The Antepartum and Post Partum Care of the Parturient Woman.

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It is high time that medical science should lend its aid to the pregnant women of the Philippine Islands who are now the victims of ignorant and oftentimes brutal midwives. Pregnancy and labor are physiologic processes which approach very near to the pathologic. When we think of the changes the maternal organism undergoes to accommodate the product of conception and that on the proper care of the woman in the pregnant and puerperal state depends her future well being and indirectly the welfare of her offspring, we are impressed with our responsibility as obstetricians.

At present in the Philippines many women are affected with gynecological ailments. About 90 per cent. of those I have had the privilege of examining in the Free Dispensary Philippine Medical School have retroversions and 2.5 per cent. of the parturient women suffer from prolapsed cervices.

Here let me say a word or two on what I believe to be the cause of the existence of such a great percentage of prolapse of the cervix and of the greater percentage of lax broad ligaments causing bearing down and other annoying pelvic symptoms. In the first place it is the custom of our women in the pregnant state to wear a very tight narrow binder just below the ribs. When you see them you wonder why they do not part in two. Then it is routine for the midwife or some man in the family to use strong pressure over the fundus of the uterus during contraction and labor pains. The reputation of a midwife is proportionate to the quickness of delivery of the child. I remember push violently downward over the fundus. I could not stop him, for everybody thought that by that method alone could delivery be accomplished. Delivery, as we all know, is effected not solely but mainly by the uterine contractions and the extension of flexion of the presenting part. When the head is already engaged it is probable that the force of extreme pressure over the fundus is expended mainly on the broad ligaments and has but little effect on the egress of the head through the cervix. This hypothesis is supported by the above case, in which the external os could be seen at the vulva when the head was being delivered. Dr. Calderon (Bull. Manila Med. Soc., Vol. 1, No. 5) reports a case of prolapse of uterus during labor. I purposely followed this case and obtained the history of great force being exerted by the midwife along line described above, and it is probable that the prolapse in Dr. Calderon's case, as well as that of my own, was due to this abnormal manipulation.

CARE OF THE PREGNANT WOMAN.

In primipara, external and internal pelvimetry should be made, and in multipara giving suspicion of osteomalacia or other bone disease, internal
pelvimetry should always be attempted. One case which occurred during my resident service in Philadelphia illustrates the importance of this point. The woman, a primipara, had been in labor for two days with good strong pains but with slight dilatation of the cervix, and no descent of the head. All the external measurements were normal and the head was engaged. On internal examination, however, it was found that the pubic bone was long and extremely inclined from above downwards and backwards so that the antero-posterior diameter of the inferior strait was 5 c.m. The woman had been subjected to several vaginal examinations and was in such bad condition that the necessary Cæsarian section was followed by a fatal result to the mother. The great probability is that the mother's life would have been saved if the conditions of her pelvic bones had been known before labor had started and proper treatment given.

It has been alleged that contracted pelves are rare in the Philippines, and of about 100 cases that I have seen, Dr. Roxas' case of osteo-malacia, which he operated successfully, was the only one in which Cæsarian section was necessary.

During the latter months of pregnancy the woman should be seen at least once a month and be closely questioned and observed for any appearance of beginning toxic symptoms such as persistent:

- Nausea and vomiting,
- Headache,
- Physical and mental lassitude,
- High arterial tension,
- Insomnia,
- Alteration in character and disposition,
- Swelling of legs,
- Albumen in the urine, which secretion should be examined monthly.

While careful treatment usually is sufficient to control most of these conditions they may so endanger the patient's life that a prompt termination of pregnancy is indicated.

The circulatory and respiratory systems always should be examined to see if they are in a condition to stand pregnancy carried to full term.

Moderate daily exercise, in the form of walking or driving and abundant fresh air, should be advised. This has to be especially mentioned to our women, for they are prone to lead sedentary lives.

As to diet: There need not be any change from the ordinary unless there is suspicion of kidney trouble, when meat should be restricted or withdrawn. It is advisable also to recommend the avoidance of alcoholic drinks. We must remember that during gestation the work of kidneys is much increased by elimination of poisons both from mother and child, and the free action of the skin should be secured so as to relieve as much as possible the work of these organs.

The bowels should be opened at least once daily. In our dispensary, for those that complain of constipation, we give the pilulæ laxatæ compositionis of the U. S. P.

Quite often the teeth are productive of great trouble during or after pregnancy. They have the tendency to become soft, due, according to Manton, to lack of lime salts which are being used in the up-building of fetal structures. As to prophylaxis, besides the hygiene of the teeth, he advises the administration of lacto-phosphate of lime.

As to clothing, we have to eradicate the custom of wearing tight waistbands, which the lower classes believe to be necessary for their comfort.

Mental depression and excitement should be guarded against on account of its influence on the fetus and the slight irritability of the mother consequent upon gestation should be overlooked.

A pregnant woman should always be asked if she has vaginal discharge of any kind. The presence of bloody vaginal discharge in the early months suggests abortion or tubal pregnancy or more rarely hydatidiform mole;
while in the later months, and especially at term, placenta previa should be looked for. A profuse creamy discharge is very suspicious of gonorrhea and such cases have antiseptic vaginal douches of creolin, 1 per cent., or bichloride, 1-8000 once daily. After the douche, if possible, the vagina should be swabbed with 50 per cent. solution of argyrol. It is unnecessary to say that the patient should be cautioned in her habits so as not to infect other people, and the nurse should be very careful to disinfect her hands after giving treatment.

POST PARTUM CARE.

The post partum chill, which is of frequent occurrence in the States after the second or third stage of labor, has not been encountered in about fifty deliveries which I have seen in Manila. The absence of this symptom may be explained, in part at least, by the very warm climate of Manila.

After the expulsion of the placenta and reparation of tears, if there are any, the mother is watched for one hour for any tendency to hemorrhage. If she should bleed profusely she is given a hypodermic injection of 1 c.c. of ergotin, and while this is being given the uterus is kneaded vigorously and continuously, with an ice bag or a piece of ice wrapped in towel applied directly over the fundus. Sometimes post partum hemorrhage comes from lacerations of the cervix. In these cases the uterus feels well contracted and yet the bleeding does not cease. The most efficient treatment here is the immediate suturing of the tear.

After delivery, the external genitals should be cleansed antiseptically with 1-4000 bichloride solution and dressed with a sterile pad. The question of the advisability of the abdominal binder appears to be an unsettled one. Williams believes that the abdominal binder favors the tendency to retroversion, while other authors have a contradictory or an indifferent view. Whatever its effects are, we find the abdominal binder a great relief and comfort to the woman after labor.

Rest.—It is important that the woman should be kept quiet on her back for the first six hours. She should be cautioned not to be on her side for any length of time during this period, for many authors claim that this position favors air embolism.

She should be seen daily for the first six or seven days and the following points should receive special consideration:

General condition.
The pulse, respiration and temperature.
Contraction and tenderness of uterus.
Quantity and quality of lochia.
The bowels.
The bladder, and
The amount of sleep she gets.
There may be a slight temporary rise of temperature on the second day.

However, fever due to infection usually makes its first appearance on the third or fourth day, and it is usually accompanied by pain and tenderness in the uterus. Sometimes, apart from constitutional diseases which may be concurrent, sluggish bowels and caked breasts are the cause of an elevation of temperature. The fever is treated according to its cause, and whenever it rises above 102° F. we employ hydrotherapy.

After the expulsion of the placenta, we not unusually find the fundus to be three or four fingers below the umbilicus, but after a few hours it may rise up to or slightly above the level of the umbilicus. The multipara, whose uterus has been taxed with previous deliveries, in the first three or four days after confinement, often complains of pain in the uterus, the so-called after pains. These pains are supposed to be due to the slow contraction of the uterus after relaxation. For these cases we give 4 c.c. of an equal mixture of fid. extract of ergot and camphorated tincture of opium every four hours, if necessary. For
normal involution, the fundus should descend daily, at a rough estimate, one finger, so that on the tenth day it should be at the level of the symphysis. Sometimes there is subinvolution, which may be due to endometritis, retention of clots or retention of placental tissue. When the endometritis is due to infection the uterus is usually very tender to pressure; the lochia may or may not be scanty, and it is foul when infection is due to saprophytic bacteria, but usually not foul when the offending germs are pathogenic. Fortunately, to the credit of our nurses, we have not had to combat with infection in our service in spite of the unfavorable conditions in which frequently we have to work. However, in the cases where we had to extract the fetus dead in utero for sometime we have had endometritis complicating the puerperium. For these patients we give something to contract the uterus, such as fid. ext. of ergot, 4 c.c. (fz. x) t.i.d., and strych. sulph., gr. 1-60 t.i.d. We also apply ice bag to the uterus and an ice cap to the head. In cases suspicious of malaria, we give, in addition to ergot quinine °300 (gr. v) t.i.d.

For normal cases we abstain from giving douches, and even in cases of foul lochia we think it best to abstain from using irrigations until after the seventh day because of the danger of spreading infection to the uterus and tubes.

During the first four days the lochia is dark red in color, and gradually becomes paler during the next four or five days, and by the tenth day it is a whitish serous discharge—lochia alba. The persistence of lochia rubra for more than ten days should direct attention to the existence of subinvolution, which may be due to retention of clots or placental tissue. However, if the placenta and its membranes were complete at birth the complication of retention of its tissue can be excluded. Ergot, strychnine sulphate, and one or more hot intrauterine sterile water douches are of great benefit for these cases.

Care of the bowels.—Constipation is oftentimes the cause of slight rise of temperature, so we make it a routine to give calomel, 0.06 (gr. j), in divided doses on the second day and 40 c.c. (fz. x) of castor oil or saturated solution of magnesium sulphate on the third day. To secure a daily bowel movement we give cascara, the pilula laxativae compositae or a soap-sud enema.

Bladder.—Within twelve hours after delivery the woman should have micturated. Sometimes, especially after operative interference, there is paralysis of the urethra and the urine distends the bladder to such an extent that this viscus forms a tumor mass visible through the abdominal wall and causes the fundus of the uterus to rise above the umbilicus. To stimulate micturition we use hot and cold compresses over the bladder and the slow pouring of warm water over the vulva. If these means are not successful we let the patient sit up, for there are some who cannot void lying down. If these measures fail we catheterize in the most aseptic manner possible.

Breasts.—Before leaving the patient, after delivery, we make it a routine to wash the breasts thoroughly, especially the nipples, with warm water and green soap. The nipples are rinsed afterwards with cold boric acid. The patient is instructed to wash her nipples before and after nursing. The nipples are examined daily for fissures and abrasions, and if such lesions occur they are treated by painting with tincture of benzoin. The use of the nipple shield in these cases protects the breasts from infection and also reduces the aggravation of the nipple lesions.

On the third or fourth day, when the milk comes, or when, for some reason or other, the mammary glands fail to be emptied as they should be, the breasts become hard, caked, and
sometimes so painful that they cause a rise of temperature. We have met with great success in these cases by the use of massage of the breasts with camphorated oil until they become soft. To dry up the breasts completely we prescribe dry diet, saturated solution of magnesium sulphate 40 c.c. (fz. x) each morning, and if the breasts are hard and painful, they are massaged once daily, painted with belladonna ointment and bandaged firmly. A hot-water bag over the breasts affords great relief to the patient.

From birth the infants are put to the breast four times a day, and after the secretion of the milk is established nursing is practiced at two-hour intervals.

Diet.—During the first two days the mother is given liquid diet, on the third day soft diet, and on the fourth day full diet.

Sleep.—It is necessary that the woman, especially after delivery, should get the necessary rest and sleep. For those that complain of insomnia, we give hypnotics in the form of veronal or trional.

Time of sitting up.—In our outpractice cases, where there are no bed pans, the patient is allowed to sit up every time she micturates or defeecates. Our routine in the hospital is to make them sit up in bed for one-half hour on the tenth day; out of bed for a half day on the eleventh day; and out of bed all day on the twelfth day. There is a tendency now among many German obstetricians to require patients to sit up soon after the third stage of labor is completed. The reason for this practice is to develop the abdominal muscles. Patients delivered by midwives often sit up soon after delivery, and in one of these patients which came under my observation there was a tendency to excessive bleeding, though another showed no ill effects from the treatment.

THE WASSERMANN IN BRIEF.

By Fred D. Weidman, M.D.

of Philadelphia.

To fully understand the principles and technique of the Wassermann reaction the student would do well to first review, in some standard textbook, the theories of infection and immunity; paying especial attention to those parts concerning the bindings between complement, antigen, and amboceptor.

In brief, the protective defenses of the body consist of albuminoid bodies which are elaborated by the body tissues. They circulate in the general blood system. Of these defenses there are several groups.

Precipitins: Precipitate invading substances.
Antitoxins: Neutralize toxins.
Agglutinins: Clump invading substances.
Lysins: Dissolve invading substances.
Opsonins: Render invading substances susceptible to phagocytosis.

In addition to the above, the phagocytes of Metchnikoff should be mentioned. The rise of temperature seen in fevers, too, when not extreme, assists in the battle against foreign substances. These protective defenses are effective, not only against bacteria and their toxins, but also against many other materials, such as red blood cells of other animals, liver cells and tracheal epithelium. Not only are they effective against such organized substances, but also against unorganized materials, i.e., albumins and globulins from foreign sources, like ricin and cobra venom. In fact, almost any material, when injected into the blood stream, seems to be capable of calling forth a specific antibody. The material injected, and only against which the resultant antibody is effective, is known as the antigen. An antigen, therefore, is a substance, which, when injected into the blood, gives rise to a specific antibody. By "specific" we mean that it reacts only against that
THE ESCULAPIAN

particular substance which led to its production.

PRINCIPLE.

In the Wassermann test it is the **lysin** which is made use of. Agglutinins, opsonins and phagocytes do not enter into the question. The first step is to prepare a "hemolytic system." A hemolytic system consists of three parcels of substances: (a) Complement; (b) Amboceptor or immune body, which is specific against sheep's red blood cells (i.e., it will dissolve them under appropriate conditions); it may therefore be called hemolysin; (c) Washed sheep's red cells. On mixing these materials in proper amounts (described later) and incubating for one-half hour, the red cells will be dissolved, as shown by the laked color of the solution. This phenomenon is due to the action of the amboceptor, which has been so made as to be specific against sheep's red cells. It links together the complement (a) and sheep cells (c), so that the complement can dissolve the sheep cells. This is not the Wassermann reaction. It is only a part of the same. It is simply the hemolytic system and serves as the indicator.

Now, suppose we had boiled the complement before adding it to B and C. This would have inactivated the complement, and hemolysis would not have occurred. This leads to the principle of the Wassermann reaction. It is only a part of the same. It is simply the hemolytic system and serves as the indicator.

When the blood serum of a luetic individual, plus the extract of a luetic liver are added to a hemolytic system, hemolysis does not take place.

Or, let

\[ a = \text{syphilitic patient's serum}. \]
\[ b = \text{extract of syphilitic liver}. \]
\[ c = \text{hemolytic system}. \]
\[ d = \text{no hemolysis}. \]

and the formula would be

\[ a + b + c = d. \]

The reason hemolysis does not occur is because \( a + b \) attract to themselves the complement from the hemolytic system \( c \); so that as far as the hemolytic system is concerned its comple-
For a positive Wassermann:

\[
\begin{align*}
    N + O + H & = E_1 \\
    A + B + C + L + S &= D_1 \\
    N + O + H + H_2 + O &= E_1
\end{align*}
\]

For a negative Wassermann:

\[
\begin{align*}
    D_1 \\
    A + B + C + L + S &= D \\
    N + O + H + H_2 + ? &= E
\end{align*}
\]

The brackets indicate the lines of combinations of the groups.

The question now arises: "Why does the liver extract plus syphilitic serum deviate the complement?" In the technique the patient's serum has been heated to destroy the complement therein. It therefore contains luetic amboceptors. The luetic liver extract contains the syphilitic antigen (or by-product) which resulted in the production of such amboceptor. In other words, that patient's serum is specific against this antigen. All that is necessary therefore to effect a union between the two is some complement, and when such complement appears it is deviated (from hemolytic system). The real nature of this antigen and amboceptor is undetermined. It is certainly not the treponema pallida, since our antigen is an alcoholic extract (kills treponema) and is, in addition, filtered.  

**TECHNIQUE.**

The above represents the principle of the reaction. In its execution it is a long and difficult task. The preparation of the various reagents follows. 

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1. The specific antigen is a lipoid of as yet undetermined composition. It is a pathologic product, occurring as a result of the activity of treponema pallida. Since leprosy, yaws, etc., give the positive Wassermann the etiologic factors in those conditions must also give rise to this same lipoid. This explains why those conditions give positive Wassermann tests.


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**Hemolytic System.**

**Amboceptor (hemolysin):** A 5 per cent. suspension of washed sheep's corpuscles is injected into a rabbit at seven- to ten-day intervals for four or five injections. Seven to ten days after last injection remove blood from heart, separate serum by clotting and pipetting. Inactive by heating for one-half hour 56° C. This heating destroys the complement and leaves only an amboceptor, which has been elaborated by the rabbit's tissues. The amboceptor is specific against sheep corpuscles (the antigen in this case). It is good for several weeks when kept on ice. 

**Washed Sheep Corpuscles:** Take sterile Erlenmeyer flask containing sterile glass beads. Incise jugular vein of sheep aseptically. Collect blood and agitate flask and beads to defibrinate blood. Wash two or three times with normal saline solution (sterile), centrifuging each time. For use, add five parts of corpuscles to ninety-five parts of normal saline solution. The latter mixture keeps four to five days. On long standing the corpuscles spontaneously hemolyze, as indicated by a laked appearance in the supernatant fluid. The concentrated, undiluted corpuscles keep much longer. Always keep on ice.

**Complement:** Heart's blood of guinea pig drawn into sterile flask. Let clot, and pipette off serum. Keeps only three days on ice.

**Patient's Blood Serum:** Blood from finger or vein—1 cc. serum is

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3. The strengths of amboceptors thus derived varies in different animals so that it is necessary to standardize same. This is done by adding 1/10 c.c. sheep corpuscles to several t.t. and to each adding gradually increasing amounts of amboceptor. Complement 1/10 c.c. is, of course, added to each tube, the mixture diluted with 1 c.c. normal saline, mixture shaken and incubated one-half hour. The tubes having the smallest amount of amboceptor will probably show little hemolysis. The first tube showing complete hemolysis will contain the amount of amboceptor necessary to hemolyze 1/10 c.c. sheep corpuscles. Twice this amount is used in testing by Wassermann.
sufficient, 10 to 15 cc. are preferable. Collect into preferably a sterile centrifuge tube. Let clot, centrifuge and pipette off clear serum. Inactivate at 56° C. for one-half hour.

**Organ Extract (antigen):** Grind portion of luetic liver in mortar with fine sand. Add 95 per cent. alcohol (50 cc. alcohol for every gram of liver). Heat at 60° C. for one hour. Filter through paper and keep at room temperature.4

Having tested all the reagents, as indicated in the footnotes, we are now ready for the test proper. Two test tubes are taken:

**Test Tube No.**
- a = 1 cc. normal saline as diluent.
- b = 1-10 cc. suspected serum.
- c = 2-10 cc. organ extract.
- d = 1-10 cc. complement.

**Test Tube No. 2:**
- a = 1-10 cc. normal saline as diluent.
- b = 1-10 cc. suspected serum.
- c = No organ extract.
- d = 1-10 cc. complement.

Shake each tube, and incubate both for one hour, remove from incubator, and to each add:

**Tube No. 1:**
- e = 1-10 cc. amboceptor.
- f = 1-10 cc. sheep corpuscles.

**Tube No. 2:**
- e = 1-10 cc. amboceptor.
- f = 1-10 cc. sheep corpuscles.

Shake and incubate one and one-half hours.

At the end of this time tube No. 2 will always show hemolysis if the reagents are good. If there is no hemolysis in No. 1 the test is positive. If hemolysis does result in No. 1 the test is negative.

What did we do in this test? We put into tube No. 1 a known luetic material (c), which we know would be bound with a syphilitic serum to complement. We added the suspected serum and complement and incubated. If the serum be syphilitic, all the material would be bound up and their free bonds satisfied. Then we later added (e) and (f). If serum (b) be luetic no complement is available, and so (e) and (f) cannot combine and no hemolysis results. If the serum was not luetic the antigen (c) had no amboceptor to bind it to complement. Complement is therefore floating free in the solution, and when (e) and (f) are added it binds those substances and hemolysis results.

Tube No. 2 is used to make sure that the patient’s serum per se will not interfere with hemolysis. It is a control.

It will be seen from the foregoing that the Wassermann is a long and tedious procedure, quite outside the scope of the average practitioner. With a view to simplifying the technique many modifications have been proposed. In this country Dr. Noguchi’s has received most attention. There are many minor differences. The most striking are as follows:

1. He dries antigen and amboceptor on strips of paper in order to make them keep better. 2. In the hemolytic system he uses human cells for injection into the rabbit, thus obtaining all amboceptor specific against human cells. Therefore he must use washed human blood cells in the test. 3. Patient’s serum is not inactivated but used in pure condition. Details may be found in Dr. Noguchi’s book.

**PRACTICAL APPLICATION.**

To the internist, the reaction is especially valuable during the tertiary stage. In the primary and secondary stages the symptoms are usually unmistakable; and during these stages the Treponema pallida lends itself to recognition by both dark field illumina-

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4 The liver extract should itself be tested before the performance of each test, in order to see that it in itself does not prevent hemolysis. This is done as follows: 1/10 c.c. organ extract, 1/10 c.c. complement, dilute ten times, mix and incubate for one-half hour. To this add 1/10 c.c. sheep corpuscles, 1/10 c.c. complement. Shake and incubate. Should be good hemolysis. For some reason, as yet unknown, normal guinea-pig’s heart serves the same purpose as luetic liver, and is now being much used as antigen.
ation and appropriate staining. The organism is practically invariably absent from the tertiary lesions and the blood, occupying by preference the hemopoietic organs. The reaction is present, and of use, in all stages.

Much work has been done in testing the accuracy of the phenomenon, and the verdict is now unanimous as to its value. It is true that the reaction is frequently positive in leprosy, scarlatina, yaws (frambesia), and trypanosomiasis; and to a certain degree in tuberculosis, carcinoma and some blood affections. But, as Pearce remarks, these conditions are not commonly confounded with syphilis and for them we have definite diagnostic methods. In scarlatina the reaction disappears with convalescence. In syphilis it persists. In cases of tuberculosis, cancer and anemia it is dependent upon a condition of profound cachexia, or, it may be, syphilis ignorata.

In neurology, it has already confirmed the belief that tabes and general paralysis were metasyphtilitic conditions. Wassermann reactions are positive in those diseases. By it neurologists differentiate between disseminated sclerosis and multiple cerebral syphilis; between central gliosis and syphilitic central myelitis; and between malignant brain tumor and gumma.

In surgery, the diagnosis between gumma and tumor, tuberculosis and syphilitic bone disease, syphilitic leukoplakia and early cancer.

In laryngology, ulcerative lesions of the post pharynx are sometimes obscure, even histologically. The Wassermann decides between a tuberculous and a syphilitic lesion. It also settles the occasional question between Vincent’s angina and syphilis.

In ophthalmalogy, again, to differentiate between tuberculosis and syphilitic lesions, as in iritis, keratitis, optic atrophy, uveitis, and optic neuritis. The early diagnosis has already led to appropriate anti-syphilitic treatment and the prevention of operation.

In obstetrics we may rule out wet nurses with latent syphilis. The latter condition, as an entity, has long been suspected. It is now proven to exist in many cases. Take, for instance, Colles’ law, where the mother is apparently healthy. Heretofore she has been said to be immune to infection by her luetic infant. The positive Wassermann reaction has shown her really to be the subject of latent syphilis. In confirmation of this, the spirochete is found in the maternal blood sinuses of the placentas of such cases.

In gynecology, a case is reported where a uterus was extirpated for a lesion which, after operation, appeared to be a round celled sarcoma. The woman later developed secondary syphilitic lesions and a positive Wassermann; suggesting that the lesion for which her uterus was extirpated was a chancre. The application of the Wassermann is clear, and need not be dwelt upon in such cases as prostitutes abroad, who are registered and carefully watched; proposers for life insurance (syphilitics not good risks); marriage; syphilophobia.

Finally, and this is one of its greatest boons to the practitioner, it acts as a control for therapaeusis. The reaction disappears under treatment. When repeated negative examinations are obtained, a cure is probable. The safe time has been placed at five years! In late stages it acts as a warning, becoming positive before a relapse and indicating treatment anew.

Such a hasty and superficial review of a subject like the Wassermann in these few pages must be unsatisfactory alike to reader and writer. The literature is already enormous, and to gain even an insight into principles involving vital processes would require as many pages as is here devoted to the entire subject. In this hasty review, embracing a little of immunity in general, a little laboratory technique, and a little of practical application, I am

conscious of many little provisos and exceptions which have been omitted. There are, too, a few minor inaccuracies which the trained serologist must forgive. At times, the reasoning may seem to have been spelled out, but remember that this article will fall into the hands of students who know the Wassermann only by name. These omissions have been purposely made to avoid confusing the tyro. To him it is a new subject, and he wants to get at the meat of it at once. After that he will find enough provisos and exceptions in the literature, to which the graduate and near-graduate is regretfully referred.

Ophthalmology as a Field for Women.

By Mary Buchanan, M.D., of Philadelphia.

It has always seemed strange to the writer that so few women are attracted by ophthalmology, and this can only be attributed to ignorance of the charms which particularly fit it for women.

The feminine mind is often criticised for dwelling on particulars while ignoring generalities, and this very trait is needed pre-eminently in ophthalmology. Every detail of an eye examination must be given due attention; it will not do to generalize and make a snap diagnosis. The eye itself is a small mechanism, but a very delicate and complicated one, so that infinite care and patience are required in its treatment.

Then, in making the examination of the lids, etc., and in operating upon them, women’s hands and fingers are smaller and more delicate than their brothers’, and with training can become as expert, so that physically they are better fitted to handle these small organs.

As to the use of the ophthalmoscope, a woman’s training—we may say from the cradle—of the color sense makes her peculiarly well fitted to appreciate slight color differences in the fundus and particularly in the optic disk, where early changes are so important. That women can do this well is shown by the beautiful water color sketches of the fundus for which Miss Margaretta Washington, of Philadelphia, has become famous.

Refraction, which the writer believes is a bugbear to the women contemplating a life’s devotion to the eye, calls again for an infinite attention to detail, and infinite patience as well; but, besides, it necessitates some fondness for mathematics, although the simplest rules of algebra are all that are really needed. Another great help is a pair of good eyes with little astigmatism on the part of the eye doctor, for while good results can be obtained by repeated testing at the trial case, the objective test known as skiascopy, retinoscopy, or the “shadow test,” is much more exact. By this method the oculist tells by the movement of the light reflected from the patient’s pupil into her own exactly what lenses are necessary to correct the patient’s refractive error, and the ease with which this is done depends to some extent on the operator’s keen vision.

Comparing ophthalmology with general medicine for women, it has numerous advantages in being mainly office practice, confined to stated hours with very few night calls, and as a large majority of the cases a woman gets in general practice are obstetrical, they are bound to take her out frequently at night. Quite a large percentage of the men coming to take up ophthalmology and laryngology at a certain postgraduate school in this city had been practising general medicine for a couple of decades and were trying to turn into specialists because they were getting fagged out with night calls. If this is the case with men, it certainly applies as well to women. In passing, it is timely to say that these late seekers after specialism are rarely great successes at their new undertaking. The freshness and energy of youth are gone and the mas-
tering of the ophthalmoscope and retinoscope, both difficult instruments to use under the best conditions, is well nigh impossible for them. So that while a good general knowledge of medicine is necessary to the all-round ophthalmologist, it is well to begin the study of the specialty as early as possible after graduation, or even before.

The first years of a woman's practice of "General Medicine" are made up mainly of gynecological and obstetrical cases, and general medical cases spring up later through these, and the above-mentioned two specialties do not add particularly to ophthalmological knowledge, so that they make a poor preparation for an eye specialist.

Financially, it may take longer to get a good start from ophthalmology alone, for the public are not educated up to women ophthalmologists, and men doctors generally manage to steer the cataract operations into the offices of their favorite professors of ophthalmology at their alma mater. However, good work will count in the long run and even in general practice our young sisters in the profession are doing not doing many laparotomies or Cesarian sections themselves.

There is one field for the young eye specialist which is offering more chances to women, and that is as assistants to successful ophthalmologists, particularly in the West. Quite a few good positions with progressive men willing to pay a good salary, but requiring a working knowledge of eye, ear, nose and throat work, are to be had, but unfortunately the demand has rarely been supplied. These doctors have had women assistants and have found them more satisfactory than young men, so that the experimental stage has been passed.

In closing, the writer would suggest that a few weeks of the vacation spent at Wills' or at one of the other large eye clinics would prove the fascination of ophthalmology and open up a field where "the harvest truly is plenteous and the laborers are few."

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The Esculapian

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EDITORIAL.

Our Debt to Alma Mater.

Every educational institution is a beneficent mother to her students and graduates, not only because her bounty supplements their inadequate returns for instruction, but also because she gives from first to last and without stint her inspiration and protection. The few dollars we as students paid into her treasury did not really defray the expenses of our education; the men and women of long ago who believed, heart and soul, in the cause of women in medicine, provided an endowment, by means of which it became possible to offer to women a course of medical instruction. Let us remember these noble souls with reverence and gratitude, for their self-sacrifice and generosity opened the way to our success.

The men and women of to-day who are giving not only money but time and energy to the maintenance of our College are our present-day benefactors. To us they look for sympathetic co-operation, and we must respond if we are true. Only by joining, each one in her turn, the beneficent band who have sustained, and are still sustaining, the life of our College, can we hope to pay, even in part, the debt we owe. Surely every alumna should contribute to the endowment fund of the College. If this is not possible during her lifetime, at least let her leave in her will some
THE ESCULAPIAN

token, however small, of her fidelity.

The intangible, imperishable, spiritual gifts which we receive at the hands of our Alma Mater can never be recompensed except by love, constancy and faith. Of these let us all, students and alumnæ alike, give in rich abundance!

AN ALUMNA.

With this commencement number of THE ESCULAPIAN the editors extend their congratulations to the Class of 1911 and bids them “God speed!” as they leave us to go their separate ways. It may not be amiss to speak a word of praise, since praise may be honestly and sincerely given. We are honestly and sincerely given. We are spirit THE ESCULAPIAN owes its existence and not only its existence but its continuance, for the originators shaped a policy for the new college paper which will constantly increase its usefulness as its scope is widened in years to come.

As we write this THE SCALPEL is not yet issued. When you read it, this first annual of W. M. C. will have become a part of our life here. Let us not be forgetful of the loyalty which originated it nor of the energy and perseverance which have been required for its completion.

We need not speak of their first public appearance—that “Hen Party”—of numerous histological contests, of basketball games, or donations to the amphitheatre, to prove that the Class of 1911 is unique, unified and unusual. Whether consciously or unconsciously each student of the Women’s Medical College owes a debt of gratitude to this class, for the ideals they have held, for the standards they have maintained. May their spirit long prevail!

THE SCALPEL.

On the 15th of May there was laid before the critical gaze of the world the long-looked-for child of 1911’s fertile brain, namely, The Scalpel. We had waited long and patiently for its secrets, gathering from a word dropped now and then that even our imagination could not guess what good things it contained. We hoped, expected, invested, perused, and what was our conclusion? From title page to “Finis” we thoroughly enjoyed it, not only because it was a splendid literary achievement in itself, but because it was the first annual which our College had ever produced, the flower of the loving loyalty of a Senior Class to her Alma Mater.

We are indeed the recipients of a large gift, for there was involved much sacrifice of personal pleasure, time and energy. Not within a day can 192 pages of worthy material for a medical annual be prepared. The almost faultless pages, both regarding material used and typographical correctness, show wise judgment and infinite care. We congratulate the Class of 1911, and especially the staff, on their success. If within us have been stirred a deeper love and loyalty to our Alma Mater, and to the profession she is training us to bear, we feel sure that those who sacrificed will count their labor not in vain.

Dr. Ella B. Custer, ’83, is chairman of the Municipal House Cleaning Committee of the Twenty-first Ward Branch of the Civic Club, and is largely instrumental in an attempt to clean up cellars, yards, alleys and vacant lots in the Twenty-first Ward. The second and third weeks of May have been set apart for this purpose, when co-operation of the residents will help to make this ward compare favorably with any other locality.

California has recently passed a law limiting the working day for women to eight hours. This, applied to hospitals, makes it necessary to have three sets of nurses. Johns Hopkins Hospital has for several years been working on this plan, and has proven it successful.
ALUMNAE NOTES.

Programme of the Alumnae Association Meeting

to be held at the COLLEGE BUILDING
JUNE 1-2, 1911

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MORNING SESSION
Thursday, June 1

Scientific Meeting (General), 11 o'clock
"Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis."
 DR. MARY E. LAPHAM
 Discussion.
A Plan for the Endowment of Our College,
 DR. BLANCA H. HILLMAN
Luncheon, 1 o'clock

AFTERNOON SESSION
Business Meeting, 2 o'clock

General Meeting, 2.30 o'clock
Report—The Woman's Medical College of Pennsylvania,
 DR. CLARA MARSHALL, Dean
 "The Pathological Anatomy of Amentia."
 Dr. Mary McD. Shick
Discussion—Dr. Mary M. Wolfe, Dr. Arvilla Lang, Dr. Madeline A. Hallowell.
Report—The West Philadelphia Hospital for Women,
 DR. EMMA E. MUSSON

The Executive Committee of the Alumnae Association of the Woman's Medical College of Pennsylvania extend a cordial invitation to all members of the Senior Class to become members of the association upon their graduation. The membership fee is Two Dollars ($2.00) annually. Application should be made through any member of the Board of Censors, of whom Dr. Harriet L. Hartley and Dr. Esther M. Weyl are most accessible to the students. The Executive Committee believe that membership in the Alumnae Association may be of great value not only to the graduates, but also to the College.

Six students from the Junior and Sophomore Classes have been chosen to act as hostesses at the College during the meetings of the Alumnae Association. Out-of-town members of the Alumnae Association will have entertainment provided for them during the days of these meetings.

In behalf of the Alumnae Association of the Woman's Medical College the graduating class has been invited to the luncheons of the Association on the days of June 1 and 2.
An invitation has also been extended

General Meeting, 11 o'clock
"The Pathological Anatomy of Amentia."
 DR. MARY McD. SHICK
Discussion—Dr. Mary M. Wolfe, Dr. Arvilla Lang, Dr. Madeline A. Hallowell.
Report—The West Philadelphia Hospital for Women,
 DR. EMMA E. MUSSON

AFTERNOON SESSION
Friday, June 2

General Meeting, 2.30 o'clock
Report of Woman's Hospital,
 DR. ALICE M. SEABROOK
"Pyelonephritis of Pregnancy."
 DR. CATHARINE MACFARLANE
Discussion—From the Standpoint of Gynecology,
 DR. CAROLINE M. PURNELL
Medicine,
 DR. CLARA T. DERCUM
Obstetrics,
 DR. MARY W. GRISCOM
Demonstration of Yankauer's New Ear Instruments for the Treatment of Chronic Otitis Media,
 DR. EMMA E. MUSSON
to the Senior Class to choose one of their number to respond to a toast on the subject "The College," which appointee will be the guest of the Association at the dinner on the night of June 1, at the St. James Hotel, Thirteenth and Walnut streets. The President, Miss Dorris M. Presson, was chosen to so represent her Class.

The Dean has been invited to respond to a toast on "The East," at a banquet of medical women at the time of the American Medical Association in Los Angeles, Cal., June, 1911.

Dr. Adelaide W. Peckham sailed in May for Europe, where she will enjoy a summer's rest.

Dr. Gertrude A. Walker, '92, a member of the Board of Managers of the College Hospital, has recently endowed a baby's crib at the maternity branch, in memory of her friend, Dr. Ada Howard Audenried, '92, and has provided a tablet which will be placed on the wall in one of the maternity wards. Both Dr. Audenried and Dr. Walker were charter members of the Alumnae Hospital, out of which grew our present College Hospital.

Dr. Walker, who has been ill with pulmonary tuberculosis for the past three years at her summer home in the White Mountains, is much improved in health, and hopes to return to Philadelphia next fall.

Dr. Frances C. Van Gasken, '90, sailed from this city May 9 for Vienna, where she will spend the summer in study. A large number of her friends were at the dock to wish her well on her journey.

Dr. Susan B. Parks, '91, who has spent the winter in Boston, has returned to Philadelphia.

Dr. Jane Baker, '92, has left Embreeville, Chester County, and has gone into private practice at West Chester, Pa.

Dr. Frances N. Baker, '77, is president of the County Medical Society, Delaware County, Pa.

Dr. Martha Tracy, '04, will be occupied for a couple of months in special work with Dr. S. P. Beebe in the Loomis Laboratory, the research department of Cornell Medical College.

Dr. Madeline Hallowell, '06, superintendent of the New Jersey State Home for Feeble Minded Women, at Vineland, is about to enlarge the equipment by a new dormitory and new hospital. The appropriation was recently made by the State Legislature.

Dr. Marie Seixas, '09, left America last month for a visit in her home, Santo Domingo, after which she will go to Porto Rico, take the State Board examination and begin her practice there.

Dr. Olivia Salamanca, '10, has been compelled to go to a tuberculosis sanitarium about fifteen miles from Manila. It is with regret that her many friends learn that she is one of the first inmates of this institution which she, as secretary of the Anti-Tuberculosis Society of the Islands, helped to found and equip.

Dr. Sarah J. Morris, '10, is now in Skillman, N. J., at the State Village for Epileptics. She has entire medical charge of the women.

Dr. Misao Aizawa, '10, has started a settlement in Kyoto, Japan, with several classes of boys and girls. The children are learning English, and Dr. Aizawa expects to see a League of Good Citizenship started soon. This is in addition to her dispensary work among the poor people of the city.
HOSPITAL NEWS.

The College Hospital.

Although the College has closed, the work in the hospital shows no sign of decreasing. Many interesting cases have been scheduled for the coming weeks and at present there are six patients in the hospital awaiting operation, and the maternity department is kept very busy registering new cases.

A very interesting operation was performed by Dr. Deaver in the removal of a breast carcinoma weighing three pounds, the patient being discharged on her seventh day in excellent condition.

Four of the new interns will begin their services July 1:
Miss Anna R. Caffrey, at Barton.
Miss Helen M. Stewart, also Barton.
Miss Effie B. Dunlap, as maternity interne.
Miss Elizabeth Stewart (Toronto), as Junior at the College Hospital.

Dr. N. P. Colwell, secretary of the Council on Medical Education of the American Medical Association, visited the College and Hospital on May 2, and made a thorough inspection of both. He was first taken into the clinical amphitheater, where he saw a woman, Dr. Everitt, operate. He then saw the private rooms, dispensaries, drug room, kitchen, dining room, nurses' apartments, etc. He was impressed by the amount of work done by the Hospital, which largely exceeds that of last year. While inspecting he was conducted to the "men's ward," and saw on entering five small boys occupying the beds! The fine lighting of the pathology laboratory, the improvements in the museum, the usefulness to the students of our working medical library, all seemed to impress Dr. Colwell, as did also a series of specimens demonstrated to him by Dr. Tallant, showing the development of the embryo, from the ovum to the full term foetus.

The last report of the Council on Medical Education, as we all know, placed our college in Class A. Judging by the impression seemingly made upon Dr. Colwell, we shall remain in this class.

Woman's Hospital.

Plans are well under way for the open-air wards on the roof of the Woman's Hospital, commemorative of their fiftieth anniversary. They provide for public and private wards, public and private sun parlors, laboratories, diet kitchen, etc. The proposed cost is $3,000.

On Friday evening, May 5, through the efforts of Dr. Marie K. Formad, a concert was held in Griffith Hall (Crozer Building), for the benefit of the new roof garden. It was an entire success, musically, socially, and financially.

On Tuesday evening, May 16, through the efforts of Dr. Elizabeth R. Bundy, an informal musicale was held at the College Club, on behalf of the roof garden fund. It proved a most enjoyable occasion, and a silver offering made it interesting financially.

A lawn fete will be held on June 10, on the grounds of Mrs. Walter B. Stephenson's home, at Haverford, the proceeds going for the roof garden fund.

On April 30 Dr. Lida Stewart Cogill, assisted by Dr. Mary W. Griscom, and Dr. M. Luise Diez, performed a Cesarian section in the hospital. The indication was a true conjugate of 7, and a history of three forceps deliveries with three dead babies. The mother is making an uneventful recovery and the baby is strong and healthy.

The month of April was an interesting one in the obstetrical department. There were thirty-four births, and of these two were still-born; one was a breech presentation; two were footing presentations. There were two high-forceps and two mid-forceps deliveries; one eclampsia presented itself. One delivery was complicated
by an ovarian cyst, the size of a large grapefruit, and another complicated by a large uterine fibroid. Dührssen's incisions were made in one case. The Bossi dilator was used in one; bilateral episiotomy was done in two cases, and unilateral episiotomy in one case.

AROUND THE COLLEGE.

On the evening of May 3 the Y. W. C. A. girls gave a farewell party in honor of the seniors. In spite of the approaching "exams," a goodly number joined in the evening's fun. A Maypole dance, a lively football game, wherein the freshmen won against the seniors, and a real gypsy fortune teller helped all to forget their strenuous hours of toil. We learned the seniors' faults and foibles, and also caught a glimpse into the future of famous women to be. We were glad to have known them through a few short years, and wished them much success. The seniors plan for a class picnic, to be held at Valley Forge on May 23.

The freshman class, at least fifteen of them, spent May 10 out in the woods—yes, they have learned the value of physiological rhythmicity, work and also play.

The most interesting events of May have been those "few questions" presented to each of us by our various professors, on special days, at stated hours and with definite intent. Some call them exams.

Dr. Weidman to the sophomores—"Allow me to offer my congratulations to those who pass, and my sincere regrets to those who do not."

Brilliant Junior—"Miss ——, you do an appendectomy on this side of the body and I'll do it on the other side."

Student—"Dr. Peckham, do these things fly around in the air?"

Dr. Peckham—"I don't know, I never saw their wings."

A senior, during the month of May, went millinery hunting, we suppose to find some pompons, but everywhere she inquired, "Have you any of those big, black tampons for hat trimming?"

Commencement.

The Fifty-ninth Annual Commencement will be held in the American Academy of Music, Wednesday, May 31, 1911, at noon. The degree of Doctor of Medicine will be conferred by Mary E. Mumford, president of the Board of Corporators, upon the candidates, after which the address to the graduates will be delivered by Harvey W. Wiley, M.D., B.S., Ph.D., LL.D.

A Chirurgical Myth.

The antiseptic tweezers and the chloroform cup Were lying in the basin when the needle gamboled up. They looked upon the creature with a loathing undisguised; It wasn't disinfected nor it wasn't sterilized.

They said it was a microbe and a hotbed of disease; They steamed it in a vapor of a thousand-odd degrees; They froze it in a freezer as cold as banished hope, And washed it in permanganate and carbolated soap.

In sulphureted hydrogen they steeped its little eyes, And threaded it with silkworm of number two in size; Then donned their rubber mittens and grasped it by the hand, And elected it a member of the "fumigated band."

—C. R. Layton, M.D., Redmond, Ill., in Clinical Medicine, May, 1911.

Alumnae News.

A new cover for THE ESCULAPIAN! Does not every artist in school want to make her name immortal? You may not be able to do it by your excellent surgery, but we guarantee that the designer of the new cover will not be soon forgotten.
Notice.—Students and Nurses of the Woman's Medical College are allowed a discount of 10% on Trunks, Bags, Physicians' Cases and Fancy Leather Goods made by Simons & Co., 700 Arch Street. Established 1864.

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