions as far as possible into the vagina.

Opium, and its various preparations, have, from time immemorial, until the 19th century, enjoyed the confidense of the profession. It manifested delightful influences, quieted mental and moral excitements, diminished suffering, lessened spasms, prevented or relieved headaches and convulsions, and when conjoined with the neutral salts and diaphoretics, greatly facilitated the return of the secretions and the relaxation of the tissues. Camphor, hyosayamus, lactucarium, small and frequent doses of belladonna, and cannabis indica were employed as narcotics. Tobacco was used to promote relaxation, and during nausea which occureed from its influence, rigidity was greatly lessened.

Today the barbitals are given by mouth of hypodermically, the opiates are given intramuscularly, avertin is introduced rectally, and ether-in-oil as a retention enema to produce analgesia. When an anaesthetic is given during delivery, it is better for women not to have narcotics previously, but it is the duty of obstetricians to relieve a mother's suffering. Morphine may be used, and a few whiffs of ether are

very helpful.

Pituitrin and ergot are the two drugs used principally to promote uterine contractions, to avert hemorrhage after labor and small doses of pituitrin for induction of labor. The action of pituitrin was first discovered by Dale in 1906. It is an extract from the pituitary's posterior lobe. Frankl, Hochwart, and Frohlick, in 1909 called attention to its strong oxytocic action--that is, its action on the uterus to stimulate contractions. Dr. W. B. Bell first used it in labor, but it was better known when Hofbauer recommended it. Pituitrin contracts the uterus markedly. From two to eight minutes after one cubic centemeter is given hypodermically, the uterus contracts strongly and more frequently. It is often given as a stimulant to produce labor pains. It is very safe to give pituitrin routinely after each delivery. The lacteal secretion is not stimulated by it; and it has only a slight action on the bladder.

Ergot has an interesting history and etiology. The Fungus Secalis (ergot) has been known for many years to be a blight upon grains and as a poison, but its medical history is comparatively modern. It appears to have been used by the peasantry in some parts of Europe in childbirth as much as three hundred years ago, but its formal introduction into modern obstetrics is due to the efforts of Dr. John Stearns of New York City in the early part of the last century.

The fungus is found in most temperate climates where

grains and grass es upon which it flourishes grow. It is more abundant in Spain and central and southern Russia than in America because of the warm moist climate, It is an incidental agricultural product which is gathered both for ergot and for the purpose of removing the harmful influence from the grain. Ergot of wheat is occassionally saved; it is shorter and thicker than that of rye and medically it is equally as good.

Ergot should be moderately dried, preserved in a closed vessel, chloroformed accassionally to prevent the development of insects, and rejected as unfit after it is a year old. However, with modern methods, it can be dried properly and kept for several years. This remarkable parasite is developed in several cultivated grains and considerable number of wild grasses, germinating upon the ovaries which it aborts and finally destroys, and growing in place of these organs like some monstrosity of maturity after the grain ripens in the fall, and in this condition it remains quiescent until the following season when, if in a suitable situation, it falls upon the surface of the damp ground and produces spores in time to attack the blossoming grasses and grains the next year. Its first noticeable presence is that a spear like fungus is seen. It has an unpleasant odor and is very sweet. A liquid comes from the interior of the flower and runs down the stem. It accumulates in great quantities.

The action of ergot in the human body is extremely complicated and is by no means understood. There is a

fair knowledge of the practical uses of the drug. It has these known effects: It prolongs the contractions of the arteries; there is a physiological strengthening of the natural rythmic contactions of the uterus; it effects the vasomotor centers, and in the intestines it increases peristalsis and decreases the secretions. The action on the uterus is due to spinal stimulation as well as acting directly on the uterine walls. It is useful in obstetrics because it completes the emptying of the uterus and checks hemorrhage. While pituitrin may be given prior to delivery in small doses, and is given immediately after the baby is born, ergot is administered hypodermically following the expulsion of the placenta and from four to eight doses, at four hour intervals, may be taken by the patient after she has been removed from the birth room and is in her lying-in bed.

Although there is yet some pain when a mother is about to deliver her baby, her suffering surely has been intelligently and scientifically decreased in the past few years. However, if a woman demands an absolutely painless labor, she may have to sacrifice the life of her baby.

CHAPTER VIII

"OBSTETRICS IN THE UNITED STATES"

At the commencement of the last century, obstetrics in the United States was regarded altogether as a subordinate branch of medicine; its practice was entrusted to women, and it was only in cases of tedious and dangerous labors that the assistance of the surgeon was required. Nevertheless, in our large cities at least, there were many practitioners so well trained in the principles of obstetrics that that could afford important aid to the parturient woman. There were many young Americans who were talented and who trained in European schools so that they might be prepared to practice their profession at home.

Of the young doctors, there were none more distinguished, or whose labors had a more important influence upon the progress of medical science than Dr. William Shippen Jr., and Dr. John Morgan, both of Philadelphia, who became the founders of the medical college of Philadelphia, studied extensively in Europe, these two contemporaries added the medical department to the college in Pennsylvania. Dr. Morgan was appointed Professor of the Theory and Practice of Medicine, and Dr. Shippen, Professor of Anatomy, Surgery, and Midwifery. Their first united course of lectures was delivered in the winter of

1765 and 1766, and on the 21st of June, ten of their pupils received the "first medical honors" conferred in America.

King's College in New York was the next to inaugurate a medical faculty with Dr. Samuel Bard who studied under Dr. William Hunter in London and who graduated from the University of Edinburgh, as its head.

The study of the medical sciences in the United States was then interrupted by the Revolutionary war. After this great conflict had ended, Philadelphia again resumed its medical school. About this same time Harvard University at Cambridge, Massachusetts, instituted a medical department. Dr. John Warren was chief professor there. In arrangement of the duties of the professors, it does not appear that midwifery received any special attention, and this omission seems to have continued until 1815 when Dr. Walter Channing was appointed Lecturer on Obstetrics and Medical Jurisprudence. It was, indeed, a struggle to elevate the science of obstetrics in public opinion. Dr. Channing was among the first in this country to authorize the employment of anaesthesia during labor.

In New York there was no regular school established again until 1792 when Columbia College elected a medical faculty. Since that time medical schools have multiplied in every part of the United States, and in all of them obstetrics have been taught.

It was not until 1802, by Dr. Thomas D. Jones, that the first regular course of obstetrics was given. Previous to that time midwifery was rather a superficial study because of the great opposition to men instead of women as accoucheurs. The progress of obstetrics in America has been greatly facilitated through the medium of the press. Many valuable contributions were published in English Journals by American obstetricians during the last century; but since 1800, the press in our own country has received many communications and articles and has published many Journals and Papers.

To Dr. Samuel Bard, of New York, belongs the credit of preparing the first treatise on midwifery in America. This was a modest but very excellent paper which appeared in 1808. It was intended chiefly for the instruction of midwives who, in this country, were deplorably ignorant. In 1817, on issuing his fourth edition, he enlarged the work and adapted it to the use of students.

Today there are many fine and explicit books that have been written on obstetrical principles and practices.

This science advanced rapidly after the middle of the last century. A hundred years ago the practice of midwifery was almost exclusively in the hands of women, most of them uneducated, governed by maxims and prejudices, and, too often, productive of the greatest mischief. Most of the physicians who were called upon in cases of emergency were very superfi-

cially instructed in the peculiarities of obstetric science, and, therefore, regarded every difficult case of labor as a problem, the solution of which consisted in effecting the delivery of the infant without respect to its welfare so that the life of the mother might be preserved. The whole aspect is now changed. Obstetrics has taken its position as coequal with the other branches of medicine. Its teachers in all our medical schools receive the attention, confidence, and respect conferred on the professors of other departments; while its practitioners are almost as numerous as the physicians and surgeons in this country, and although the employment of women during labor is not enirely abandoned, yet it has become greatly restricted, and even those who consider themselves as midwives, are disposed to seek better instruction than they formerly enjoyed.

CHAPTER IX

"NURSING AND SUPERVISING"

The oldest vocation of women is nursing. In Egypt the nurses attended the mothers in labor. Phoebe, a friend of St. Paul, in 60 A.D., was the first visiting nurse. Two wealthy Roman women, Fabiola and Paula, established a hospital in Jerusalem, in 390 A.D. In the centuries that followed, many hospitals were built. The deaconesses performed the duties of nurses in the homes during the early christian era.

The story of nursing in the United States is not a pleasant one. Bellevue Hospital in New York & Blockley in Pennsylvania have a tragic background. Paupers, prisoners and inmates from asylums were employed as nurses. There were a few lax rules and routines concering the bathing of patients and the changing of bed linen at least once in two weeks. In some cities there were better houses for the sick, but they were administered by women, not men. All the buildings were old and dirty because there was so little interest taken in them; there were too many fatalities. People were afraid to go to these institutions--and they had a right to refuse to be admitted. Trained nurses were not employed

in these hospitals until 1872.

Theodore Fliedner, his first wife Fredricke, and his second, Carolina did much to further the progress of the nursing profession. Their work was inspired by the need for nursing among the women prisoners.

Florence Nightingale who lived from 1820 to 1910 was the first person to establish a training school for nurses. She educated her students in theory as well as in practice. All nursing schools now take for their oath of allegiance the Florence Nightingale Pledge. The standards for nurses have been raised higher and higher until now it is advisable for a graduate to have a college degree as well as being a registered nurse.

The inhabitants of Kentucky are of English, Scotch, and Welch descent. They are desperately poor and the mothers used to be scared by superstitious, filthy "granny women". Mary Breckenridge, several years ago, went to that state, and, assisted by two other nurses, started the "Nurses on Horseback" service. She educated many of the old midwives there, as well as giving full time service to the Kentuckians. At present she has a staff of thirty for nurses, one doctor and several lay assistants. In 1925 the name "Frontier Nursing Service" was given to this wonderful organization.

Maternity Center in New York City now offers a very good course in obstetrical supervision. It is to the course at Chicago Lying-in hospital.

Just this fall of 1934, under the leadership of Miss Eleanora Thomson and under the supervision of Miss Johanna Eggers, the Universtiy of Oregon Medical School offered a course patterned after Maternity Center's technique. There are three of us who are about to graduate from the course this June. We have had much advanced theory in the Medical school and have had our practical work in the Out patient Clinic, also in Portland, making pre-natal, home delivery and post partem calls in the "district", and learning hospital supervision in the Multnomah County Hospital. This has been a fine year course; the first two were all theoretical, taken at the University of Oregon at Eugene; the next two at an accredited hospital in Portland; and now the last at the Medical school and Clinic in Portland. When we finish this spring we will have a Bachelor of Science degree from the University, a Registered nurse certificate from our nursing schools, and a certificate in obstetrical Nursing from the Medical School.

And now a bit about supervision:

Twenty years ago the supervisor engaged in far more autocratic powers than she does today. Each supervisor was not only responsible for the technical aspects of her department, but also for everything concerning the operation of her department. She hired her own nurses and janitors, decided their wages, made and imposed all her own regulations, determined the

standards of conduct and behavior for all and dismissed the employees whenever she wished to do so.

Now the deparamental executive is responsible for and devotes all of her time to the technical aspects of her work, to the routines of her department, to completely knowing and understanding each patient, to the teaching and observing of her personnel, to the proper ordering of supplies and to the planning and scheduling of the work. She, obviously, has no time for all the so called "desk work" that the old-fashioned supervisor accomplished.

Before the period of "present day supervision" the executive enjoyed the authority or ruling in not an unlike manner from that of the kings on medieval history. Consequently, as a duty, the supervisor disciplined with fear as her device for productivity of work. Fear did create great production, but it also created much human unhappiness and unfittness, and developed the habit of malingering. Nurses and employees were apt to think of their hospital in unfriendly terms because often the supervisor was brusque, impatient, petty, jealous and unfair. The result was that the most honorable and sensible intentions on her part could not change the stereotyped idea of a "Supervisor".

Today the executive must have several essential qualities to make her suited for her position--qualities which will exert a pleasing effect on the workers subordinate to her. For, according to her

leadership, she can break a worker who would otherwise be successful, or develop to unexpected degrees of efficiency a worker who would otherwise be mediocre at best.

A hospital needs for its supervisors well educated nurses who can command loyalty, who can handle subordinates intelligently, who will consider the strengths and weaknesses of each, who will make allowances for them and who will entrust each one, as a Senior duty, with the work to which she will best respond. The hospital needs nurses who will be less impressed by their importance than the importance of their work, and nurses who think of their relations with their personnel as an opportunity for unlimited constructive growth and work rather than as a souce of personal annoyance or as a chance to display petty whims and superiority.

To be a capable supervisor a nurse must know herself and her position and have a sense of fairness and honesty. She must be open-minded toward further knowledge, techniques, theories, practices, and associates. She must be a teacher, and in teaching, correlate theory with practice, and correlate clinical class lessons with actual ward experience and duties.

It is necessary that she should welcome suggestions from any reliable source; she should encourage initiative in her personnel. Surely a sense of orignality is essential; the situations must be suited to the place. The supervisor must develop in the workers the pride of product and workmanship and pride in the department it-

self. The Capacities, Interests, and Opportunities need to be balanced and equal in order to obtain true personal effectiveness on the part of each member of the staff.

Supervision

'E learns to do his watchin'
Without it showin' plain;
'E learns to save a dummy
And shove him straight again;
'E learns to check a ranker
That's buyin' leave to shirk,
An' 'e learns to make men like him
So they'll learn to like their work.

Rudyard Kipling.

CHAPTER X

"HOSPITALS, CLINICS, PRE-NATAL AND POST PARTEM CARE"

The first combined maternity hospital and obstetrical clinic was established in 1765 by Dr. William Shippen Jr. in Philadelphia. Doctors were instructed there, and it was considered scandalous when three mothers were delivered in the presence of students. Dr. Shippen did not employ the lax nurses of his time--instead, he hired the services of sober, honest matrons. There was so much opposition to the clinic that an attempt was made to burn the home of this male midwife.

A severe epedemic of yellow fever in New York, in 1798, left many pregnant widows who had no means of support. This event led to the establishment of the Lying-in hospital in that city. A year later, a maternity base was set up in the Almshouse. In 1801 this service was transferred to the New York Hospital. The present building was constructed in 1895. It has now grown to be the largest controlled obstetrical service in the world. Twenty six years ago, a society matron threatened to organize a group of women to burn down the University Maternity hospital--a prejudice of mock modesty. Only a quarter of the total number of babies are born in the homes, so an increasing hospital service is necessary. Dr. De Lee states

that more mothers die in childbirth in the hospitals than in the homes, but, of course, we must consider that only "safe cases" are chosen by the clinics for home deliveries. It is true that some general hospitals are simply cesspools of infection, but others have fine maternity departments and isolated sections for mothers. There is such a vast difference between the past and present mortality rates, that now the public desires hospitalization when illness occurs.

In a modern maternity hospital there are four major divisions: the pre-delivery rooms, the birth rooms, the lying in sections, and the nurseries. In addition, there are laboratories, special diet kitchens, laundry and supply rooms. Too, pre-natal and post partem clinics are held in the hospital; and to those who are unable to come to the institution, home visits are made.

It is essential that the lying-in division should be pleasant and not "hospitaly" in appearance. Hominess, cheer, and comfort may be attained through having the rooms nicely furnished and curtained. In addition, solaria for convalescing mothers not only make her last few days in the hospital more pleasant ones but also demonstrate one of the most recent steps in progress in the thoughfulness of the obstetricians for their patients. Utility rooms and lavatories should be plentiful both for the convenience of the patients and as an adjunct to efficient nursing. It is now an established fact and a stringent obstetric rule that all infected cases must be isolated. Sound proof nurseries as they are

built today are a distinct advance in hospital architecture as are the incubation rooms for premature babies. The delivery rooms should be located not too near to the lying-in divisions, and they need to practice surgical techniques. The privacy and individuality of each mother must be considered. The patients need to be treated as personalities, not as cases. Comfort and ease for the mothers, doctors and best nursing care must be assured.

Doctor De Lee advocates the following advice and rules for his obstetric patients:

1. Consult the physician at probable, or, in early pregnancy.
2. Dress warmly; avoid circular constrictions; as soon as life is felt, wear no corsets but a regular maternity corset or binder, and wear no brasssieres but breast supporters.
3. Take a moderate amount of exercise; get much fresh air and sun; do not fatigue yourself.
4. Take tepid baths; the last three weeks take only shower or sponge baths; not douches unless ordered.
5. Have seldom intercourse and none the last six weeks.
6. Have a daily bowel movement.
7. Eat the usual foods in usual amounts; usually have the diet low in protien; drink much water and milk; use no alcohol; during the last six weeks have the diet low in fats and sweets.
8. Keep the breasts free from pressure; cleanse and gently massage the nipples daily.

9. Have the urine examined every three weeks up to the seventh month, and every two weeks thereafter.

10. Have the blood pressure taken as frequently as the urinalysis.

11. Report nausea, vomiting, headaches, edema and other abnormaties such as reduced urine output, and any hemorrhage.

omit { 12. Report nausea, vomiting, headaches, edema and other abnormalities such as reduced urine output, and any hemorrhage.

13. Go to the assistant Dr. if the Dr. is absent.

14. Have a thorough and careful examination at the beginning of pregnancy, and one near term.

15. When labor pains begin, there is a bloody show, or the waters break, go to the hospital and notify the physician or nurse.

16. Six to eight weeks after delivery, have a post partem examination.

17. One year after, have a follow-up examination. Take your baby to infant clinics.

At the University of Oregon Out Patient Clinic here in Portland, we like to have the mothers come to us early in pregnancy. By doing so we can guide them and give good pre-natal care. Every other week we talk to them in Mothers' class, telling them about subjects such as - Why Pre-natal Care is Necessary, - The Diet, - The Mother's Clothes and- The Baby's Clothes, - The Baby's Bath on the Mothers Lap, - Preparation for Home Delivery, - After-care. The routine of clinic visits, home visits, hospitalization, and home-delivery will be completely described in the Case

Studies in the following chaper. However, to each mother who is on our service, we give a set of intstructions like this :-

Directions to Pregnant Women.

We are making the following suggestions and cannot be responsible for your well being if they are not carried out. You should read these instructions carefully and follow them to the letter. The advice given you by your friends and relatives is more often wrong than right.

Diet

Avoid overeating and also avoid cravings for peculiar types of food. Eat what you are accustomed to eat. One needs no more food than usual. More than this throws an additional burden on the kidneys and bowels which are frequently already overworked. A gain of 20 pounds during pregnancy is sufficient, providing you are at normal weight when pregnancy begins.

In early pregnancy, if you are nauseated you will find it beneficial to eat at more frequent intervals, e.g. six meals per day, taking small amounts of food each time.

Fats, highly seasoned foods, and coarse, undigestable salads are to be avoided. Meat and eggs should be limited to one average portion daily. Drink eight glasses of water each day. Abstain from all alcoholic drinks as they often hurt the kidneys and so may harm your baby. Abstain from all alcoholic drinks as they often hurt the kidneys and so may harm your baby. You may have coffee in the morning and tea in the afternoon. It is desirable to use a quart of milk daily; drink it or take it in puddings,

cream soups, cocoa, etc.

Exercise

Do your regular daily duties but lie down several times during the day if only for a few minutes. Spend two hours in the open air each day. Walking is a good form of exercise. Avoid exhaustion. Violent exercise such as tennis, horseback riding or swimming should not be indulged in. Do not do heavy lifting.

Sleep

Sleep at least eight hours each night. Keep bedroom windows open.

Dress

Your clothing should be comfortable, loose fitting and should hang from the shoulders. Keep your whole body warm. Use the shoes to which you are accustomed but no high heels. If your feet enlarge during pregnancy, obtain larger shoes. Do not use round garters as they obstruct the circulation in the limbs and may produce varicose veins. Your abdominal support should not constrict the body but support it from below upward. If you have never worn a corset you may not need one.

Baths

Warm baths should be taken daily. Do not take hot or cold baths. Do not sit in the water while bathing during the last three weeks of pregnancy for there is danger of unsterile water entering the vagina.

Breasts

Avoid any pressure upon the breasts. Keep the nipples free from crusts with soap and water. If the nipples are flat or inverted, take them between your

fingers and draw them out each day for about five minutes. If the breasts are large and heavy, support them with a suitable brassiere but not compress them.

Care of the Bowels

You should have a daily movement. Do not use enemas or cathartics if you can avoid them. Attempt to regulate the movement of your bowels by diet. If not successful, use mineral oil, one dessert spoonful or tablespoonful after each meal. Have a regular time to go to the stool each day.

Teeth

Your teeth should be inspected by a dentist early in pregnancy. Any necessary work may be done without producing harm to yourself or your baby. Decayed teeth or sore gums are a real source of danger to you.

Sexual Relations

Intercourse should be limited as much as possible during the first seven months of pregnancy. Do not have intercourse after this time, until the baby is three weeks old, and not then unless all vaginal discharge has disappeared.

Travel

Long automobile trips should be avoided. Travel on smooth roads or by train for short distances is permissable.

Report the Following at once by calling Atwater 4171 and asking for the doctor on Maternity Service for the University of Oregon Medical School Clinic.

(1) Bleeding.
(2) Rupture of the bag of waters. This in-

indicated by a sudden gush of fluid of considerable quantity.

(3) Marked reduction in the quantity of urine passed.
(4) Dizziness, shortness of breath, blurred vision, black spots before the eyes, or swelling of the ankles, feet or hands.

(5) Continuous headaches.
(6) Recurring pelvic or abdominal cramps regardless of the duration of the pregnancy.

(7) If, after you have felt the baby move, you fail to feel it again, report it.

Labor Signs

(1) Cramp-like pains in the abdomen or back at about the expected date of confinement, occurring at regular intervals, e.g., every 20 minutes or perhaps every 5 minutes.

(2) Watery vaginal discharge.

(3) Discharge of blood stained mucous.

REMEMBER that premature labor is possible so keep us informed as to your condition.

1. Come to the clinic on the date designated by your doctor and after this as often as you are instructed to come. During the first seven months once every three weeks is sufficient, but after this you should come regularly once each week.

2. Bring a morning specimen of urine (about 4 oz.) each visit.

3. Nurses from the maternity clinic will call on you if necessary and assist you in every possible way.

4. Regarding your delivery, it is important that you discuss this matter with Miss Eggers, Obstetrical Nurse in charge of this department in the Out Patient Clinic.

Phone At 5111, Local 418. Make such arrangements a sufficient length of time in advance so that we will be best able to plan for you. You may be either delivered at home, in the Multnomah County Hospital (is you have established a residence in Multnomah County) or, if you are able to pay for services of a private hospital, arrangements can be made to care for you at the Emanuel Hospital if you will pay a cash fee of $35.00 in advance. No charge for hospital service is made by the County Hospital.

4. Confinement at home is conducted by our clinic doctor. There is a charge for supplies and nursing service of approximately $15.00. Make your payments to the cashier of the clinic in advance. Pay a little each month and your bill will be paid by the time you are ready for delivery.

5. Should you need the services of a physician during your pregnancy and are unable to come to the clinic, call At. 4171 and ask for the doctor on Maternity Service. In case labor begins, go to the hospital you have been assigned to at once. If you are to be delivered at home, notify At. 4171 asking for the doctor on Maternity Service.

Quite often, when the baby is deformed, marked, or if a mischievious child, the mother is very anxious to know the cause for it. She begins to think about it and often she tells us that it might be the result of her mental state and her thoughts. So many people believe in maternal impressions. We do talk to the

patients concerning their mental well-being, and we state that they should be cheerful and happy--not because their babies will be marked if they think unhappy thoughts, but because pleasant mothers will eat and sleep better and thus benefit the babies development. Anyway, the baby is formed often before the mother realizes that she is pregnant; and there is no nervous connection between the parent and the offspring. Explanations for deformities and markings is offered by men of medical research. Their theories are that there may be an arrested cell developemnt in the second month of pregnancy, the mother's uterus may be diseased, the ova may be imperfect, and that there may be a defective cell growth.

After a patient has delivered in the home, we give her a copy of the following instructions:

Mother:

Fluid to two quarts daily

General diet

Enema thir day if no bowel movement

May have back-rest the fifth day

One each of white tablets every four hours if necessary for pain. (We give these to the mother before we leave the home).

Lie on stomach twice daily for ten minutes

Breast binder to support breasts upward and inward

Cleanse nipples with soap and water once daily and before and after each nursing with sterile water.

Baby:

To breast every six hours for ten minutes until milk appears

Then: every four hours for 20 minutes

Cool boiled water two hours after each feeding- 2 ounces

Cord dressing as needed.

Signed (Doctor)

Linen to be returned:

(After a delivery, we leave the stained linen, and ask that it be returned clean. Very seldom is the county paid the fifteen dollar fee for a delivery, so we feel that a family can give us this little service).

When a patient is about to go home from the hospital, she is given a slip that will admit her to post-partem clinic, one that will alow her to take her baby to a Well-Baby Clinic, and a copy of these directions:

Mother:-

I. Return to the clinic for examination six weeks after the birth of your baby.

II. Rest and Exercise.

Limit your activities for the first eight weeks after labor, for the uterus does not return to normal weight and size before that time. Fatigue is injurious and retards the return of health and strenth. Walking each day in the fresh air is beneficial if not overdone.

During the third week lie down half the day. Do not go up or down stairs. During the fourth week you may go up and down stairs once daily. Short walks

and auto rides may be taken after the fourth week and your activities may be gradually increased so that normal daily habits may prevail at the end of eight weeks.

While in bed, lie on hour face as often as possible. The knee-chest position should be taken daily for 5 minutes until ordered discontinued. Exercises to strenghthen the abdominal wall muscles will be outlined after the sixth week. Showers may be taken at any time and tub baths after the third week.

III. Breast Care.

Nurse your baby at regularly scheduled intervals for 20 minutes, lying down while doing so. Support the breasts well, particularly if they are large and pendulous. Cleanse the nipples once daily with tincture of green soap and sterile water. Bathe the nipples with sterile water on an applicator before and after nursing the baby. After cleansing the nipples cover with a square of sterile gauze or cloth and apply a binder (not too tightly). Do not touch the nipples with the fingers. Report sore or cracked nipples or inflamed breasts immediately in order to prevent infection.

IV. Diet.

The breast-fed infant possessses a distinct advantage over one fed artificially, therefore it is desirable to nurse your baby. Overeating is unnecessary in the production of an adequate milk supply. While milk in your daily diet is necessary, the forcing of milk and gruels causes overweight and may do harm in other ways. Water in abundance, with a general but

varied diet of wholesome foods in sufficient amount to satisfy the appetite are necessary essentials in milk production. Social activities should be limited. Avoid worry and excitement and do not become burdened with physical or mental work.

V. Care of the Vaginal Area.

A cleansing irrigation of a solution containing one-half teaspoonful of lysol to a quart of water should be used after urination and after bowel movements. A sterile pad is then applied. Continue such irrigations until after all tenderness has disappeared from this area. Do not take douches unless instructed to do so. Intercourse is forbidden until at least six to eight weeks after the birth of the baby.

VI. Care of the Bowels.

Establishment of a daily bowel habit should be brought about as early as possible. Plan a regular time daily to go to stool, each time making an effort to effect evacuation. Avoid undue straining. An abundance of fruit and vegetables in the daily diet is neceassary and coarse grain breads will help. Heavy paraffine oil in doses adequate to bring about the daily habit may be resorted to, but should gradually be decreased until it can be omitted entirely.

SUGGESTIONS FOR THE CARE OF THE BABY

It would be well to have private sleeping quarters for the baby is possible where the child may have his naps and the sleeping time will not be disturbed.

THE VENTILATION.

The room should be properly ventilated without

draft. Cloth screens can be provided for the windows but the beds should not be screened.

THE TEMPERATURE OF THE ROOM.

During the first few weeks that the baby is home the temperature should not go below 60 F. during the night and 70 F. during the day. When the child is awake the temperature should be around 72-74 degrees Fahrenheit.

FURNISHINGS.

The baby's room should be furnished as simply as possible. The bed can be a bassinett on wheels if desired, or a big clothes basket may be substituted. The sides of the bed should not be covered but should be left open so that the baby can see out and have free circulation of air.

MATTRESS.

The mattress should be firm and smooth, and it is preferable not to use a pillow. The mattress can be covered with a rubber sheet and the rubber sheet covered with a quilted pad. No pillow is necessary for the head. Sheets should be provided and one large cotton blanket. Wool blankets may be used in the winter time if necessary. The amount of clothing that should cover the child should be gauged by the amount of clothing that covers the parents when they go to bed.

BATHING.

Where it is possible the baby should be bathed daily. One of the cnnvenient folding bathtubs may be used or the modern Tots Bath. Where it is not

possible a small tub or the regular bathtub may be used. It is convenient to have a small box to carry the bath articles, such as soap, talcum, wash cloths, cotton and olive oil. One should use a mild soap such as castile or ivory. For small babies the temperature of the room while bathing should be near 80 Fahrenheit. The water should be warm to the touch, 90 F. As the child grows in age and strength, the temperature of the room can be lowered to 70 F. and the bath water around 80 F.

CLOTHING FOR THE BABY.

The baby's wardrobe has been much simplified in recent years. Basicly it consists of a shirt and a diaper. In this climate it is not necessary that the shirt contain wool, preferably that they be made of cotton or linen or silk. Light gartrudes of cotton for the summer and cotton flannel for the winter. If the house is built so that it is impossible to keep it warm it may be necessary to resort to the use of wool or wool and cotton shirts during the winter. During the summer they should not be worn. No abdominal or belly bands are necessary. The diapers may be made either of birds eye or cotton flannel. The outer garments which are worn during the day time should be a kimona or light dress or the garments as provided may be worn. One should carefully not overclothe the baby. Gauge the amount of clothing for the child according to the amount you wear youself. Do not blanket your baby when the outside temperature is

around 80 F. Stockings are unnecessary.

SUGGESTIONS FOR THE BABY'S WARDROBE

Four shirts, 8 kimona, 6 night gowns, 2 dozen diapers 27x27 inches, 2 doz. diapers, 27x32 inches, one wool seater and one cloak, coat or bunny bag and one hood.

FEEDING HOURS

Most babies will do well on a four schedule; 6:00 A.M.10-2-6-10 P.M. and a 2:00 A.M. feeding only if necessary. Some may require a three hour chedule, but no shorter interval should be used. Water may be given if desired but it is not necessary to force the child to take water. Orange juice and water equal parts sweetened slightly if necessary, should be started at one month, one tablespoonful daily and increased to one or two ounces by three months. Cod liver oil should be started at about one month according to instructions.

It is surprising, indeed, to see the great numbers of mothers who come to us for free service. Some of them throught necessity seek this service, but others, regardless of the careful questioning on admittance, could afford a private physician. We realize this fact, often when it is too late. Money can be spent for many luxuries, but when human life are at stake, or when medical service is needed, it always "Costs so much". An epigram of Euricus Cordus demonstrates this paint well:

"Three faces wears the doctor; when first sought
an Angel's- and a god's the cure half wrought:

But when, that cure complete, he seeks his fee,
The devil looks then less terrible than he."

CHAPTER XI

"CASE STUDIES"

CASE I

Mrs. S. lives in the rural district of Portland. She became pregnant and did not have the finances to secure a private physician. The Red Cross referred her to our Medical School Clinic for care.

On September 13, 1934 Mrs. S., came up to the clinic and wrote our her application for admission. She is a Catholic, born in Denver, Colorado, has lived in the United States her whole life, is now 23 years of age, is a housewife, and is of Swedish descent. Her home was valued at $1600. They have no car nor radio, but they have a garden and own a cow. Mr. S. works on a dairy belonging to an uncle. This dairy is adjacent to the "S's" property, so Mr. S. works for the rent of their present home. A year and a half ago Mr. S. received $200 from the Veterans Loan, but that money is now, of course, spent. Mr. S. also received $5.00 a month wages from the dairy, but that amount was so small it was necessary that they should get aid from the Welfare and also get a grocery order.

Mrs. S. was admitted to Obstetrics Clinic, which is under the supervision of Miss Johanna Eggers who is a very efficient nurse and who uses the tech-

nique of Maternity Center in New York, in her department.

When Mrs. S. came up to the Obstetric department she first had her name taken at the record desk. The clerk sent Mrs. S. to the laboratory to have her blood tested. When she came back to the department she had her temperature, pulse, and respiration taken. They were 98.6, 100 and 20. She was then given a set of instructions regarding her diet, sleep, exercise, care of breasts, bathing and other general rules for pre-natal care. We weighed the patient (196½ pounds) asked her her normal weight and her height, and told her to weigh herself each time she came to the clinic and to bring a specimen of her urine each time also. The laboratory reported that her Wasserman was negative and the tests were normal.

When it became Mrs. S's turn she was taken to the History Room. A student doctor whose examinations are re-checked by both a resident doctor and an obstetrical specialist, recorded the answers to his questions. Her mensus began when she was eleven years old; the periods were irregular and the amount scanty. In 1925 she became pregnant, went to a doctor, decided to have the baby at home, was 7 months along, had a labor period or 17 hours and the baby was stillborn. In 1929 Mrs. S. had a baby boy at the Emanuel Hospital. In 1932 she had a baby girl at Multnomah County Hospital. Therefore, she had two children living and well.

She had not been nauseated during this pregnancy, did not vomit, was constipated, had no headaches, was not edematous, and had vaginal bleeding about every other month. Then Mrs. S. was taken to a dressing room, given a gown to wear and instructed to remove all clothing except her shoes and stockings. When she lay on the table in the examinating-room, a senior medical student gave her a complete physical examination. Her teeth were poor, she was obese, her body was fairly clean, the fetal heart was heard and she had a normal pelvis. Her blood pressure was 116/68. She was instructed to return to the Clinic in two weeks. She dressed and went home.

October 4, 1934, Mrs. S. came back to the clinic. Her temperature was 98.6, pulse 96 and respirations 19. She weighed herself, went to a dressing room, removed her coat, bloomers and girdle and went to the examining room. Her blood pressure was 114/70, she weighed 199 pounds, her urine had a Sp. Gr. of 1012, no albumin, and was acid.

October 9, Miss Eggers and I went out to visit Mrs. S. to pay her a routine "get acquainted" call. We found that she lived in a little shack with quite a bit of rough acreage about it. The shack contained four rooms which were in poor condition and fairly clean. The patient appeared to be cooperative. There was running water in the home, good electric lights, a wood stove and a gas heater, plenty of beds for sleeping comfort, and a husband who could care for her, so we asked her to consider a home delivery.

She stated that she would enjoy being at home. We told her to call a doctor at M. C. H. when her labor began, and while she was waiting to do the following: Fill a kettle with water with a dipper in it, cover it and boil it. Boil another sealed tea kettle of water and set it aside to cool. Place the bed in the lving room where the light was good, put two table leaves or an ironing board crosswise under the mattress, and place wash tub lined with newspapers beside the bed for discard materials. Take a warm sponge bath and get out the supplies needed for herself and the baby. We told her to make and have ready the following articles between the present time and the time she delivered: Two gowns for herself, a bed pan, 4 sheets, 2 wash cloths, 2 towels, and 4 oz. lysol for the irrigation tray. Place blocks under the legs of the bed to make it easier for the doctors and nurses to care for her. Make 3 pads of newspaper and cover them with clean cloth. We showed her how to arrange them on her bed and how to pin back the covers. We told her to have a pair of clean light-colored or white stockings to wear during the delivery. Make 3-half size newspaper pads covered with old muslin, white, freshly laundered and sewed in place, to use under her hips after the delivery to protect the sheets. Buy one pound of absorbent cotton, about 3 dozen perineal pads. Boil a fruit jar with a cover for the doctor's use during the delivery and for her perineal care.

For the baby we instructed her to have these

articles ready: a receiving diaper inside of a blanket warmed by a hot water bottle, the layette, towels, olive oil or mineral oil, a basket without a pillow for the bed, a piece of pure white soap, crib blankets, safety pins, wash cloths, tooth picks for cotton swabs and a small rubber sheet for the crib.

Miss Eggers and I also demonstrated by showing her a picture, the tray that should be fitted with sterile articles as listed; Jar for sterile water, jar for small toothpick squabs, soap dish, nursing bottle, 8 oz. bottle for boiled water, soap, pincushion, glass jar for cotton. We made cornicopias with her to show her what lovely and adequate waste baskets could be made from a single sheet of newspaper.

The patient then asked, before we left, if work in the garden would be injurious. We advised her that it would be all right, but that she must not become fatigued. We also made it clear to her that the doctor would have to "O.K." the situation before she could have a house delivery.

October 11 Mrs. S. returned to the clinic. Her temperature pulse and respiration were 98.2, 80 and 19. Blood pressure was 112/62, she weighed 200 pounds, the baby was in R.O.A. position, the urine showed Sp. Gr 1014, negative and acid. She was okehed for home delivery.

On October 30, 1934 the patient telephoned and said that she was having labor pains, had a headache and was very much excited and stated that the call was

urgent. Dr. Kindschi gathered up his delivery bags and went out to the house. When he arrived he found that there was not a thing ready for the delivery. Mrs. S. was having pain in the upper portion of her back. The house was very dirty and had not been cleaned for quite a period of time. The Doctor was very disgusted and he departed.

Because the county nurse (who had been in the home to see Mrs. S. concerning the truancy from school of her son) telephoned and reported that the patient had complained of severe toxic symptoms, Miss Eggers and I went out to see Mrs. S. again on the 11th of November. We found the patient sitting in an easy chair with a hot water bottle placed between her shoulder blades. She complained of pain in that place and also under her right breast. We had our "complete pre-natal bag" with us, so we set up our hand scrub by the kitchen sink, put on our aprons and started our tests. We took her temperature which was 98.6, her pulse which was 80 and her respiration which was 20, all normal. She lay on the bed, we draped her and then listened to the fetal heart--normal. She showed no signs of toxemia so we reassured her that she was all right. We questioned her concerning her failure to prepare for home delivery. She said that she was not able to prepare for it before because she didn't have any money, but now she could and would because her husband was driving a truck for the dairy and was receiving $30.00 a month. They were no longer on the welfare.

Then there was controversy between the doctors

and Miss Eggers at the clinic. The doctor thought that Mrs. S. was in a home with very poor conditions, but Miss Eggers knew the possibilities of the home and knew that they were begging for home deliveries for the student doctors' educations.

Miss Eggers wrote Mrs. S. a sweet letter and told her to go ahead and clean the place and be prepared to have her little baby at home.

On November 29, at 5 A.M. , Mrs. S. had true labor pains. She called in to the hospital and was told to come up there to M.C.H. About 7:50 o'clock she came in. She was completely dilated and the head was on the perineum. There was not time for preparation. However, had she been admitted properly the following would have happened: Someone would have gone down to the office when she came in and brought her up on the elevator to III East. On the way up they would have asked her how close, severe and regular her pains were, the character of her vaginal discharge, her name and how many babies she had had. She would have been admitted to the pre-delivery room, undressed, put to bed, had an obstetrical preparation, had a plain warm water enema in knee-chest position, had a bath if she needed one and a complete physical examination (including rectal exams) by the obstetrician. When she was dilated enough she would have been taken to the delivery room, been draped with sterile drapes, the perineum prepared sterile with green soap sol. and lysol solution, given an anaesthetic if necessary, and delivered.

But as it was, Mrs. S. rushed directly to the delivery room. There was no time for a preparation nor for draping. At 8:00 o'clock A.M. she delivered a dead female baby in O.R.A. position. The baby was mottled and blue with evidence of fetal death approximately 12 hours previous. The cord had a tight single knot in it about eight inches from the navel. The cord was flat, white and bloodless between the knot and the baby. N20 was given as an anaesthetic, the placenta delivered in Schultze position. One ampule of pituitrin and 10 minims of ergotol were given in the arm hypodermically. There were no operative procedures.

Because Mrs. S. came in so late, the first and second stages were not followed--only the third.

When the delivery was completed, Mrs. S. was placed on a stretcher. Her nipples were cleaned with soap and water and sterile dressings, a towel and a binder were placed on the breasts. A sterile T binder and perineal pads were placed on the perineum. The patient was taken to a ward, the hot water bottles were removed from the bed and she was placed in it. A medical student remained with her for one hour. The uterus was massaged and her temperature, pulse and respiration were taken.

She was given the bed pan every four hours and it was not necessary to catheterize her. She had two enemas during her period in the hospital. Her discharge (vaginal) was normal. She was bathed twice a week.

Barbitol and pyramidon were given as necessary for pain. She had a soft diet the first day after delivery and a general diet during the remainder of the time. After the first 24 hours, the patient lay on her abdomen ten minutes each day.

If Mrs. S. had had a baby to nurse she would have cleaned her breasts with applicators dipped in sterile saline solution before and after each feeding.

On the 4th day she sat up with a back rest and got out of bed on the eighth day P.P. I went to see her in the hospital and made an appointment with her to come up to the clinic Wednesday morning January 9, 1935. On December 6, 1934, she was discharged from the hospital and instructed not to tkae a tub bath or douche for ten days following discharge, to do knee-chest exercises for 5 minutes twice daily, and to carefully observe the written post partem instructions given to her.

The Pathology Department performed an autopsy on the baby. The report by Dr. Hunter stated that the baby had been still-born. There was a knotted umbelical cord with intrauterine death, and the lungs were unexpanded.

If the baby had lived, a sterile dressing and binder would have been placed on the umbelicus after the cord had been cut. After the nurse had taken it from the doctor it would have been placed in a crib which had been warmed by a hot water bottle and the baby would have been turned on its left side. One drop of silver nitrate would have been placed in each eye. When it

was definitely determined that the baby was in good condition it would have been taken to the nursery, well wrapped. The crib would be tilted up at the foot for the first 24 hours. Every 4 hours it would go to breast and for the first 3 days receive 2 oz. of lactose as a complimentary feeding. The baby would be bathed with Liquid Petrol every other day and alternated with a powder bath. This powder is made of ammoniated mercury, talcum and zinc stearate. The baby's eyes would be cleaned with boric solution, and the cord would be cleaned with alcohol. When the mother and baby would go home the mother would be given an appointment slip to bring the baby in 2 weeks to the well-baby clinic nearest her home. She would put on a gown and be taken into the nursery to have a baby's bath demonstrated to her.

Mrs. S. seemed quite concerned about losing the baby: she said she wouldn't have any more. She was a good, cooperative patient.

January 6, 1935 I went out to see Mrs. S. She looked well and felt well. She promised to come to post partem clinic and stated that she was going to get a health certificate soshe could wash the utensils in the dairy.

On January 9 she came up to the clinic and had an examination. She knew the necessity of it and was prompt in her return. She seems to be quite intelligent and her education has consisted of the grades and 2 years of High School.

I taught Mrs. S. about the necessity of prenatal care. I think that that our frequent visits and her visits to the clinic show that, she had a garden with vegetables in it and they had a cow, so she received the minerals and vitamines needed. I taught her about rest, sleep and exercise both before and after the delivery. Her mind was quite free from worry except for the fact that her boy skipped school, and I don't believe that that troubled her a great deal. She received excellent nursing care and her convalescence was perfectly normal. She seems happy now.

I learned new and excellent techniques from this case. As it was one of my first attempts at this particular phase of obstetrics, I learned how to contact the mother and how to make my visits worth while. The whole study and course has been very fruitful.

CASE II

Mrs. C. lives just inside the city limits of Portland. She was expecting a baby and could not afford to secure a private obstetrician. A friend of hers had received care from the clinic referred Mrs. C. to our departement.

On May 3, 1934 Mrs. C. came up to the clinic. When she applied it was found that she was born in Vallezo, California thirty-four years ago, but has lived in Oregon twenty years. She is of German descent and belongs to no religious denomination. She has had 3 tonsilectomies - the first two were

unsuccessfully done by a chiropractor. She has had an education of only the first 5 grades. They own a car, a radio and have a telephone in their home. Mr. C. now works for the rent of the house, gets a little extra cash from odd jobs and they receive a grocery order and milk supply from the Relief Bureau. Mrs. C. had been married to Mr. C's brother, had 2 children, quarrel and divorced. This baby that was coming was going to be the second child by the present Mr. C. There are controversies, disagreements, and domestic troubles continuously in the family; the step-children and the third child quarrel much of the time.

Mrs. C. was admitted to our department just as Mrs. S. was in Case I. Her laboratory tests were normal and her Wasserman negative. She is 4 feet 10½ inches in height. She weighed 100 pounds normally, but weighed then 113½ pounds. Her temperature, pulse and respiration were 99.2, 104 and 20. Her B. P. was 120/80. She had a red eruption on her face - a chronic condition. There were varicocities in the left leg. Otherwise everything was normal. Her menstruation began when she was 14 years old and although there was a normal amount of discharge and no clots her periods were irregular; however, they averaged about 25 days between periods. In 1922 she had a baby boy in a hospital. In 1924 she had a baby boy at home. In 1926 she had a baby girl in a hospital. In 1926 and 1928 she aborted a foetus after 1 month. At pre-

sent she had been nauseated for 2 months, vomited for 2 months, badly constipated, had no headaches, edema or bleeding. She was instructed to eat fruits, bran, whole wheat bread and take mineral oil for the intestinal condition.

May 24 she returned to the clinic. The urinalysis was normal and she was sent to the skin clinic.

June 14 Mrs. C. came to the clinic and her urine showed 1 plus albumin. She was told to drink more fluids, eat less protien and rest as much as she could. She wanted Dr's. orders to move from her present home because she didn't want to walk up and down so many steps. Otherwise she had no complaints.

July 5 the patient visited the clinic again. She was normal.

July 26 she came back to our department and complained of numbness in her fingers. She asked if she could have a home delivery. She was told that the doctors would check her for home delivery next time she came up on the hill to the clinic. Her urine was acid and normal.

August 16 when she returned to our department she again showed a trace of albumin and the baby was in breech presentation. She was told to be sure and come back to the clinic on the days appointed so that she could be carefully checked each time. Mrs. C. had been working and going out excessively and not getting enough rest, so she was instructed that sleep and rest

were as essential as proper diet.

September 11, 1934 Miss Eggers made a visit to Mrs. C's home. They had moved into a very comfortable 4 room cottage. The conditions were good. There were 5 members in the home, and Miss Eggers demonstrated home delivery to Mrs. C. just as we did to Mrs. S.

September 18 the patient returned to the clinic. The urine was acid and normal. She was told to come back in 2 weeks.

September 27 she was checked for breech and home delivery. The baby was rotated to a cephalic presentation. She was approved for home delivery.

October 11 Mrs. C. came back to the clinic. The urinalysis was acid, there was no albumin, the Sp gr. was within normal limits, and everything was all right.

November 5 I visited Mrs. C. at 5 P.M. She was sitting in the kitchen, fully dressed, and was having pains about every 10 minutes. Miss Eggers came a few minutes after I had gone and told her to go ahead and prepare herself and her bed for home delivery. Then Miss Eggers departed.

At 8:30 o'clock I again went out to Mrs. C's home. I found everything set up to perfection. Miss Eggers and Dr. Nelson were there again and the patient was in bed, nicely draped, and had gown and stockings on. The hand scrub was beside the kitchen sink, there were kettles of hot and cold boiled water on the stove and the house was warm. There should have been some medical students present, too, but they were on another delivery out in

the other side of Portland.

Mrs. C. had been in labor since 1:00 A.M., 11/5/34. The pains became regular at 15 minute intervals at 3:00 P.M. on the 6th, gradually increasing in frequency and severity. At 7:00 P.M. they were 5 minutes apart and lasted about 1 minute; however, they did not seem to be very severe. Mrs. C. was then prepared obstetrically about 8 o'clock and given a hot water enema. From 8 to 11 o'clock the pains were variable. Miss Eggers at 11 P.M. prepared the field with sterile green soap solution and sterile lysol solution. Doctor Nelson scrubbed up and artificially ruptured the patient's membranes. After that the pains increased in frequency and severity . The patient's strength seemed to be dissipated and she failed to work with her pains. She did not cooperate at all well. At 11:40 o'clock another sterile preparation was done, the sterile muslin, leggings and drapes were placed on the patient. The Doctor scrubbed, put on his gown and gloves and made a vaginal exam which revealed that the cervix was 6-7 CM. dialated. We all waited for her to work with her pains then. Miss Eggers placed the sterile receiving towel, cord tie and dressing, blood tube, 2 hoemostats and a scissors and a chin towel on the sterile draping.

At 12:30 A.M., Nov. 6 Mrs C. was completely dialated. The duration of the first stage had been 9½ hours.

During the first 20 minutes of the second stage the patient did not seem to be able to use any force. She was very tired. During the last 10 minutes the

contractions were very strong and the patient for the first time really cooperated. At 12:50 A.M. she delivered in O.L.A. a living male baby. The perineum was not torn. The baby breathed normally and cried. The cord was tied and severed and a sterile dressing applied. The baby was received in a warm receiving diaper and blanket and taken into the kitchen. During the delivery I gave ether to Mrs. C. by the drip method.

In the 3rd stage of delivery the placenta delivered in Schultze presentation by the Moderate Crede Method at 12:55 A.M. 1 ampule of pituitrin and one of ergot were given in the patient's arm, hypodermically. The mother then had sterile perineal pads placed on her, was undraped, given a bath, the bed cleaned and everything was neat and comfortable. Her temperature was 99, pulse 92 and respiration 22. The sister- in-law and husband were shown how to irrigate the perineum with lysol solution, how to dry it with cotton and how to place the side of the pad that was untouched next to the perineum.

While this last procedure was going on, Miss Eggers was busy out in the kitchen with the baby. She bathed the little fellow with mineral oil, took his temperature, weighed him, gave him a drink of water, dressed him and placed him in his crib.

We instructed the husband to be very watchful for hemorrhage of the mother, bleeding from the baby's cord

and to recognize and treat the symptoms of choking of the baby. He was to call the doctor immediately if necessary.

One hour after the delivery the home looked as if it had just had a good house-cleaning. The mother's fungus was elongated but firm; there was no evidence of bleeding and the baby's cord was not bleeding, so after telling Mrs. C. that I would be back in the morning and giving her instructions on when to nurse the baby, we left.

The next morning, the 7th of November, I went out to see Mrs. C. She had a normal temperature, her lochia was rubra and normal and she had no complaints. The baby's temperature was normal, he was nursing well, was taking water well, had meconium stools but had not voided. I did not give the mother and baby a bath because they had both been bathed just a few hours before, following the delivery. I set up a tray so that Mrs. C. had a conucopia, sterile water and nipple swabs beside her bed so she could give her breasts the proper care before and after nursing the baby. I told her not to worry about the baby's lack of voiding and said he would if she gave him a full 2 oz. of water as mid-feedings. As she did not want an enema, and as we give one routinely to our mothers on the 3rd day post partem, I instructed her to eat applesauce, prunes, bran and other foods that would make her diet a non-constipating one. She had no other complaints.

On the 8th of November I went out to the home to

give Mrs. C. and her baby regular routine lying-in care. Her sister-in-law was there cleaning the kitchen and caring for the patient. I placed newspapers on the table and set my post partem bag on it. I placed a newspaper by the sink, covered it with a paper napkin, took my brush which I keep wrapped in a bathing cap, took out the green soap and more paper napkins and put all those articles on the hand scrub place by the sink. I scrubbed my hands, put on my apron, removed all the articles such as the rectal and mouth thermometers, the scales, alcohol and the tape for measuring the height of the fundus. I found a wash basin, put water and five pieces of cotton and my thumb forceps in it and placed it on the stove to boil for 10 minutes. I made a round pan out of newspapers, placed it on the foot of the bed, went to the bathroom and got the bed pan which was properly sandwiched in between the folds of a newspaper, removed the perineal pads from Mrs. C. and put them into the paper pan and placed her on the bed pan which I had warmed with hot water. Then while she used the pan I took the water, cotton and forceps off the stove and let them cool. When they were just a nice warm temperature I placed them on a chair beside the mother's bed, draped her with a sheet and a blanket, put some dry cotton and 2 pads on the newspaper on the chair and scrubbed my hands. Without drying my hands I went to the bedside, pushed the drapes sufficiently away from the field with my elbow, picked up the for-

cepts, swabbed over the rectum and the lower buttocks, dried her with cotton and placed 2 perineal pads that touched the mother. Then after covering her with the bedding I removed my paper discard pan, emptied the bed pan, took the wash basin out into the kitchen and washed my hands.

The next step was the bath. But first I rinsed off the thermometer and took her temperature, pulse and respiration. The fundus was firm and 6½ inches in height. With a piece of cotton I wiped off the mucous from the thermometer and read it-98°, wrapped a piece of cotton around the bulb and laid it on the kitchen table. It was warm in the house, so I removed all the covers--the bed spread and the blanket from Mrs. C's bed except a sheet; folded them and laid them on the davenport. Then I removed her gown, left her with just a sheet over her, went to the kitchen and got a basin of water, soap and 2 towels and returned to the bedside. First I washed her breasts, dried them and covered them with a clean towel. Then I gave the wet wash cloth to her and washed her hands, face and neck and ears - then she dried them with the 2nd towel. I proceeded to bathe her arms, abdomen, back and legs and placed her feet in the basin of water. The patient observed how I made a T binder out of strips of material and I pinned it on her. I told her to keep her breasts clean and to be sure to nurse her baby every 6 hours until the 3rd day when the milk came in because the colostrum was fluid and had laxative value for the infant. I made her bed with a clean pair of sheets,

placed a clean gown on her and removed the towel from her breasts. The sister-in-law had observed my procedures all this time, so I showed her how to make a breast binder and told her how to apply it as soon as the milk came in. The patient combed her hair while I took the soiled linen from the chair where I laid it and took it and the basin and towels to the kitchen.

Next I set up for the baby's bath. I set 3 chairs near the stove which had a tea kettle of hot water on it. I was to sit on one chair and I placed the other 2 so they would face me and covered the seats of these two with newspapers. On one of the facing chairs I placed the baby's bath tub with warm water in it. By the tub I placed a cornucopia. On the other facing chair I placed the tray with the baby's jar of boiled water, warm mineral oil, soap, a jar of cotton, large and small applicators, safety pins in their soap pincushion, nursing bottle, jar of sterile nipples, thermometer and scales on it. On the back of the same chair I hung the baby's clothes, extra diapers, face towel, bath towel, clean blanket, a piece of muslin for the baby's face wash cloth and the other wash cloth to use in washing his body. On the floor I spread a newspaper and placed on it the basin which was to receive the soiled and wet clothing which I was soon to take off the baby.

I scrubbed my hands, prepared a drink of water for the baby, placed the large towel over the blanket and

laid them on the chair. I went to the crib and picked up the baby and put his bed to air. I sat down, covered my lap with the unfolded towel and blanket and laid the infant on it. I fed the baby 2 oz. of water from the bottle. Next I unpinned the diaper which was wet, lubricated the thermometer with mineral oil and held it in the baby's rectum for one minute. On removing the thermometer I wiped it with a piece of cotton and read it, 98.8, put a piece of cotton around the bulb and replaced it on the tray. Before undressing the baby I cleansed the nostrils and outer earswith separate, small applicators which I had dipped in the oil and tested to be sure that the tooth pick was well covered on the end with the cotton.

I laid the face towel over the baby's chest, tested the water with my elbow, added a little hot water from the tea kettle and with the small wash cloth I washed the baby's face including the eyes with plain water and dried the face with the small towel. I dipped my hand in the water, rubbed it over the soap, redipped my hand in the water and soaped the infant's head. I turned him around on my lap so that his head was over the tub, picked up the wash cloth from the water, rinsed the soap off his head, turned him back crossway on my lap and dried his head. I removed his soiled blanket and put it on the newspaper, removed his clothing, soaped his body, rinsed it using the wash cloth and dried him. During

this last procedure I was very careful not to expose the baby too much, so I kept the towel and blanket nestled around his body and exposed only small parts at a time. When he was well dried and warm I retracted the foreskin and cleaned the penis with oil on a small applicator. I dipped a large applicator in oil, stuck it upside down in the soap pincushion and with the oil I got on my fingers by squeezing this cotton, I oiled the baby's body. I cleaned the baby's cord with alcohol on an applicator, applied the sterile cord dressing, poured 2 drops of alcohol on the dressing directly over the umbelicus and wrapped the band around him. I put his shirt on him, placed a diaper under him, tied it in front above his shoulders, slipped the hook of the scales through the square knot and weighed him.

I completely dresssed the baby and gave him to hi mother to nurse. While the baby nursed I cleaned the tray and bath equipment, made his bed, cleaned with soap and water each thermometer separately and wrote some notes stating all about the condition of the mother and baby to leave for the Doctor to read when he came. Then I packed my bag; washed my hands and left.

On the 9th and 10th of November I went out and gave Mrs. C. and the baby the same post partem care as descreibed above. Both the mother and her son were normal except that he had quite a quanitiy of matter running from his eyes. The doctor gave her a solution

with which to cleanse the eyes, though. I told Mrs. C. to be sure and nurse her baby at regular intervals (which she did not do) to obey the Dr's orders, and I made an appointment with her for post partem clinic six weeks from the time she delivered and also an appointment for her baby at the Well-Baby Clinic in two weeks. The baby had not been losing weight but it had been vomiting. Before I left on the 10th I said that I would be back in a week and demonstrate a baby's lap bath to her, told her to put on a breast binder tomorrow morning and to lie on her abdomen for five minutes twice daily.

On the 16th of November I went to the home to examine the mother and to demonstrate the baby's bath. Mrs. C. was normal, up walking and well. The infant's cord was off so I gave him a tub placed the baby in the tub, I did it gently and gradually, Mrs. C. had been nursing the baby ten minutes from each breast every four hours. I advised her to nurse from one breast for twenty minutes alternating every four hours. I explained how and when for her to take knee chest exercises and then left her house.

On the 20th she was discharged by the Doctor to come to post partem clinic. On the 21st I telephoned Mrs. C. that I would be out in the morning of the next day and she could demonstrate the baby's bath to me.

On the 22nd I went out, took the mother's and baby's temperatures, examined the mothers breasts and

asked about her lochia. She refused to bathe the baby on her lap, so she gave him a bath on the table.

The 28th of November I went to see Mrs. C. and pay her a routine follow-up visit. She was all right except that she didn't have much milk in her breasts. The baby had been vomiting and losing weight, so Mrs. C. told me that they had called Dr. Hall, that he had come out to their home and prescribed a formula for the baby and they had not paid him for the call. However, the baby was tolerating the feedings and was not vomiting. The mother worried constantly about the troubles in the family between the children and step children and so on.

On the 10th of December I again called on Mrs. C. She had a little vaginal discharge and her breasts were O.K. but there was little milk in them. I don't believe that she even tried to nurse her baby from her breasts. Mrs. C. prevaricated so much. Even though she only had a 5th grade education she felt as if she knew that whatever she did was right. She refused all along to accept reason. She would listen to advise but it would just pass in one ear and out the other.

Mrs. C. was to come to the clinic on the 19th of December, but she did not appear. On the 6th of January I went out to see her. She said that she had not bus fare nor gasoline for the car to come to the clinic. Her husband stood in the doorway between the kichen and the living room and flatly re-

futed that statement. He said that she had had car fare all along and that she just didn't want to come to the clinic. Before I left I made her promise to come to the clinic the following Wednesday morning.

She came up that Wednesday, and because some minor thing had irritated her, she refused to have a vaginal examination. But then, I felt that I had done well to even get her back to the clinic. It is a very difficult feat to permeate such a static brain.

I taught Mrs. C. in part anyway, the technique of caring for herself and her baby in the prenatal, lying in, and post partem periods. I impressed upon her the necessity of regular nursing hours for the baby.

As this was the first home delivery I had ever seen and the first post partem home care I had ever given, I learned all the proper techniques and methods on this case. I gave her the best care that a nurse could give. I also feel that I tactfully outwitted a very prejudiced mental state of a charity patient.

References:

"History of Medicine"---Fielding and Garrison

"Principles and Practices of Obstetrics"---Dr. De Lee

"Story of Childbirth"---Finley

"Encyclopedia of Medicine"

"North Western Journal of Surgery, Gynecology and Obstetrics"

"Obstetrical Nursing"---Zabriski

"Principles and Practices of Obstetrics"---Hugh L. Hodge M.D. (1864)

"Manual of Midwifery"---Dr. Karl Schroeder of Germany (1873)

"Industrial Psychology"---Morris Viteles

"Personnel Management"---Scott and Clothier

"Ward Administration"---Sellew

"Supervision of Clinical Instruction"---Marvin
American Journal of Nursing Aug. 1930

"Ob. Case Study"---Miss Hazelle Edjuana Shelton
A. M. J. W. May 1933

"Routine for Maternity Nursing"---Mat. Center Assn.

"Obstetrical Nursing"---Miss Zabriski

"Nursing Procedures"---Miss Harmer

"Obstetrics for Nurses"---Dr. DeLee

"Case Studies"---Dr. Jensen

"Clinical Records of the Cases"

"Conferences with Miss J. Eggers"