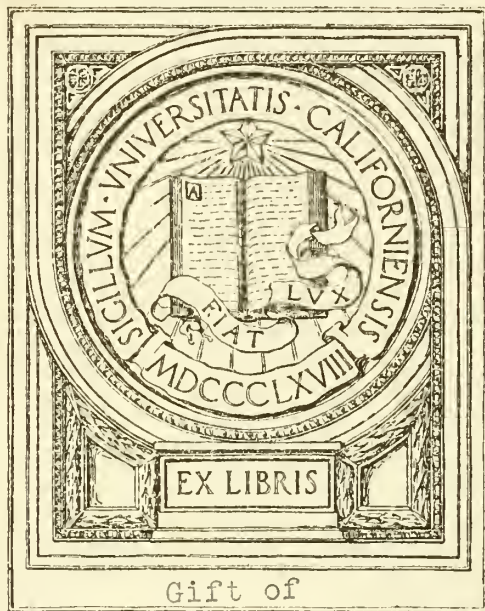



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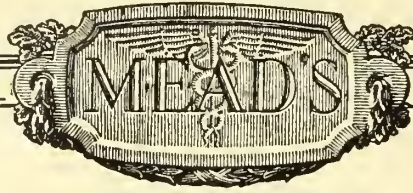
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SYNERGISTIC ANALGESIA IN LABOR*

C. A. WALLBILLICH, M. D.,
NEW ORLEANS.

With the various methods of anesthesia and analgesia in use today there is no reason why practically all parturient women should not have some form of relief from pain throughout the entire second stage as well as through the most distressing part of the first stage. Men who are really conscientious in their obstetric work, however, will not be satisfied with a method which merely gives relief from pain, unless they are satisfied that it carries with a maximum of safety for both mother and child. The Gwathmey method synergistic analgesia apparently answers both these requirements and for that reason it has been enthusiastically received and is becoming more and more popular.

Among the methods formerly in use nitrous-oxid-oxygen gives perhaps the most uniformly good results, but its use is necessarily limited. It is impractical for general use, particularly in the home, because it needs special apparatus and must be administered by a skilled anesthetist. It is expensive, too, a factor which cannot always be ignored. Chloroform and ether cannot be administered over a long period and their use must always, therefore, remain entirely supplementary. Twilight sleep has certain advantages and is successful in a certain percentage of cases but because it so frequently prolongs

labor, increases the incidence of forceps application, and decidedly increases the fetal risk it has never enjoyed a very wide popularity after its first enthusiastic introduction, and at present it has few advocates. The synergistic method, on the other hand, although it has been employed less than two years, apparently answers all obstetric purposes admirably. It is successful in the large majority of cases, it has no deleterious effect on either mother or child, and it is so simple and so easy to administer that, as Gwathmey says, "It can be used in an entirely empirical manner by any physician acquainted with its technique either in the home or in the hospital."

The safety and apparent simplicity of the method had a strong appeal for me and to date I have used it with excellent results in some 24 cases. I do not propose, however, to offer to you these few cases as evidence of its merits. As you are probably aware, the method was worked out in detail by Dr. J. T. Gwathmey of New York, one of the most experienced workers in anesthesia in this country, who received in his work the fullest co-operation on the clinical side from the staff of the New York Lying-In Hospital. The successive evolution of the technique and the results have been published in three papers, which have appeared respectively in the October 1923, August 1924, and March 1925 issues of the *American Journal of Obstetrics and Gynecology*. What I have to say to you is little more than a review of the salient points of these three papers, which are based on

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

the results in more than 1,000 cases in which the method has been tried.

Many variations both in dosage and mode of administration were tried on series of cases before the present standard technique was adopted. After labor was definitely begun a soapsuds enema is given, followed by irrigations of tap water until the lower bowel is thoroughly cleansed. When the cervix has dilated two or three fingers, and the pains are four or five minutes apart and last 30 or 40 seconds a hypodermic is given intramuscularly consisting of morphia gr. 1/6 in 2 cc. of 50 per cent magnesium sulphate solution with 2 1/2 per cent novocain. If the effect is not markedly sedative within 20 minutes a retention enema is given of quinine hydrobromide gr. 20, alcohol drams 3, ether oz. 2 1/2, and enough olive oil to make a four ounce solution. This is given in the usual manner, with the patient lying comfortably on her left side. The catheter is attached to a syringe filled with olive oil to exclude air, and, directed by the finger, is inserted into the rectum well beyond the fetal head and buttocks. The instillation is done very slowly, 5 or 10 minutes being taken, and during pains pressure is made by a folded towel held firmly against the perineum to prevent expulsion. If the instillation is given high and slowly the whole amount is retained in a large majority of cases.

Usually relief from pain occurs in from 15 to 45 minutes and lasts about 4 hours. The hypodermic, without the morphia, may be repeated 2, 3 or even 4 times with perfect safety if it is indicated.

Success naturally varies with the individual patient, but in all cases the result is only analgesia, no narcotic. The patient may sleep but her orientation is usually perfect and her co-operation remains good, though her memory is either clouded or obliterated. In the most successful cases no anesthetic is needed when the head is passing over the perineum, and occasionally no supplement is required for episiotomy or the repair of lacerations.

When either is indicated, only a small amount need be used. The results are more successful with private patients than those handled in wards, as is natural, but gentle manipulations and quiet surroundings are essential in all cases.

With each of the drugs used the margin of safety is ample. Over 200 patients at the New York Presbyterian Hospital, for instance, were given 4 drams of magnesium sulphate, 16 times more than the Gwathmey technique calls for, without ill effects. Oil-ether colonic anesthesia in an average dose of 5 oz. is used as a routine in many hospitals, the Gwathmey method uses but half that amount.

Quinine is an essential factor in the method, and is perfectly safe in all stages of labor. It is interesting to note that when it was withdrawn in a series of cases at the Lying-In-Hospital at the request of one of the staff men, there was such a marked increase in the incidence of uterine inertia and other indications for forceps delivery that the experiment could not be continued. A dose of 20 gr. gives the best results and the occasional sequelae of ringing in the ears or temporary deafness do not last more than a few hours. The addition of novocain is also essential; it increases the efficiency of the other drugs, prolongs the effect and does not increase the toxicity.

It should be emphasized that magnesium sulphate as used in this method is an analgesic and not an anesthetic. To secure uniform results, however, the solution must be either freshly made, as it deteriorates very rapidly, or else used from ampoules.

The latest published report from the Lying-In-Hospital shows over 1,000 cases treated by this method, which is now practically routine in that institution, and these figures could probably be supplemented now by other large series of cases. In a summary of their results it is stated that they have secured relief of pain in 90 per cent of their cases, with absolute safety for both mother and child; there is no prolongation of labor; the rotation of occipito-posterior positions is apparently not affected

by the medication; there is a lessened incidence of forceps deliveries; the child is born in good condition and the postpartum uterine contractions are good. Moreover, the method can be used with perfect safety in respiratory and other constitutional affections and in the various toxemias of pregnancy.

I have purposely emphasized in this paper the technique employed and the results obtained by the author of this method of analgesia. His figures are based upon a carefully correlated series of tests made in a maternity hospital whose clinical material and facilities for observation are probably unexcelled in America. Moreover, the tests were carried out with the strict stipulation made by the hospital staff, that at no time should the danger line be approached for either mother or child, a stipulation which was most carefully observed throughout the entire series of cases. For these reasons I feel that the experiment—though it is no longer an experiment—can be accepted at its face value, and I have had no hesitancy in adopting the method in my own cases, although, as I stated at the outset, I have no intention of basing conclusions upon the small series in which I have employed it. My experience with it has naturally brought me individual problems and it is with the hope of eliciting some helpful discussion on practical points that I am presenting the subject to you today.

DISCUSSION.

Dr. Walter E. Levy (New Orleans): There is one point I would like to bring out and that is that we are certain to have a certain number of failures; it is not entirely successful. I read a paper before the Orleans Parish Medical Society some time back in which I reviewed our cases at Touro, and found that synergistic analgesia was successful in about 70 per cent of cases. In 2 per cent we had excitement.

Another point the doctor did not bring out is that we should go above the head, or the presenting part. The idea is to carry your catheter well out above the presenting part, having the patient on the left side so that the solution flows into the sigmoid. You can readily appreciate that if the solution is not above the head it is pushed out with each pain. Whereas, if you are

above the head, the head acts as a ball valve and the solution cannot escape.

As to quinine—I want to speak about that for two reasons. At the meeting of the New Orleans Gynecological and Obstetrical Society some time ago objection was made by some of the members to the use of quinine and pituitrin in the induction of labor, saying that quinine was a protoplasmic poisoning which would endanger the baby. The most of the members, however, were uniform in declaring for synergistic analgesia. If quinine is to take effect in synergistic analgesia, it must be absorbed into the mother's circulation, it does not make any difference whether it is injected by mouth or by rectum. In my last ten cases of synergistic analgesia at Touro I have left out quinine because it is an unknown quantity and we do not know how rapidly it is absorbed and have used minute doses of pituitrin instead.

Synergistic analgesia is particularly adapted for rural districts, because it gives the rural practitioner more time for his other duties; but the patient should not be left alone—it is not fool proof. The patient might accidentally roll out of bed, and furthermore a report by Willy Mayer of New York shows two deaths due to the drug going beyond analgesia to anesthesia, the tongue dropping back and the patient choking.

Another anesthetic is nitrous oxide and oxygen. I do not know of a more ideal anesthetic in obstetrical cases, but it must be given by an anesthetist. I cannot agree with the man who allows the patient to administer it herself. We must have a qualified anesthetist, one who understands labor. You can put the patient too deeply under, and whereas you might not stop the pains by nitrous oxide oxygen, if you use ethylene you can easily do it. And gas anesthesia is past the experimental stage. It is something that every one of us should have in our obstetrical armamentarium, something that is of help to the expectant mother, and gentlemen, whether we use one anesthetic or another, the expectant mother surely deserves relief.

Dr. E. J. Petitjean (Church Point): I think this is a thing that the country doctor has been looking for, and as a country doctor, when I heard of it, I immediately secured this preparation and have used it in six cases with perfect results with the exception of one. In that case I got too much excitement. I am very glad to think that we have at hand some method of relieving these awful pains.

Dr. Thos. B. Sellers (New Orleans): I must speak a word in defense of nitrous oxide and oxygen anaesthesia and analgesia in obstetrics. I have used nitrous oxide and oxygen over four years in my obstetrical practice with the excep-

tion of about 15 cases that I used synergistic analgesia. I can not agree with the writer that it requires an expert to administer nitrous oxide and oxygen as an analgesic in obstetrics. Although I do believe that no other than a trained anaesthetist should give a nitrous oxide and oxygen anaesthetic.

After using nitrous oxide four years as a analgesic I have come to the following conclusions:

1. It is safe.
2. It is pleasant to take.
3. It relieves pain and prevents shock.
4. It shortens the duration of labor on an average of 3 to 4 hours.
5. It has no harmful effect on the baby.
6. It lessens the incidence of post-partum hemorrhage.
7. It is simple to administer.
8. Last but not least, it is *fool proof*.

I am convinced that synergistic analgesia has a place in obstetrics, especially in the rural districts. From my personal experience and observation of its use I have drawn the following conclusions:

1. It delays labor.
2. The results are uncertain.
3. In primipara, analgesia does not last long enough in a large per cent of the cases. (It only lasts about 3 or 4 hours.)
4. Occasionally, you get a profound narcosis.
5. The baby is effected in a small per cent of the cases. (You can always smell ether on the baby's breath.)

Dr. Hilliard E. Miller (New Orleans): I have been using synergistic analgesia since it was first advocated about July of last year, and so far have employed it in some 50 cases. My success in those cases in which I have employed it has been surprising, and it is gratifying to think that at last we have some means of relieving the pains of childbirth which is not only effective but also so safe it may almost be used indiscriminately. I have noted no bad effects on either mother or child, and so far from prolonging any labor, I believe it has shortened it in several of my cases. It has been an entirely satisfactory method in about 70 per cent of my cases and has been partially satisfactory in 12 or 15 per cent more. The remaining cases were not helped, and one patient had a stage of wild excitement which lasted for about 3 hours. The patient's environment naturally adds considerably to the success of the method. The room should be as quiet as possible and the patient disturbed as little as possible. Moving the patient from her own room to the delivery room has been very disturbing in several of my cases. I am interested in Gwathmey's recent statement

that a second instillation within 4 or 5 hours after the first is perfectly innocuous, as it seems to add further proof to our belief that the method is a safe one for general practitioner as well as for obstetrical specialist.

Dr. E. L. King (New Orleans): In the white obstetrical service at Charity Hospital, we have adopted this method as a routine, and I have records of the results in 49 cases. We have found it of considerable value, but we have not found it as efficient as Gwathmey reports. In the 49 cases the results were very good in 17. In 8 of these cases we could class the result as perfect; there was good relaxation, and in some cases an episiotomy was done and repaired without pain. In 9 more that we could class as good, we got satisfactory anesthesia and good results. In 8 more the results were fair; 5 were poor and 10 we counted as failures. In 17 cases we used ether as a supplementary anesthetic toward the end of labor, or about the time of the delivery of the head. We had to be careful about ether because they had already had 2½ ounces. We have found for some reason that the synergistic analgesia did have in some cases a deleterious effect upon the baby. In 7 cases it was necessary to resuscitate the infants as they did not breathe well at first; some of them were brought around with considerable difficulty. There was one still born hydrocephalic baby, and one baby of a syphilitic mother died shortly after birth, but of course those deaths could not be counted against the method.

Our experience has been that it is difficult in some cases to tell just when to give the anesthetic. If it is given too soon or too late the result is not satisfactory and we have found that the best results are obtained when the delivery occurs three or four hours after the treatment is started. It seems that the time of the beginning of the treatment does not have anything to do with the above mentioned deleterious effect on the baby. In other words, if the baby is born two to four hours after the morphine is given it is not affected. The morphine would have to be given 30 minutes to 1½ hours before the birth of the baby to have any effect upon it. We did have a fair number of cases in which there was a definite slowing of the labor and in two cases which were apparently in labor prematurely the anesthetic stopped the labor entirely; one patient went home and came back later and had her baby and the other has gone home and has not as yet returned. We used pituitrin three times to speed up the labor after it had been apparently slowed down by synergistic analgesia. In a few cases the analgesia was discontinued as some indication arose which necessitated instrumental termination of the labor.

On the whole I can say that our results have been good, but I cannot agree that there is never a slowing of the labor.

Furthermore, as noted above, I am by no means sure that the method is devoid of danger to the baby.

Dr. Wallbillich (closing): Dr. Levy mentioned a certain number of failures. I am afraid some of those cases have not been watched carefully. There is a good deal in choosing the proper time to give it. We adhere strictly to the method of Gwathmey and do not follow our own ideas. Full doses should be given and it should be given early enough.

Doctor King spoke of those cases that went home. I have seen cases where they were given the analgesia one day and the labor occurred the next, but I do not think the anesthesia had anything to do with deferring the labor. We recommend giving it from two to five hours before—that is about the average time it takes for a delivery. The rectum is an important factor. If the rectum is filled with feces you will not get results. The morphine should be followed in about 20 minutes with rectal instillation. In the treatment Gwathmey waited as long as an hour and a half to two hours. We started with waiting as long as 45 minutes and during that time the morphine and magnesium sulphate had no sedative effect. I do not think you get the same sedative effect from morphine in the early part of labor as you do in the latter part. We now give it just as Gwathmey suggests.

Another thing that gives good results is the use of the colonic tube. I want to emphasize the fact that the tube should be passed well above the head and buttocks or thigh. If you put it high enough and have the head act as a ball bearing, the patient will not expel the enema. We introduce it well above the head. It is given slowly, five to ten minutes.

Another important point is to heat your solution. Put it in hot water baths and make it comfortably warm.

These cases should be kept perfectly quiet—that is essential. The hearing seems to be very acute. In those cases in which we use it we put the patient in a room with just one other person, and that person is told not to have any conversation with the patient. If the patient asks any questions they are to be answered without any discussion and she is to talk as little as possible. As a rule if you let the patient alone she will go to sleep in 15 minutes and sleep for an hour and a half. We have not had much of the stage of excitement. The patient will talk a little, but does not get beyond control. After they wake up they feel a tendency to bear down, but they do not feel the pain. The patient is not

continually begging to be relieved, which is a great comfort to the doctor.

Doctor Ferris spoke about nitrous oxide, but you must carry around an apparatus for that which is a little drawback. These things can be carried in your obstetrical kit. But I do think nitrous oxide is excellent and not dangerous either.

We have not noticed any effect of the morphine upon the baby. Remember that the effect of the ether depends upon the magnesium sulphate. Do not wait until the ether is gone to give the magnesium sulphate—give it as soon as your patient seems to suffer.

THORNWALDT'S DISEASE: A FREQUENTLY OVERLOOKED FOCUS OF INFECTION*

E. LE ROY WILKINS, M. D.

CLARKSDALE, MISS.

Realizing that in bringing this subject I may be making "Mountains of Mole Hills", I wish to begin by telling you that I was born in the red hills of Mississippi and in early life was taught that canyonettes, or quite formidable gullies, often develop from very small furrows, even a Mole Hill, along the side of a hill if left unnoticed and unattended. I fear that adenoids, particularly in our adult cases, are far too often left unnoticed and unattended and I therefore dare to take your time for these few remarks.

Thornwaldt's disease, or pharyngeal bursitis as it is sometime called, might be described as a suppurating canal in the recesses of or grooves between the folds of the adenoids, or chronic inflammation of, and remnants of partially atrophied Pharyngeal Tonsils, with inflammatory adhesions of the surfaces of the folds of tissue, creating a pocket or pockets of the grooves in which pus forms, or accumulates, and is retained to ooze out and be swallowed or become inspissated, forming crusts, etc. This pus, or toxin from it may of course, be absorbed through the lymphatics and enter into the system in the same manner as that from the teeth or tonsils. The bac-

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

terial content of these pockets may be quite varied and its location lends to the lodgment and development of all types where resistance is lowered.

As the adenoid is so very similar in its general makeup to the faucial tonsils, being a part of the Waldeyers ring of lymphatic tissue which surrounds the pharynx and naso pharynx, we shall not go into minute description of its anatomy, physiology, histology, etc. The principle difference with which we are concerned is that it is placed in folds and not in a mass of tissue. These folds make possible the sulci or grooves which vary in number, width, depth and length. Herein lies the possibility for the condition in question.

The sulci of the adenoid, like the crypts and follicles of the tonsil, when wide open and more or less shallow, are not of very great importance. When deep and narrow, with the folds lying close together, they seem to inherit quite the same tendencies as their cousins the tonsils. Under chronic or protracted inflammation, these folds of tissue may become adherent over part or all their opposing surfaces. This takes place most often over the anterior borders of the sulci thereby forming a tube or pocket whose lumen is more or less tortuous and may be closed at one or even both ends. With its retention of mucous and inflammatory products and its inability to get drainage or ventilation, it is a very suitable place for the development of bacteria. These pockets may be single, usually in the recessus medius or central groove, or multiple, even honeycombed beneath the surface of the mass.

The condition may be found at any age and is quite possible in cases where adenoids have been once operated, especially if there has been any hypertrophy of the stump, and unless a very careful examination be made one might be misled by the history.

Most of us remove adenoids when we do the tonsils in all child cases though the adenoids might be a source of some trouble when the tonsils do not need removing.

This is not so often overlooked as in the case of an adult and I shall speak largely with reference to adults, whose adenoids are supposed to have undergone a normal process of atrophying.

Symptoms of Thornwaldt's disease may or may not be present. When present they are: dripping over posterior wall of the pharynx, dryness due to inflammation, crusting in the region of the adenoids and occasionally a sense of fullness, or tightness in that region, which may be relieved to some extent by hawking, clearing the throat, or such measures that would tend toward emptying an over-full pocket by squeezing out a part of the accumulation. This latter is, of course, in those cases where a true pocket exists, whose opening is at or toward the top of the tube, and on casual examination could be easily overlooked unless there was a definite mass, or the pus could be seen dripping out. It is unfortunate that all these cases do not show a definite mass, but may show only as a fairly smooth hump or elevation on the posterior wall.

It is often quite difficult to make a thorough examination of the naso-pharynx unless the soft palate and surrounding tissues be anesthetized. A mirror will often fail to afford sufficient examination. One should use a naso-pharyngeal speculum, or small soft rubber catheter, one end passed through each naris and out through the mouth, to expose the area to direct view. A broad pillar retractor or a small adenoid curette can be used fairly well by retracting and elevating the soft palate. When the field can be plainly seen a cotton-tipped probe may be used to palpate the tissues as to their condition and express a diagnostic amount of pus if any be present. The demonstration of a pus pocket, however, is not the only positive diagnostic sign. A small spongy mass, moist with muco-purulent material or crusted over with dried secretion, may generate just enough toxin to give remote systemic symptoms.

I realize that some of the symptoms given here are sometimes found in other conditions, particularly those of ethmoids and sphenoids, but I am not dealing with these. They are, I believe, more seldom overlooked than the condition at hand.

I can see no more reason for making a partial examination of the naso-pharynx than of the tonsils. A casual glance at the tonsils, particularly in adults, reveals little in quite a majority of the cases. Unless we use suction or pillar retractor or cotton-tipped probe and make enough tension on or around the tonsils the worst types of them may be overlooked. It is just as true with the adenoids. Certainly one should make a very thorough examination at the time of operation when the parts are already anesthetized or partly so. I make not a few of my diagnoses only at the time of operation. I do not try to make a full examination of the adenoid region in the office when a patient is a definite case for removal of the tonsils. It can be done on the operating table with more ease and less annoyance to the patient. Instruments for the removal of adenoids are always prepared in all my tonsil cases. There is no definite sign, at the time when tonsils are removed, when there is an evidence of their presence. Our friends the surgeons seldom pass up an appendix when they are in the belly for some other purpose, if the case is a fairly clean one, and the removal of adenoids is fraught with much less possibility for post-operative unpleasantness.

The contra-indications for removal of adenoids are few and can be overcome in most of these few cases. The principal of them are: possibility of bleeding, scar tissues, opening a larger field for infection, and the discomfort to the patient. Bleeding is seldom of such extent as to be alarming and can be controlled by pressure or the application of some hemostatic serum. Scar tissue is likely at any place where there is destruction, or breaking of the normal continuity of the tissues. I think there is as little reason for making

this a contra-indication as it would be in the tonsil or any other necessary operative procedures. It would be the lesser of two evils, to say the least. Infection is some more likely in this field than in the tonsils. Its location, where the inspired air is swept over the wound, would be more likely to be a lodging place for such bacteria as might be present in the air. Again, though, the lesser of the evils would be in taking away a definite and chancing a possible. I am glad to say I have not had an appreciable infection in the area. Pain or discomfort: that has been the rub, and makes cowards of many of us. In a child up to 9 or 10 years, one has little complaint from pain after the first few hours. In adults there is more and in some quite more pain. I do not believe that the removal of adenoids adds much if any to this pain.

I believe the local anesthetic is the ideal method of operating tonsils and adenoids in practically all cases past twelve or fourteen years, and in such younger patients as are sufficiently tractable, but find that some operators will not remove tonsils under local anesthesia. They say, where adenoids are involved, the operation is so painful that it is not well to do in private practice. Others remove tonsils but make no pretense of removing adenoids under local, and for this reason do not look sufficiently for them.

I find that by a technique that I have worked out, that is I have not seen it described nor have I ever seen it used by any one else, even though it may be old and even discarded by you, I can remove adenoids under local anaesthesia about as easily and with as little pain as I can the tonsils. The patient scarcely more than frowning from the pain. There are, of course, exceptions both in removing tonsils and adenoids. These exceptions are rare enough, however, to make effective the rule. I therefore, never hesitate to go after adenoids whenever there is the least indication for doing so. I am sure that

the elimination of pain at time of operation makes "local" tonsillectomies and adenoidectomies by far the more desirable method for doing them. In fact, with the bugaboo pain eliminated in removing adenoids, about the last objection from the doing of local work in the throat, is taken away.

The method is practically the same as is used in operating tonsils. After swabbing of the tonsils and adjacent tissues with Cocaine 8 to 10%, I wait 4 to 6 minutes and repeat. Finishing with the second, I swab the naso-pharynx using an angular applicator, repeating this procedure till the "throat" has been swabbed three or four times, usually four, and the naso-pharynx has had three. The next step is to inject the tonsils, the number of points varying with cases, though about the usual routine, and then to the injection of the adenoid. I use some instrument to retract and elevate the soft palate so that I can get at least a partial view of the field and make three or more injections in the adenoid area. When three, they are placed at the sides and under the center. The needle should be a stiff, angular one and is inserted at or near the bottom margin of the tissue to be removed and carried, not very deeply, up along the side of the field and the central one is similarly placed though is carried a bit higher. The injection is begun and continued as needle is withdrawn. Of course if the adenoid mass is a large one, I would make more points of injection, say two at the side and two in the center. These would be placed one about half way to the top of the field and the other from the bottom. I use from three to five cc. of solution in this field.

After allowing from two to five minutes for anesthesia in the tonsils to be complete, I proceed to remove tonsils and such control of hemorrhage as is necessary. This should be controlled entirely before proceeding with the adenoids as a bit of bleeding from adenoids might interfere and the anesthesia in the tonsillar area is soon

passed after the operation. This done, unless you have been too slow (and may I say that, I do not try for speed at the work unless there is some direct indication for doing so, nor do I delay unnecessarily) you can proceed to remove the tissue from the naso-pharynx having sufficient anesthesia to cause no pain. The one part that may be a least bit painful is engaging the mass in the adenotome. The pressure necessary to this should be done very slowly and steadily but as firmly, in the end, as is necessary to accomplish the desired result. Of course one should have a sharp tight fitting blade in the adenotome or, if done with curette, a sharp curette. I use the adenotome in most instances.

In conclusion, may I say that I believe the adenoid, Thornwaldt's disease, is a definite source of focal infection in a considerable number of cases. In the two years that I have been watching the condition more carefully, I have found it in more than ten per cent of my adult tonsillectomies and see quite a number in the office that I do not get to operate upon; that it is often overlooked by a too hurried and cursory examination of the naso-pharynx, considering that adult's adenoids should be atrophied and nil, and involvement of the pharyngeal tonsil as a disease or condition, almost if not entirely, of childhood or the first sixteen years of life; that there is no reason nor excuse for not making a careful examination in all cases and removing adenoids under proper local anaesthesia; and last that when we eliminate this focus in all cases, we will have obtained an appreciably greater percentage of "cures" or relief from symptoms of focal infection.

PUERPERAL SEPTICEMIA*

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Although Semmelweis, three quarters of a century ago, recognized that there are two means by which inoculation might occur following the delivery of a child

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namely, one from without, and one from within, it still seems to be fixed in most medical as well as lay minds that every case of Puerperal Septicemia is a fault of some attendant. It is not my purpose to disregard the fact that a large number of cases of child-bed fevers result from infection by contamination, but the fact that a great percentage of cases occur in well conducted hospitals under the most rigid aseptic and antiseptic regimen is certainly suspicious that there are other means of infection than that of the hands. Ahlfeld distinguished three kinds of auto infection. First—that occurring from infection from the genital tract, that is infections from germs already in the canal. Second—by the blood stream. Third—contagious diseases as Appendicitis, Pyosalpinx, etc. To this De Lee adds a fourth, infection through the hands of the woman herself. Walthard, Bar, and others have isolated no less than sixteen different families of Bacteria in the vagina of a normal woman. Why then do not all cases become infected? First—it is a well established fact that certain forms of bacteria life may change from saprophytes into phagocytes under certain conditions. The streptococcus, the pneumococcus, the diphtheria bacteria, and many others may live as harmless inhabitants of the mouth or nose becoming virulent to the host under certain conditions or to others coming in contact with these so called carriers. In the intestinal canal, the *B. Coli* and others live under similar conditions. Lowered resistance with open wound or abrasions, the nidus, may result in virulent types of infection by these germs, benign under ordinary conditions. Second, according to Doderlin the lactic acid produced by the *B. vaginae* has the power of keeping certain virulent germs within bound. Third, the liquor Amnii by its washing process, the mucus, the blood, and finally the child and placenta will all combine to remove a great quantity of Bacterial flora from the genital tract. Fourth, it has been suggested and even proven that newly let

blood has certain bacteriocidal powers. We know that the lochia is practically free of bacteria in the first few days following the birth of a child. Thus Nature has provided the child bearing mother with certain powers of defense, which under ordinary circumstances are able to carry her safely over those great and important periods in her life.

Blood Stream Infection. If the theory of (*locus minoris resistentia*) holds good one can readily understand how a focal infection may easily infect a freshly emptied uterus through the blood stream. As an example a primiparae delivered in a well regulated hospital, examined only once before delivery, under the most rigid technique, a short labor followed by a small mucus membrane tear which required only two catgut stitches, developed child-bed fever on the third day, the only foci of infection found being an apical abscess of the first molar, right side. Antistreptococci serum and removal of focus resulted in prompt recovery. No blood culture was made. Case 2. The primiparae with an abscess on the right leg just below and involving the knee was delivered by Caesarian section for good and sufficient reason. On the tenth day all signs of Septicemia *B. pyocyaneus* in abscess, in right kidney in line of incision, and in blood stream, two cultures having been made. Death on the 21st, day. C. Infection by Contiguity. One can readily see how with poor body resistance an infection may be carried from adjacent organs to the womb. As an example, a young woman six months pregnant developed an appendicial abscess which was drained, miscarriage followed within thirty-six hours, with septicemia. *Bacillus Coli* in the blood stream, final recovery after several months hyperpyrexia. Infection from without. The observation of Semmelweis and our own Oliver Wendell Holmes as well as many other illustrious names, that might be mentioned have settled for all times that a woman in labor may be infected by the hands of the doctor or midwife. In fact

there is no doubt that a greater percentage of infection occur by this method than any other, but we must not lose sight of the fact that there is such a thing as auto infection following labor. Many men have been subjected to unjust criticism on account of the fact that the preponderance of opinion has lost sight of other causes except hand infection. It has been proven beyond doubt that individuals suffering from acute rhinitis, pharyngitis, tuberculosis, certain forms of eczema, may infect the woman in travail. De Lee reports an epidemic in Philadelphia some years ago of Tetanus which was probably due to the use of unboiled Schuylkill water. Coitus within a few weeks before the beginning of labor may be the cause of the infection. A number of authentic cases have been reported. Finally the patient herself may carry infection to the genitalia on her own fingers. A carbuncle on the neck, for instance, a running ear, a paronychia, a mastitis, a tonsillar abscess may all be the cause of contamination through the woman's hands. It is a well known fact that fewer cases of Septicemia occur in the homes than in hospitals. There are many doctors who have been delivering women for years in the homes, have thousands of cases behind them who have never had a serious case of Septicemia. On the other hand the facilities lacking in a home for handling operative cases make us all feel that it is perhaps safer to have our deliveries in a well conducted hospital. This brings us to the point that when a woman puts herself in the hands of one practicing midwife he or she has a serious responsibility. Every precaution known to modern science should be observed. Apical abscesses, pyorrhea, infected tonsils, in fact all possible foci of infection should be eliminated, if possible, in the early stages of pregnancy. Aside from the routine blood pressure and urine examination a complete study of the passenger and passage should be made so that when the time arrives for the delivery of the child the Obstetrician should be no less familiar with conditions

than a surgeon is before he attempts a major operation, provided of course that he observes modern standards. And finally, but by no means least, is the method of delivery. Gentleness at all times should be our motto. No one should attempt a forceps delivery unless he is able by the method at his command to diagnose a proper position of the child. Tearing or bruising of the soft parts are perhaps as great a cause for infection as anything.

Septicemia of course is no longer a disease that it was in the early part of the last century when a great percent of women who entered the hospital for delivery died. In fact blood poisoning following a delivery is so uncommon that it is noticed in a community when it occurs at present. But even under the most rigid regime and the most careful and conscientious Obstetrician cases will occur. It therefore behooves us, who are in this particular line of work to use our utmost care in the conduct of each and every case and to remember that if an infection does occur in spite of proper kind of attention, that the weight of evidence is certainly in favor of auto infection.

I have purposely refrained from taking up the subject of treatment of child bed fever. This is a subject within itself. In fact in discussing the causes of Puerperal Septicemia I have only skimmed the surface, as it were, as the subject is inexhaustible.

IRIDOTASIS FOR GLAUCOMA*

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NEW ORLEANS.

I know of no more formidable condition of the eye to deal with than Glaucoma, and especially the acute congestive type; and yet, every ophthalmologist sooner or later is brought face to face with such cases.

I will not endeavor to explain the cause of primary glaucoma because little is

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known etiologically, but will relate my experience with incarceration of the iris under a subconjunctival flap and the results.

The operation in question was devised and performed by Borthens in 1911. His technique differs somewhat from that used today.

My attention was first attracted to this operation by an article appearing in the *American Journal of Ophthalmology* May, 1923. The results stated were so striking and the technique so simple that I decided to find out for myself if this procedure was as represented. At the present writing I am convinced that we have no better operation applicable to all forms of primary glaucoma and surely none simpler to perform.

It is now nearly two years since I operated on my first case, an old man about sixty years of age, health good and with no focus of infection that I could discover. His case was a subacute inflammatory glaucoma with a history of at least two attacks. When seen on the morning of the second day following the operation all symptoms had subsided and in about two weeks he was discharged cured, in so far as symptoms go. A letter to him requesting his return for further observation was never answered.

Subsequent to this first operation at least twelve or more primary cases in various forms were operated on but unfortunately we were unable to keep in touch with these patients. They seemed to vanish from the clinic as soon as their symptoms were relieved.

The following two cases of acute inflammatory glaucoma are sufficient to convince the most skeptical that Iridotaxis is a worth while procedure.

Mrs. G., a middle aged nervous woman, was taken suddenly ill with a severe pain in her left eye, nausea and vomiting. Her family physician pronounced it a case of billiousness and treated her for such. Two days later after a slight improvement, a second attack severer than the first set in.

When seen by me late one afternoon a diagnosis of an acute inflammatory glaucoma was made and the usual treatment prescribed. Her recovery was rapid and in about ten days she was back to normal with the exception of a slight ciliary injection which persisted for some time and gradually passed off. In spite of a warning that this same condition would return she refused operation. Scarcely a month passed before the same symptoms recurred and an Iridotaxis was performed. It is now six months since the operation and only once has she complained of discomfort. Three months ago she felt what she thought was a glaucomatous pain but her vision was not obscured nor was her eye injected. We concluded that probably the condition was due to something else. At the present writing she is free from pain and the eye to all appearance is normal.

Case number two somewhat similar to the one just stated only not so severe was operated on in a like manner. Recovery uneventful, with no recurrence in eight months.

The technic is as follows: After the usual preparation of the eye for an intraocular operation four per cent cocaine solution is instilled several times followed by Adrenalin solution 1-1000. One must use Adrenalin solution freely during the course of the operation to keep the field clear of blood which is sometime troublesome. Grasping the bulbar conjunctiva with a fixation forcep as high up as possible the flap incision is begun with a pair of blunt pointed tenotomy scissors. The dissection concentric with the limbus is continued until the corneo-scleral junction is reached. It is better to use the point of the scissors as we near the limbus because the conjunctiva is more adherent at that place. The conjunctival flap is turned down, or at least sufficiently pulled away from the sclera to lay bare its insertion to the cornea. A small bent keratome is now made to enter the anterior chamber as near to the anterior surface of the iris as possible, making an incision of about

4 mm. The point of the keratome is then tilted slightly downward, and as it is slowly withdrawn it is made to brush lightly the anterior surface of the iris, which will sometimes prolapse into the wound. Care should be taken to prevent a too rapid exit of the aqueous.

Incarceration of the iris is the next step and for this procedure a small iris forcep is introduced into the anterior chamber and the iris grasped midway between the pupillary border and the root and drawn into the corneo-scleral incision just enough to keep the lips of the wound apart. The iris should be forced into both ends of the incision to prevent a falling back to its former position. The incised conjunctiva is brought together with 00 catgut, Atropine Sulphate solution 1% instilled and the eye bandaged for 48 hours. Usually after the second dressing bandage is discontinued but atropine is instilled until all inflammatory signs are gone.

DISCUSSION.

Dr. Chas. A. Bahn: In the light of our present knowledge, glaucoma is fundamentally due to impaired intra-ocular drainage space and non-filtrability of the ocular fluids.

The surgical treatment of this disease at present consists essentially in:

(a) Aqueous drainage, paracentesis; (b) Increased drainage space by section through the filtration angle, with or without iris section or position change; and (c) the formation of an increased filtration bed.

The operation under discussion combines all of these features but is at present in its experimental stage.

We have been taught that constant iris tension, which is a fundamental factor in this operation, is undesirable. Those, however, who have performed the operation do not report ill effects from it. Whether or not the altered iris position and the possible establishment of an increased filtration bed will successfully prevent increased intra-ocular tension remains to be seen. Whether or not the increased liability to infection seen in other operations of this type also applies to this operation, is yet to be determined. We are indebted to Dr. Dunn for reporting his experiments in this field and we hope that this operation may at least be successful in some forms of glaucoma.

Dr. J. S. Dunn (closing): I want to thank Dr. Bahn for discussing the paper. I fully agree with him that the operation is in an experimental form, and whether it will prove worthy as the years go on remains to be seen.

SIGNIFICANCE OF THE COLLOIDAL PROPERTIES OF GELATIN IN SPECIAL DIETARIES.

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An examination of the dietetic possibilities of gelatin from a chemico-physiological standpoint reveals a number of properties which should make this unique food product a valuable addition to special dietaries, particularly those in which milk forms the sole or major portion. In such dietaries gelatin functions as a protein food to the extent of the utilization of its amino acids by the body and in addition possesses marked activity as a protective colloid and emulsifying agent. Practical observations in clinics and hospitals as well as experimental work in laboratories indicate that these characteristic properties of gelatin as a colloidal substance exert a most significant influence in promoting digestion and absorption of certain types of food.

The importance of this colloidal activity of gelatin where fed in conjunction with dairy products has been demonstrated by the writer in feeding tests with the albino rat. Shortly after weaning, the young from several litters were divided into two groups: one group received pasteurized whole milk as its sole diet, the other pasteurized milk containing one per cent. of gelatin. Observations extending over a period of six months showed that the growth and physical well being of the group fed on gelatinated milk was markedly superior to animals fed on the plain milk diet. The increased growth was accomplished on smaller food consumption. In fact, during the early growth period for equivalent gains in body weight the animals on gelatinated

milk consumed about 23 per cent. less food than the group on plain milk.

Another striking illustration is found in the writer's experiments with ice cream. Over a period of seven weeks it was observed that a group of rats fed on an exclusive diet of ice cream containing one per cent. of gelatin gained no less than 25 per cent. more in body weight than was the case with their brothers and sisters whose diet was plain ice cream. For equivalent gains in body weight, the food consumptions of the group fed on the gelatin-containing ice cream were much less. Smaller percentages of gelatin resulted in proportionate improvements. It is important to note in this connection that the better nutritional status of the gelatin ice cream group after a number of months on the diet was reflected in continued health and growth, and in increased bone development and reproduction in several cases.

It should not be presumed that the observed improvements of the dairy products are due entirely to the added protein value of the gelatin but possibly more to the protective colloidal and emulsifying effects that it confers. The digestive processes are essentially colloidal phenomena, whereby fats, carbohydrates, and proteins are ingested in the colloidal conditions and changed by the various enzymes to degradation products capable of absorption by the body. To accomplish the formation of these simpler substances, the enzymes must come into intimate contact with the food particles. If, perchance, the food particles are present as large tough masses, as is the case with cow's milk coagulating under the influence of the hydrochloric acid and rennin in the human stomach, the contact surface of the enzymes with the food is limited and gastric digestion is delayed or impaired. Various specialists have described experiments *in vitro* as well as with humans which shows that the coagulation of cow's milk by acid and rennin is prevented or modified in character in the presence of relatively small amounts of gelatin. This effect is spoken of as pro-

TECTIVE colloidal action and it is interesting to note that gelatin is one of the most efficient of all known protective agents. Gelatin is also a good emulsifying agent and it is quite probable that it aids the secretions of the alimentary apparatus in the emulsification of fats.

In discussing the digestibility of milks Chapin says that those animals whose stomachs form the larger percentage of the digestive tract and their digestion is largely gastric produce milks that form tough curds, as, for example, the cow. In contrast is the human whose stomach forms only about 20 per cent. of the digestive tract. Human milk curdles in light flocculent masses. It has been pointed out by Alexander that human milk contains a natural protective protein in large amount, which is present in small amount in cow's milk. It would seem, that the addition of such a protective agent as gelatin to cow's milk would make it particularly suitable for infants, and such has been found to be the case, as is testified to in pediatric literature.¹

In like manner, gelatin has been shown to be of value in other dietaries composed largely of dairy products. For example, Hawk reports that the addition of gelatin to the milk-egg diets of tuberculosis patients resulted in decided nutritional improvements with the majority of the cases tried.

The experiments described suggest the advantages that are to be derived by the utilization of gelatin in other dietaries. The protective colloidal and emulsifying action of gelatin promotes the digestion and absorption of various types of foods. It is also misleading to assume that gelatin as a protein is of insignificant food value.

Feeding tests by McCollum and Osborne and Mendal have shown that with certain

1. See, for example: Jacobi, "Intestinal Diseases of Infancy and Childhood," 1887, p. 79; Starr and Westcott, "Diseases of Children," 1900, 23; Griffith, "The Care of the Baby," 1908, 386; and Friedenwald and Rurah, "Diet in Health and Disease," 1923, 295, 466. On the utility of gelatin in chronic intestinal infection, see Herter, "Infantilism from Chronic Intestinal Infection," 1908, 101.

cereal grains gelatin is exceptionally well utilized, presumably through its high content of the amino acid lysine. Also, with milk proteins gelatin is of value, as has been found by Sure. In combination with milk in the liquid form, it is believed, however, that the colloidal properties are of greater significance.

RELATION OF FOCAL INFECTIONS TO OCULAR DISEASES

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Focal infections comprise a large group of conditions, but I shall localize by calling your attention to the most potent of this group: namely, those of a dental, tonsillar, intestinal and sinus origin. This paper is written with the understanding that necessary syphilis and gonorrhoea or tuberculous trouble must be eliminated. Fully one hundred years ago ocular and dental diseases were considered interlocking, and about thirty-five years ago we find the noted Dr. Brubaker's article on "Reflex Neurosis Associated with Dental Pathology," which author states, "It is but to show the close relationship between medical, dental or neurological cases and the mutual influences and interactions of the teeth with other structures of the body."

In infection from teeth, Goulden finds, two conditions are possible: abscess in connection with a single tooth, pyorrhoea in which large number of the tooth sockets are involved.

The apparent sepsis may not be severe and mouth may not be emanating a foul odor; therefore, on superficial examination the mouth might appear normal, but on further examination we will find that the tooth sockets are infected. The medical profession has been somewhat tardy in recognizing that sepsis in connection with teeth is very common.

X-ray is of value in pyorrhoea, but its usefulness is in determining pus cavities in connection with the teeth. It also shows

whether a root canal has been properly filled at its apex. The diagnosis of pyorrhoea is not difficult. Retraction of the gums and the presence of a cavity between the tooth and gums, out of which frequently pus can be expressed, shows the nature of the condition. Besides being a serious condition, it is likewise very prevalent. In this disease, proper mastication becomes impossible. The most important factor, however, is continued injection of toxic material which the pyogenic germs have developed. This toxic material and bacteria is passed on to the intestines, which in turn causes many grave conditions.

Inflammatory condition of the uveal tract, retina and optic nerve may be due to microorganisms or toxins from distant parts of the body. It is possible many times to find a dental foci the factor of causation. W. Lang reporting 10,000 cases of ocular diseases found 215 of septic origin, of which 130 were directly due to pyorrhoea and alveolaris. Ulrich reports that in 68% of artificially devitalized teeth, apical abscesses were found. Rosenow conclusively demonstrated that cultures taken from infected teeth or pulps, injected intravenously into rabbits, can produce iritis, then cultures from such iritis injected into another rabbit, will also create an iritis in them.

When we find a patient who has a syphilitic history, does this abrogate the need or search for focal infections in a patient with uveal tract disorder? Such a case of a male adult came under our observation, in which the usual treatment, to relieve violent uveitis was of no avail. The history was clear as to initial lesion with the usual secondary conditions. The eye condition resisted the usual anti-syphilitic treatment. The tonsils were in good condition; X-ray of teeth showed multiple abscess at roots of four, also fragments of roots. With removal of these teeth the ocular inflammation subsided with startling rapidity.

Chronic septic foci have a detrimental effect on recently operated eyes. Various grades of irido-cyclitis may develop in the

second week after cataract extraction which has apparently been due to tooth infection.

Reflex neuralgia is another important connection between the teeth and eyes. This pain is referred either to the eye or back of the eye. The patients come to the oculist complaining of this pain or may suggest that their glasses need changing. This may be done without any improvement in the symptoms. In these cases if referred to dentist there may be discovered a defective tooth with proper treatment of which, prompt relief of symptoms is reported. Such a case came under our observation a few weeks ago. The X-ray showed two necrotic teeth on left side with involvement of the alveolar processes. A dentist removed the teeth and curretted the alveolar process, and the patient had no return of symptoms.

In the time past there is no doubt but that the tonsils have been changed with the cause of vast numbers of diseased conditions. There was foundation for many of these complaints, but they were falsely charged also due to our lack of endeavoring to find the exact cause.

Due to their structure and position they are more prone to infection than any other organ in the body. On account of their position, they come in contact with the various species of bacteria in the mouth cavity. More important, however, is the deposition of these bacteria with food in the lumen of the crypts, transmitting many infectious processes.

Mention should be made of the possibility of infection extending along the venous anastomosis of the pterygoid plexus and causing a thrombosis of orbital veins and of the cavernous sinus, with symptoms of orbital abscess, blindness or exophthalmos and death. Knapp reports a case of acute retro-bulbar neuritis following tonsillitis.

The diagnosis of the offending tonsil is many times difficult as it may not show any signs of infection. The area of infection may either be hidden or the tonsil may be of the submerged variety, and not until

after removal will the diseased condition be noted.

Zeigler reports a case of marked papilledem in a child which cleared up on removal of tonsils. Jack reports a case of tuberculous evelitis which was directly traceable to the tonsil, as pathological examination revealed after removal.

What shall be done in event of the discovery of more than one focus of infection? For instance, tonsils or teeth? Which should take precedence in the removal of the local sepsis? Rosenow states "in the matter of elimination of foci of infection in the mouth and throat, the infections about the teeth as a rule should be corrected first. Tonsillectomy, as now so continuously practiced before the condition of the teeth has been corrected, is illogical. The lymphatics of the mouth and jaw drain into the tonsils and improve or even disappear following the extraction of infected teeth."

For my part, I can't understand why an infected tonsil should remain or why both the offending tonsils and teeth should be corrected. I would be inclined first to eliminate the tonsils, but I would remember the teeth in later action, if necessary.

The following case will serve to illustrate the part that tonsils may play in certain cases:

B. B. Referred to on account of albumen in urine.

Chronic inflamed eyes.

On examination of throat, noted large cryptic tonsil from which it was possible by means of pressure to exude pus. Removed tonsils and since that date there has been a disappearance of albumen and subsidence in eye condition.

Regarding the toxemic condition of the intestinal tract, and its relationship to ocular diseases, voluminous articles have been written. But very little has been told us as to how we may prevent it. On close examination, we will find that errors in diet and pyorrhea may be the starting point of many cases of hypo-acidity, hyper-acidity and toxic conditions of the intestines. The food products which are largely responsible

for the intestinal disturbance are the carbohydrates.

Two things are necessary for sugar fermentation—undigested free sugar in stomach or intestines and sufficient bacteria to attack it. The over-indulgence in sugar as a food or too high percentage of sugar will cause fermentation.

It is well to bear in mind that the gastric juice is not only a secretion but also an excretion, and anything that goes into the stomach that will produce fermentation will generally produce hyper-acidity and may have a tendency to cause acid stools.

The affections of the eyes which follow disturbances of the intestinal tract, particularly the intestines, have received a great deal of attention, but the subject is by no means clarified. The involved question of auto-intoxication and the difficulties of its demonstration are reason for this, since our laboratory tests for putrefaction are not altogether trustworthy. This is substantiated by reports of such men as Signorine, who examined a large number of cases of phlyctenular keratoconjunctivitis and was not able to demonstrate an enterogenic auto-intoxication. De Schweinitz reports examination of blood, urine and gastric contents and feces of his eyes patients, and believes the clinical picture of a case of auto-intoxication is not characteristic. Yet, on other hand, we have all noted that due to some dietary indiscretion our patients have had relapses.

Such a case the writer has in mind in which the patient, who after over-indulgence in certain sea foods was accustomed to have a disturbed condition of his intestines, become constipated and develop a low grade iritis. We deemed the case one secondary to intestinal disturbance, since the usual contributing factors had been eliminated and his iritis cleared up in a few days following a free elimination.

Dwyer reports cases which have resisted all usual forms of treatment. The *modus operandi* which he followed consisted of alkalizing the contents of bowels by use of

irrigation, 1% sodium carbonate sol., then practice colon bacillus transportation in order to obtain a normal reaction. Bulgarian bacilli were given by mouth, also lactose, which would form a suitable pabulum for colon bacilli. Flattering results followed this treatment.

De Schweinitz states that every case of uveitis is of septic origin, acute articular rheumatism causing uveitis is a rarity. But we are misled by the history of previous attacks of muscular or arthritic condition. The causating factor is auto-intoxication and has nothing to do with the rheumatism. Although there is no proof that toxic substances elaborated within the tissues in the course of a gastrointestinal or auto-intoxication has by itself produced toxic properties with a resulting uveitis. We do not know that intestinal putrefaction depends upon the activity of bacteria upon the food stuffs in the intestines, and there is good reason to believe that the bacteria or their toxic products may be the cause of an inflammation of the uveal tract in the same manner that focal infections elsewhere in the body have similar influence.

Regardless of the opinion of certain authorities, we cannot give up the rheumatic tendency entirely, and from a therapeutic standpoint the study of the patient's diathesis is of importance. It is possible many times to arrive at the cause of indefinite trouble of iris by the careful examination of urine, feces and blood, and more especially in cases giving history of colitis by careful regulation of diet with elimination of sugars. The eye condition entirely disappears.

Errors in diet of pyorrhea are many times the starting point of gastric disturbances. To the excessive usage of sugars may be indirectly traced many secondary conditions just considered. One authority states that following the revolutionary war the estimated consumption of sugar per capita was only 7½ lbs. per year, while in 1914 it was 90 lbs. per capita. Since 1900 the use of sugar had increased 17% and the

mortality from diabetes mellitus had doubled in that time. Such a change in the diet of a nation deserves attention. England before the war used 93½ lbs. sugar per capita, but since the war it has been brought down to 26 lbs. per capita, and with no apparent impairment of health. The indirect harmful effects of candy and sweets is found in children coming to us with eczematous kerato-conjunctivitis, one of the most frequent conditions. While some authorities claim it is of a tubercular nature, it has many ear marks of a toxemic condition. All the children have gastric disturbances and indican in urine. This is brought about by excessive use of candy, and bad teeth.

Some authorities are under the impression that not enough weight is allotted to the relation of nasal accessory sinus. The usual opinion was that the seat of trouble could be determined by nasal examination; therefore, if we did not find pus, polypoid tissue or caries, we regarded the condition negative. We now know and recognize the importance of hyperplasia, which is defined as a rarefying osteitis associated with inflammatory swelling and fibrous thickening of the lining of the accessory sinuses. It is the result of long continued hyperemia in cases which have an obscure condition.

The most offending are the ethmoids and sphenoids. When we consider the extreme thinness of the intervening wall between the optic nerve and sphenoids bony wall, 1/7 mm. in thickness, while the wall between the posterior ethmoid may measure ½ mm. (about as thick as paper), we can readily comprehend why we find ocular and nasal conditions dependent on each other. Ocular paralysis and optic neuritis are the usual conditions found with sinus diseases.

From a rhinologic examination, it is many times impossible to diagnose the sinus affection, and we find recourse with the X-ray. Yet there are cases in which this means does not diagnose the condition. No less an authority than *Van Hoeve* substantiates this by reporting nine cases of mucocele of the sphenoid sinus which were not

discovered before the sinus was opened. In cases of optic atrophy without known origin, it is very difficult, and a very close co-operation of the rhinologist and ophthalmologist is required. Pressure and congestion in the nose may produce a variety of reflex neurosis of the eye. Treatment of the nasal mucous membrane brings about relief of the eye pain or edema of the lids, and of the conjunctiva, or of persistent conjunctival hyperemia. Cases of episcleral congestion have completely disappeared following the necessary treatment of the sinus.

Signal diagnosis for cases in the borderland class is not always easy. For easy diagnosis, suppuration must be thick and adhesive enough to remain more or less undisturbed in the nose at its point of exit. But inflammatory lesions of the post-ethmoidal sphenoidal cells, without pus, may be quite as disastrous as any suppurative process.

Case: R. G., female, age 15 years.

Nothing of interest as to present condition. Noted a slight blurring of vision three weeks ago, this has been becoming progressively worse. Headaches.

Physical Examination: Neg. Urine and blood negative.

Eye Examination: O. D. Pupil responds slowly to light and accommodation. Cornea. Anterior chamber, iris apparently normal. On examining fundus, noted a marked swelling or disc, which nearly obscured the same, and the vessels, particularly venules, were very much engorged. Vision 10/200.

O. S. Vision 20/20. Fundus normal.

Patient was referred to the nose and throat department for further examination, which reported nasal examination negative.

X-ray: Slight cloudiness of both frontals and ethmoid.

After usual consultation, it was deemed advisable to open the sinuses because of the progressive loss in vision. The usual Killian operation (external), opening the frontal sinus then entering nose, exenteration of the ethmoids and opening the sphenoid, was performed.

Patient made uneventful recovery and ten days later vision of O. D. was 20/70, and one month after operation it was 20/30.

In conclusion, I will summarize by stating that if the teeth are given the proper care from childhood, they will not abscess.

We must do our part if we expect nature to reciprocate. Dentistry of today is in a situation to help our patients, and it behooves us to give this subject more attention; but at the same time, we must ward against the unjustifiable removal of teeth without carefully weighing all the symptoms. Too many teeth have been sacrificed, but when disease warrants it, the sacrifice is amply repaid.

It is a well established fact as to the importance of tonsils as a point of entry for numerous organisms, and their removal will aid materially in controlling such disease. The radical removal is the only procedure. And again, a word of caution against the apparent wholesale removal of tonsils without due consideration of the consequences. Remember, that a patient has tonsils is not enough of an indication that they are the cause of infection. Careful study will have a tendency to prove or disprove them as the factor in focal infection.

In the correction of diet, pyorrhea and teeth, careful regulation of sugars, which is one of the important factors in fermentation, we have fundamentals upon which we can hope to eliminate some of the factors which cause disturbance of the alimentary tract.

In patients giving an indefinite history, with a sudden loss of vision, let us consider the sinus. I am sure we are all giving them the attention they deserve. It is well to impress on your patient that every suppurating sinus is a menace to his life, and best results are to be expected from early intervention.

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PARINAUD'S DISEASE*

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September 18, 1924, I was consulted by Miss X, who had a conjunctivitis of the left eye. This condition developed a few days before patient presented herself for treatment, and the following history was obtained: The patient's attention was attracted to the eye one day when she noticed the lids were slightly swollen, and the eye was somewhat inflamed. Each morning the lids stuck together, but were readily separated by a warm wash. At first the morning secretion was the only matter formed in the eye, but after a few days there was a constant accumulation of pus. There was no pain and the only discomfort was the continuous secretion. This, and swelling of the lids brought the patient to me.

Examination of the eye showed a markedly congested conjunctiva of the left eye with flakes of mucopurulent material scattered over the conjunctiva. In the fornices the conjunctiva was thickened and covered with granulations, which were small, poly-poid in character. The lids were swollen out of proportion to what one would expect with the conjunctival findings. I had a microscopical examination made and the direct examination showed nothing except a staphylococcus infection. Culture showed *Morax Axenfeld bacillus*. Diagnosis at this time was an acute catarrhal conjunctivitis in an aggravated form.

I applied silver nitrate to the conjunctiva and gave her a twenty-five percent solution of argyrol and a zinc sulphate solution to use at home. I had her apply ice cold compresses to the eye for an hour every fourth hour. I instructed her to return two days later. Patient reported at the appointed time and all conditions mentioned above were worse than when first seen, and in addition to this there was a slight soreness

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of the left preauricular gland. A one percent solution of silver nitrate was again applied to the conjunctiva and patient instructed to continue same treatment at home and report again the next day.

At the next examination the lids were swollen closed. The granulations were larger, elongated and distinctly pedunculated. Some of these were at least one-tenth of an inch long. Between these large granulations were smaller ones, which presented somewhat of a gelatinous appearance. The bulbar conjunctiva was injected and thickened, especially in the region of the caruncle. The cornea was not involved and the vision was 20/15. There was no pain except in the region of the preauricular, and around the maxillary glands. When these complications arose I was convinced I was not dealing with an ordinary condition. I thought of trachoma but the diffuse character of the infiltration, the length of the granules, the non-affection of the cornea, and the involvement of the granular system ruled this out. The condition simulated tubercular conjunctivitis and with the involvement of the glandular system made me somewhat suspicious of this. But with a probe the large granulations could be separated and the erosions that so often appear between them in a tubercular involvement were lacking.

After eliminating trachoma and tuberculosis I felt sure I was dealing with Parinaud's disease. The fact that but one eye was affected and the preauricular gland was involved made the differential diagnosis easy. The daily application of a one percent solution of silver nitrate was continued and ice packs and zinc sulphate solution were used at home by the patient. After four weeks of such treatment there was no improvement. I became somewhat discouraged.

There was considerable reaction when the silver was applied, so one day I used a two percent solution of holocain before making the application. There was very little discomfort following this. I asked the patient to return two days later, which she did and

for first time saw some evidence of improvement. I continued to use the holocain before applying the silver and at each visit there was improvement. I had the patient stop using the zinc solution and gave her holocain and adrenalin to use instead. Under this treatment the conjunctiva began to grow less ragged and rough and spots could be seen where it was becoming quite smooth. With this the soreness of the involved glands began to disappear, and at the end of another three weeks the patient was dismissed and the eye was well. I have examined the eye several times since and there is no trace of the pathology that was so pronounced a few months ago. The conjunctiva is as smooth as that of the other eye.

I am unable to say positively if the holocain had any effect upon the condition, whether the crisis had been reached when its use was begun, or, its use was effective in bringing about a change. But, I do know that as soon as I began the use of it there was an improvement. I should like those of you who have this condition to deal with in the future to try it along with your other agents.

Parinaud's conjunctivitis is a rather rare disease. The first description of it was made by the distinguished French Ophthalmologist, Parinaud, in 1889. Up to 1905 twenty-three cases had been reported; since this time many more have been reported.

The etiology of this disease is still unknown. Parinaud believed that the disease is of animal origin, others who have made a careful study say that the majority of cases give a history of a possible animal contagion. Verhoeff has recently found in the lesions of this condition a filamentous organism classified as a leptothrix, and holds this to be the cause of the disease.

In getting the history of my case I found that there were several cats in the home where the patient was boarding.

Various forms of treatment have been used. Some have recommended the excision of the granulations and the use of antidiaphtheritic serum. Recently Waldeck

of Milwaukee has used the Ultra violet ray and reports gratifying results. Of course, all treatment is more or less empirical until the real cause of the disease has been discovered.

The pathology of this disease is best described by Collins and Mayon, who state that the epithelium shows the usual changes found in subacute inflammation, the sub-epithelial tissue is densely infiltrated with lymphocytic exudation, which in the early stages contain comparatively few plasma cells. As these cells undergo necrotic changes fragments of them are found free in the tissue, and within the phagocytic endothelial cells.

MASSIVE EXCISION OF SUBCUTANEOUS FAT.

An Analytical Review of The Literature.

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The profession is not sufficiently acquainted with the benefits, cosmetic and physical, that can be secured by the operative removal of large masses of subcutaneous abdominal fat. Fatty pendulous abdominal walls have been looked upon as natural, as irremediable and therefore have received but very little study. It has however been repeatedly and amply demonstrated that superfluous masses of subcutaneous abdominal fat, can, with safety and with advantage to the patient, be removed by operation.

Fat in excess may be deposited either in the subcutaneous cellular tissue or in the muscular and fascial layers of the abdominal wall, or may be indifferently distributed in all the tissues intervening between the skin and peritoneum. The abdominal wall may contain a layer of fat from three to four and one-half inches thick (4, 5, 20), even six inches thick (25). Jolly classifies abdominal fat accumulations as follows:

(a) The pendulous abdomen presenting changes in the muscular and fascial tissues of the abdominal wall.

(b) Subcutaneous fat accumulations not associated with much weakening or impairment of the abdominal wall.

(c) The combination of (a) and (b).

The essential anatomic characteristic of the morbid entity herein discussed is the pathological accumulation of fat in the subcutaneous cellular tissue of the abdominal wall. In all these cases the abdomen shows a symmetric, at time an enormous (9), increase in volume. The fat excess is present mainly in the lower, anterior and lateral infra-umbilical portions of the abdominal wall. This superfluous local fat deposit is usually, though not always, a part of general obesity (9, 13). "All these patients were enormously fat" (17). "Patient on admission to hospital weighed 464 pounds. When on her feet, the abdomen hung down to her knees" (6). It may or may not co-exist with other, related or non-related, pathological changes in the abdominal cavity, contents or walls.

As many cases are reported with but few details, attempts to secure adequate and accurate data meet difficulties. A diligent search of the English, French and German literature* yielded seventy-seven operatively treated cases serviceable for analytical study. To these we have added eleven personal cases. We did not use the cases of Babcock, forty cases (1), of Lathrop, one hundred and three cases (14) and others that are too briefly reported.

All the patients were adults. In many cases the exact age is not reported. The youngest, at time of operation, was 25 years old (27); the oldest were 56 (21), 57 (18) and 59 years (31). In the other cases, the age is stated as follows:

26 to 35 years	9 cases
36 to 45 years	18 cases
46 to 55 years	22 cases

Excessive localization of fat in the abdominal wall is infrequent in men. In our series, there were six males (7, 14, 23, 27, 31) and eighty-two females. Flabby and sagging abdominal walls overloaded with fat

are met more commonly in individuals who since early life have been corpulent; the most pronounced forms, however, are seen in multiparae. Thirty-three cases occurring in multiparae, eleven-parae, one case (21), ten-parae, one case (12) etc. It also occurs in nulliparae (9, 10, 16, 25, 26).

Lack of space does not permit the discussion of the many complicating conditions that aggravate the discomfort and disability provoked by pendulous abdominal walls.

Redundant fatty abdominal walls, if uncomplicated, give few symptoms. These symptoms, however, both subjective and objective, are characteristic, are conclusive. All the objective symptoms are demonstrable either to inspection or by palpation. At first, pain and disability are slight. The condition progressing, they and the other associated symptoms increase in severity. "Not much pain at first; the swelling of the abdomen gradually increased as did also the shortness of breath and the great pain in the abdomen, in front as well as in the back" (4).

Pain is influenced by posture and is more marked with the patient in the erect posture. The pain is increased by all forms of exercise. It is lessened and in some cases disappears with rest in the recumbent posture. It often has the nature of a painful, dragging sensation, and is lumbar, inguinal and hypogastric in location. These patients are inactive (28); they become averse to all effort, there results a vicious circle for the increased inactivity leads to increase of the local and general adiposity. In women who nearing the menopause take on adipose, there not uncommonly forms a huge, pendulous roll of fat across the lower abdomen, below the umbilicus. This pendent fat-mass creates a crease, often madid and eczematous, located just above the symphysis pubis (13). In most patients, the continuous contact and friction of the inferior cutaneous surface of this fat apron and the underlying regions determine an erythema, an eczema, an excoriation, an elephantiasis (9) of the

skin of lower abdomen, of the inguinal folds and in some cases of the upper part of thighs. Some patients present two distinct creases. All the subcutaneous tissues of the hypogastric and iliac regions take part in the formation of these folds which extend transversely from one lumbo-iliac region to the other and which vary in length and thickness. In the recumbent posture, the flabby fatty mass gravitates to either side and sags over the iliac spines and crests (25). The prolapsed tissues show impaired tonicity, impaired resistance. Nearly all the patients are obese; two hundred twenty-seven pounds (24), two hundred forty pounds (4), two hundred eighty-five pounds (13), three hundred fifteen pounds Gibbon (14), etc.

This excessive fat-deposit hangs apron-like over the external genitalia and the upper portion of the thighs (12), may overlap the upper two-thirds of the thighs (28). "In the standing position, the abdomen hung down in a fold which extended to within two inches of the patella" (25). "The abdominal wall reached below the knees when the patient was standing" (14).

Other subjective symptoms and objective signs are enumerated in conjunction with indications for operation.

Pendulous fatty abdomen must be differentiated from diastasis of the recti abdominalis, with which it may be associated. If it be suspected that the recti abdominalis muscles are abnormally separated, the examination is best conducted with the patient in the recumbent posture. The patient reclining is told to elevate the head as high up as possible without the help of the arms. If the diagnosis be positive, this maneuver separates the inner borders of the two recti muscles from one another, causes a greater or lesser prolapse of the intestine through the gap and enables the examining hand to easily depress the superficial abdominal coverings into the abdominal cavity.

The careful clinician will not overlook or misdiagnose hernias (umbilical, inguinal, ventral, etc.). They frequently co-

exist with pendulous abdomen. Their anatomical location and clinical characteristics are suggestive. Hernias give an impulse on coughing, often present a volume larger at time than at others; if intestinal, they give a tympanitic note on percussion. If no hernia be present, if there be no abnormal separation of the recti muscles, the fat mass can be easily raised from, and made to glide somewhat upon, the underlying resistant muscular wall.

In properly selected cases, large masses of fat can be removed from flabby, sagging, fatty abdominal walls when the excessive fat deposit—

1. Causes great annoyance and discomfort.
 - a. Pain (11, 16).
 - b. Backache (24).
 - c. Dyspnoea on moderate exertion, ascending stairs, walking, bending (27).
 - d. Distressing irritation (3), inflammation of the skin; erythema (7); intertrigo (22); eczema (14); chronic inguinal excoriation (15).
 - e. Pouch-like overhanging of a cumbersome, useless, fatty apron in front of the upper portion of the thighs (6, 9, 12).
 - f. Undue fatigue (21) and painful dragging sensation from the weight of the mass (19).
2. Determines manifest disability:
 - a. Interference with locomotion (27).
 - b. Interference with marital relations (7).
 - c. Interference with the exercise of one's calling (9).
 "Patient said that she was becoming a semi-invalid and insisted that she be relieved" (6).
3. Constitutes a physical handicap (13):
 - a. Inability to comfortably, to gracefully assume the erect posture; waddling gait (13).
 - b. Inability to attend to the toilet of the lower part of the body (13, 22, 28).
4. Becomes an unbearable social handicap; patient is unwieldy, unsightly, incapacitated for recreation, not sick, not well (2, 13). "The dragging sensation caused by the pendulous abdomen was so great that she was forced to keep off her feet as much as possible" (6).

Resection of large masses of subcutaneous abdominal fat is also justifiable and most serviceable—

1. In the obese, to lessen the tendency to hernia formation.

2. In operating for hernia in obese individuals, so as to obtain better exposure of hernial rings and hernial regions.

3. As an associated, supplementary and terminal step to many abdominal operations: Hysterectomy (Marvel 20); ovariectomy (9); cholecystotomy and cholecystectomy (31); appendectomy (24); uterine prolapse and retroflexio uteri (21). "In association with lipectomy, we have frequently drained or removed the gall-bladder, the appendix or have performed other abdominal or pelvic operations" (1).

4. As a preliminary step to many abdominal operations so as to facilitate intra-abdominal work (20); a small fibroid in an atrophic uterus, a retro-cecal appendix, a small gall-bladder tucked away in a deep fossa with a stone in the cystic duct or still worse a stone in the common duct, etc.

5. In cases in which the careful fitting and wearing of an orthopedic apparatus is not otherwise feasible. "Lipectomy was done to facilitate the fitting and wearing of an orthopedic apparatus for the support of the strained sacro-iliac joints" (16).

The benefits secured from massive resection of superfluous subcutaneous abdominal fat are so evident, so manifest, and the dangers attending the operation are so negligible that even in the absence of any other pathological process calling for an abdominal operation, the surgeon should not hesitate to advise and to urge the excision of these useless, troublesome and cumbersome fat accumulations.

The risks of simple lipectomy, either performed alone or in conjunction with other operative procedures are far outweighed by its beneficent results. It has been successfully performed at the same sitting with operations for the cure of hernia (umbilical, inguinal, ventral, epigastric, incisional, appendiceal), gall-bladder and uterine disease, etc. In the eighty-eight cases furnishing the subject-matter of this paper, only two deaths are recorded. One patient, operated upon for umbilical hernia and pendulous abdomen, died from embolism (29). Mac Lean's (16) patient operated on for pendulous abdomen and incisional hernia, died from peritonitis on the fifth post-operative day.

Lathrop (14) operated one hundred three cases of umbilical hernia. In fifty-seven

of these, he removed some excess fat. In the remaining forty-six cases, he performed a regular lipectomy. He reports one death which occurred twenty-two days after operation. The patient, a man weighing 325 pounds, from whom twenty-two pounds of fat had been removed, did well for two weeks, then his kidneys began to fail and he gradually succumbed.

In twenty-four cases of our series, a simple lipectomy was performed (2, 7, 12, 13, 14, 16, 21, 22, 23, 25, 26, 27, 31). In simple lipectomy, the operative procedure is limited to the massive retrenchment of redundant subcutaneous fat and overlying skin. The incisions extend through the skin and fat, down to the fascia and not beyond.

In the remaining sixty-four cases, the lipectomy either preceded or followed, but always at the same sitting, operative steps for the cure of—

a. An umbilical hernia (2, 4, 5, 6, 10, 13, 14, 16, 17, 18, 21, 28, 29);

b. An epigastric hernia (3, 31).

In a. and b., the overlapping of flaps leads to local elevation or ridge formation. This need not disturb the surgeon. The fortifying of the abdominal wall has been accomplished.

c. A large ovarian cyst and umbilical hernia (two cases—9) (31);

d. A ventral hernia (Gibbon—14);

e. An incisional hernia (15, 24);

f. Uterine disease (uterine fibroid) (Marvel—20);

g. Uterine prolapse (21);

h. Appendicitis (24, 31);

i. Gall bladder disease, cholecystostomy or cholecystectomy (2, 31);

j. Diastasis of the recti abdominalis muscles (15).

Lipectomy has also been performed—

a. To facilitate intra-abdominal work, by making intra-abdominal organs more accessible;

b. To assure a better adjustment of orthopedic appliances (16).

Different operative procedures are employed for the cure of the condition under consideration, each operator being partial to the method which has given him the most satisfactory results. Whatever technique be used, and it must always be adapted to the case at hand, it is all important, all essential that the integrity of

the abdominal muscles, fasciae and peritoneal fat be fully respected. Only the skin and fatty mass immediately subjacent to it and directly in front of the fascia are to be removed.

The operation which we perform and recommend is entirely different from that performed by Creveling and others who, to restore the abdomen to normal size and contour, carry their incisions through the entire thickness of the abdominal wall into the peritoneal cavity. Bear in mind that we are not considering here prolapsus of all the abdominal coverings. We are only discussing the removal of excessive subcutaneous fat accumulation.

In the reported cases the amount of fat removed varies; and here it is well to note that many operators state with emphasis that they could, with much additional benefit to the patient, have removed more fat than they actually did. The completeness of the fat-removal is a measure of the freedom from fat thereafter of the part operated. Enough fat should be removed to eliminate completely soreness from chafing. It has been our practice to remove the mass in one or two pieces. Concerning the quantity of excised fat, different clinicians express themselves as follows: "Several pounds of fat and skin" (4). "From $\frac{1}{2}$ to 14 pounds" (1). "The mass was so long that as I held one end up high in my hands at breast level, the other end dragged on the floor and it was so heavy that it was difficult to keep my hold" (13). "The specimen removed was one yard and three inches long, one and one-half feet wide, three inches thick at the edge and weighed seventeen pounds" (5). "Removed a wedge of fat weighing thirty-two pounds" (Clark¹⁴). "The flap of belly-wall fat removed together with the hernial contents weighed forty pounds" (10).

After having performed several lipectomies, the surgeon experiences little difficulty in deciding how much fat it is judicious to remove. The removal of one large wedge-shaped fat block, occasionally

two, rarely three usually suffices. As the patient lies in the recumbent position, the fatty mass gravitates to the sides and can be picked up, can be lifted up as a great ridge or fold lying across the abdomen. The operator grasping this mass in the center, pulls it up and away from the body and circumscribes it by two incisions, one passing a little above and the other a little below the lines of deflection.

It is preferable that the incisions be clean-cut, made with one or several long sweeps of a broad-blade scalpel or short amputation knife. The length of the incisions has little appreciable influence on the outcome of the operation. "The incisions were twenty-one inches long" (17). "Incision was twenty-seven inches in length; there were four hundred square inches of raw surface" (15). "After being sutured, the incision measured twenty-two inches in length from flank to flank" (4). "When stitches were removed, the abdominal incision had contracted until it measured only twenty-seven inches from side to side" (6). Patterning by slicing is bad practice. Small hacking cuts are to be condemned. The smoother the fat surface, the better the approximation. Two initial incisions usually fulfill all requirements. These two incisions converge into one upon the fascial layer, thus no undermined surfaces; no pouches for the accumulation of wound secretions are left. Sufficient skin must be left for approximation. Let there be no undermining of the wound edges.

In the reported cases, dissimilar incisions differing in type, in length, and in location were employed. Most operators used two transverse elliptical incisions joined at both ends (5, 6, 10, 14, 16, 17, etc.) In some cases, the upper incision was supra-umbilical; in most cases, both incisions were made below the umbilicus. The incisions starting at either the anterior, or middle, or posterior axillary line of one side cross the abdomen and terminate at a corresponding point on the opposite side.

Castle (5) began his upper incision two inches lateral to the spinous process of the lumbar vertebra and carried it above the umbilicus, across the abdomen, to an analogous point on the opposite side. The ends of this incision were joined by a second transverse incision crossing the abdominal wall above the pubes. These two incisions outlined an ellipse. Cullen⁽⁶⁾ circumscribed a large transverse elliptical area which, after removal, measured thirty-six inches from side to side and nineteen inches from above downward. Shallenberger (24), by means of a double infra-umbilical incision going from flank to flank embraced an ellipsoid area of skin 45 cm. long and 15 cm. at its widest part.

In selecting incisions, we are guided as to length, type and location by various factors: such as, the existence or absence of complicating conditions, the nature of the other indicated operative steps, the amount of fat to be removed, the patient's general condition, etc. For the excision of large wedge-shaped fat-blocks, we have adopted and recommend two transverse elliptical incisions, beginning well over on one side and extending to corresponding points on the opposite side. These two incisions converge toward the fascial layer. Many other operators follow the same practice. If an abdominal section is to be performed at the same sitting, the fat is first removed by means of a double transverse incision. This having been done, one proceeds to enter the abdominal cavity by a vertical incision through the rest of the abdominal wall. Bullitt⁽⁴⁾ completed his operation for umbilical hernia; then prolonged, in both directions and to both flanks, the horizontal incision which he had made. A second transverse incision joining the ends of the first incision was then made; at its mid-point, it was about seven inches below the first.

Transverse incisions have the disadvantage of increasing the already large waist measure and of leaving at each end of the wound an unsightly projection. To avoid these, Babcock⁽¹⁾ removed a small vertical

ellipse of skin near each end of the transverse incisions. If transverse incisions be used, the approximation and the apposition of the flaps is affected more easily, the liability to post-operative separation of the wound-edges is minimal, primary union (4, 9, 10, 20, 22, 28) is frequent, delayed healing is not rare (16) and long-delayed cicatrization is very uncommon.

Longitudinal incisions found favor with few clinicians. First (9) made two longitudinal incisions, 70 cm. in length, outlining an ellipse that extended from about a hand's breadth below the xyphoid cartilage to a hand's breadth above the symphysis. At their point of maximal separation from each other, each of these two incisions was fourteen centimeters external to the corresponding mamillary line. The wound edges having separated in a few places, healing was delayed. Spaulding ⁽²⁵⁾ made an elliptical incision on each side of the median line. Each incision extended from just below the breast to the center of Poupart's ligament. He removed the integument and fat six inches thick down to the sheath of the abdominal muscles.

In some cases, we made two elliptical vertical incisions at each end of the transverse incisions and were thereby enabled to remove two additional wedge-shaped fat-blocks. Babcock (1) recommends removal of a vertical ellipse of skin and a vertical line of closure. He alters the shape of the ellipse so as to best contour the waist and upper pelvis. In order to remove a large amount of subcutaneous fat, he widely undercuts the skin. This practice is avoided and condemned by most operators. Schepelman (21) uses a "lyraform" incision. I have had no experience with it.

Though multiple incisions, patterning by slicing, hacking cuts, undermining of wound-edges, excision of vertical fat-blocks are not conducive to the most aesthetic and satisfactory results, they have been practised by some. For instance, Ballard removed fat and skin from above downward as well as from side to side.

To quote his own words:—"I removed an elliptiform piece of tissue down to the fascia extending from within three inches of the symphysis pubis and eight inches at its greatest width. I, then, removed two large V-shaped strips transversely from about the center of the perpendicular incisions".

Fat is a tissue of low vitality and special care must be taken that there be little or no accumulation of serous or sero-sanguineous fluid between or beneath the flaps. Retained wound secretions retard healing, invite infection. A drain is inserted at either end of the wound; if the wound be long, a drain may also be inserted at its center. Closure is effected by approximation sutures of silkworm-gut. For the exact apposition of the wound edges, we use linen. In these cases, I frequently advise the application of hot boric acid compresses to the operative wound for from two to three days; these fomentations are to be renewed every four hours. The drains are removed as soon as the discharge warrants it and the patient is kept in bed for about fifteen days. The result of the closure should be a smooth abdomen with linear scar (7, 13, 27) and without any hanging folds ⁽¹⁹⁾. "The pendulous appearance being entirely removed and replaced by a simple large pronounced ridge" ⁽⁴⁾. Some patients during the first few post-operative days complain of abdominal tightness, of abdominal constriction ⁽¹⁸⁾. It calls for no special treatment.

Summary.

In suitably selected cases, the operative removal from the abdominal wall of large wedge-shaped masses of subcutaneous fat has the following advantages:

1. It is a safe and invariably beneficial surgical procedure. It has always been performed under general surgical anesthesia; never under local or spinal anesthesia.

2. It is always devoid of immediate or remote dangers to the patient; though the wound be extensive; the hemorrhage is moderate and healing is good.

3. It is simple of execution and, if unassociated with another operative procedure, the technique is easy and the performance of the operation does not consume much time. It is all important that the incisions be carried to but not beyond the fascia.

4. It may be the only operation indicated and performed in the case at hand.

5. It is, at times, called for as a preliminary operative step to facilitate intra-abdominal work and to give better access to intra-abdominal organs.

6. It is not infrequently employed in conjunction with other operations. The operator retrenches an unwieldy, useless, pendent mass of subcutaneous abdominal fat and at the same sitting brings relief to, or corrects, co-existing pathological abdominal conditions.

7. It eliminates a physical handicap, effects a marked improvement in the patient's appearance and general well-being and procures complete relief from an unsightly, painful and disabling deformity⁽²³⁾.

8. It gives permanent results (17), if post-operative instructions regarding diet and exercise are followed. Adipose tissue, when excised, never fully regenerates.

9. It secures the following benefits:

a. Diminution in weight. "At time of patient's departure from the hospital, she weighed seventy-five pounds less than at time of entrance (5)." On discharge, the loss in weight was about ninety-three pounds (9).

b. Freedom from discomfort, local and general, and from the disability incident to cumbersome, burdensome, pendulous fatty abdomen (12, 22).

c. Improvement in the patient's general appearance, the hippopotomal abdominal wall being converted into a straight front. Improvement in poise: body is no longer awkwardly balanced and gait ceased to be waddling. Patient is enabled to resume his or her occupation.

d. Patient, after its performance, can

occupy a more normal, more natural and more useful relation to society.

e. The patient can be more active, can give better personal attention to the body, can give his or her work the necessary attention and necessary application (7).

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SARCOMA OF THE DUODENUM: A
CASE REPORT.C. JEFF MILLER, M. D.,
NEW ORLEANS.

The following case is deemed worthy of report because of the type and location of the lesion, the age of the patient, and the period of time which has elapsed since her operation without any evidence of recurrence. The prognosis in sarcoma of the small bowel is not usually favorable, as even after extensive resection most cases show a recurrence within two or three years.

This patient, Mrs. I. J. F., was 73 years of age. Her mother had died at 70 of hemorrhage from the stomach, probably cancer. Her previous history was uneventful until her fiftieth year, after which time she had had some lung condition, probably pleurisy, typhoid, influenza, malaria, and intermittent attacks of rheumatism. Her menstrual history was irrelevant, the menopause having occurred 25 years before. She had had four full term, normal deliveries and one premature labor. At 67 she had had an interposition operation combined with extensive plastic work, with excellent results. She had been constipated practically all her life, but gave no history of any digestive disturbance until the present illness.

Some 8 or 9 months before the operation she began to lose weight and energy. Her appetite decreased considerably and the chronic constipation grew markedly worse. Two months later she had a severe case of malaria, which gradually responded to quinine. A few weeks after this illness she began to have severe vomiting spells, recurring about every two weeks, with sharp, tearing pains located high under the ribs on the left. These pains recurred at intervals of several days, and lasted 5 to 10 minutes. Considerable gas was present, but relief could usually be obtained from stupes and enemata. There was evidence of a mild jaundice. The attacks of convulsive vomiting grew more frequent and progressively more severe, one attack early in December, 1920, lasting for more than 5 hours.

When I first saw the patient, shortly after this attack, she was in very poor general condition, anemic and under-nourished, and her symptoms so obviously pointed to an intestinal obstruction that I advised immediate exploration of the abdomen without waiting for an X-ray investigation of the gastro-intestinal tract. The abdomen was therefore opened 12-29-20 in the upper mid-line under ether anesthesia. The stomach, liver and

bile ducts were apparently normal in every respect. The duodenum was about twice its normal size and was so much distended that at first it was thought that there was some obstruction at the crossing of the superior mesenteric artery. However, when the small bowel had been traced downward from Treitz's ligament it was found that the pressure was not exerted at this point. The cecum was very large and very flabby, and there was a marked general ptosis. About 8 inches from the duodeno-jejunal junction a mass was present about 3 inches in diameter, which on further investigation was found to be a tumor of the small bowel; a partial intussusception was present also, the tumor and bowel having telescoped about 3 inches into the distal end; this was easily reduced. As there was no evidence of infiltration and no enlarged glands in the mesentery, resection of the tumor was decided upon. This was accomplished with considerable difficulty owing to the nearness of the anastomosis to the superior mesenteric artery. The original idea of an end-to-end anastomosis had to be abandoned because of the difficulties encountered in holding the structures properly, and a lateral anastomosis was finally done with fine linen.

The patient made an excellent and uncomplicated recovery and left the hospital on the thirteenth day. Her complete recovery was delayed by a severe recurrence of the malaria about two months later, but since that time she has been in uninterrupted good health. She is entirely relieved of her digestive symptoms, her previous constipation is much improved, and her diet is without restrictions of any sort. In spite of her age, 78 at the present writing, she is extremely active in every way.

The report of Dr. J. A. Lanford, pathologist at Touro Infirmary, is appended: The specimen is a section of the intestines about 4 inches in length. The upper third is the seat of a hard, firm, oval mass, which has caused a depression or dimpling of the serous coat, to which there is attached an old band of adhesions. On opening the lumen of the intestine a round mass measuring about 1½ inches in diameter projects about ½ inch above the surface of the mucosa. The border is relatively smooth, although there are several small areas projecting slightly higher than the other portion. The base of this growth is about one inch broad and its top is 1½ inches. The mucosa is thinned and microscopically missing over the top. The growth is of uniform firmness and consistency. On sectioning there is not much resistance to the knife. The cut surface is of a pinkish gray color, cellular and uniform throughout, and showing a smooth, glary sheen. No areas of necrosis or hemorrhage are noted

The cut surface shows the growth to have arisen from the submucosa, infiltrating and destroying the adjacent musculature, and appearing on the serous coat as small, oval, pearly-gray bodies. It has projected into the lumen and is covered by thinning mucosa. Microscopically the specimen is made up of many oval cells containing well defined nuclei, and a small amount of cytoplasm. These cells are grouped into areas of various size, being divided by well defined connective tissue, which is apparently derived from the tumor cells, the comprising cells differentiating into connective tissue. There is not remaining any of the normal structure of the intestinal wall except on the inner surface, where a small area of mucosa remains. Here and there among the cells are noted fine blood capillaries. A few mitotic figures are noted. Diagnosis—sarcoma of the round cell type.

I might add that the tendency of growths of the small bowel to produce intussusception is well known and should be borne in mind in cases of acute intestinal obstruction in adults. I have seen this condition in three other cases of this sort, and I consider it perhaps the chief cause of the symptoms which finally drive the patient to seek relief.

ROENTGEN-RAY THERAPY*

HAROLD G. F. EDWARDS, M. D.,
LAFAYETTE, LA.

So rapid have been the advances in the technique of Roentgen-ray therapy in the last few years, and in the understanding of its effects upon pathologic conditions; so great has been the difference of opinion during these years when experience was determining the true value of this therapeutic agent that it has been difficult for the general practitioner to decide when and when not to refer a case for this type of treatment. The very technical terminology and discussions in many papers on the subject have rendered them well-nigh unreadable to many seeking information. A friendly war is still being waged between the surgeons and the Roentgen-ray therapists, but more and more, each is coming to realize the necessity of co-operation rather than rivalry in this,

as in all fields of medicine; and also experience is showing that there are particular fields in which each has its peculiar adaptability. For the foregoing reasons, I shall purposely omit all technical details, and endeavor to place before you a reliable survey of the various pathologic conditions in which the Roentgen-ray therapist should be consulted, if the patient is to receive the greatest benefit. I believe that such a survey will prove both valuable and practicable.

History of Roentgen-Rays

The discovery of Roentgen-rays was not accidental, but resulted from persistent study and research on the part of Wilhelm Conrad Roentgen. The therapeutic application of the rays dates back as far as 1896 when Schiff and Freund reported the first cases. It was not, however, until the perfecting of the interrupterless type of machine by Snook, the advent of the Coolidge tube, and the standardization of dosage, that Roentgen-ray therapy was practised on a large scale.

Roentgen-ray therapy, like many other valuable measures, has gone through the stages of extreme optimism, when overzealous and insufficiently trained men wrought disaster rather than cure; and of reactionary pessimism when ultra-conservatism held sway. It has only recently been placed on a firm, sane basis, with the realization that, altho its field of usefulness is wide, it cannot suitably be applied to all diseases, nor to all phases of the same disease.

Biologic Action.

The biologic action of the Roentgen-rays depends upon ionization,—a dissociation of the elements comprising the cell; and further, most of this ionization is accomplished by corpuscular secondary rays formed in the tissues.

Since the skin reacts readily to irradiation, the dose which will produce erythema is generally accepted as a standard for comparison of all dosages used in this type of treatment. The biological reaction of the skin is known as an erythema of the

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

first degree, and is the amount of irradiation necessary to produce an epilation of the scalp. Such dosage will also produce a mild erythema on most parts of the cutaneous envelope in from ten to twelve days. In certain systemic diseases, such as syphilis, nephritis, diabetes, tuberculosis, pellagra, intestinal toxemia and drug addictions there exists a marked hypersensitivity, which must be taken into consideration in prescribing dosage.

The Treatment of the Skin and Superficial Tissues.

The treatment of lesions of the skin and superficial tissues with irradiation is such a comprehensive subject that I will limit my discussion to a few of the conditions commonly observed in private practice. Roentgen-rays are the most potent agent in the armamentarium of the dermatologist, and their use is acknowledged as one of the most successful single remedies. In a recent article, McKee and Andrews list more than eighty skin conditions which are amenable to this form of treatment.

Acne varioliformis and vulgaris.....Most brilliant results have been achieved in the treatment of these conditions. The rationale of treatment depends upon the fact that irradiation diminishes the functional activity of the sebaceous glands. Acne, with the possible exception of the pustular type, responds very admirably to weekly fractional dosage ($1/8$ to $1/4$ skin dose), filtered technic, over a period of one to two months. The Roentgen-ray treatment, should, however, be supplemented by systemic treatment, as many a failure is due to neglect of the latter phase.

Carbuncle and furunculosis. In no other condition is Roentgen-ray treatment more effective. The relief obtained seems fairly magical, as the pain disappears almost completely within a few hours after treatment. Abortion is possible when treatment is instituted early enough. However, if definite necrosis has occurred, the lesion should be incised following irradiation.

Hard and soft corns. These may readily be cured by one or two intensive filtered treatments.

Keloid. In this condition, irradiation is the sole means of establishing a permanent cure, and no instances of recurrence after irradiation have been recorded in the literature.

Verruca. Cases of verruca almost without exception respond satisfactorily to intensive filtered irradiation.

Eczema. The terms "eczema" is so inclusive that it has come to mean very little to the modern dermatologist unless the type is specified. We shall consider only the acute, chronic, and seborrheic types.

In the treatment of *acute* vesicular eczema, when inflammation, vesiculation, pustulation and exudation of the scalp, face, feet, hands or any other part of the cutaneous envelope are present, I have found that sub-fractional treatments of unfiltered rays at weekly intervals afford the best results. On account of the sensitivity of the cells, overdosage should be avoided, as it will often cause an aggravation of the condition. The treatment may wisely be supplemented by the application of a soothing lotion, such as Dodd's formula.

In the *chronic* types of eczema, when the skin has become thickened and infiltrated, and stimulating remedies are necessary to promote the absorption of cellular exudates, more rigorous treatment may be required. In such cases, semi-intensive or sub-intensive weekly filtered irradiations may be administered, supplemented by local application of a very mild ointment. In both the acute and chronic types, the value of coincident constitutional treatment and corrective measures cannot be overestimated.

Whether or not seborrheic eczema is due to fatty hypersecretion of the sweat glands, or of the sebaceous, I am not able to say. However, treatment by irradiation in fractional unfiltered doses produces satisfactory results in most cases. Treat-

ment should be discontinued as soon as improvement is evident.

Hodgkin's Disease.

The literature on the Roentgen-ray treatment of Hodgkin's disease is voluminous, and it is agreed that in the great majority of cases a temporary "cure" may be effected. Certainly the patients can be kept alive and in comfort for months, and sometimes for several years, by the intelligent use of the Roentgen-ray. In many cases the large glandular masses are reduced after the first treatment. In treating this condition, the entire lymphatic system should be subjected to sub-intensive filtered irradiations, and the procedure repeated as the case demands.

Tonsils and Adenoids.

The treatment of enlarged tonsils and adenoids by Roentgen-ray is based upon biological facts which have long since been proved correct. A careful study of more than 150 cases of diseased tonsils and adenoids of all types treated in this manner convinces us that the lymphoid type, and also the fibrous type if not definitely infected, respond to Roentgen-ray therapy in more than 80 per cent of cases. Usually two treatments suffice.

Hyperthyroidism.

The effectiveness of irradiation treatment in this condition is steadily gaining recognition. Indeed the pendulum of opinion has swung so far that many men of experience, including Pfahler, Dunnham, Groover, Christie and Merret say, without hesitancy that Roentgen-ray therapy offers results equal to surgery. Colloidal, cystic, and simple goiters with no toxic manifestations are not suitable cases for irradiation; but the toxic adenoma should always be given the benefit of Roentgen-ray treatment before surgery is resorted to.

In the treatment of hyperthyroidism, the individual case should be carefully studied, and treatment administered according to the patient's needs.

It is directed through three ports: one over the thymus, and one over each lobe of the thyroid. The larynx is carefully protected during treatments, to avoid damage to this delicate structure. The period of each treatment is usually five minutes over each port, and the irradiation is repeated at intervals of two, four, or six weeks.

Basal-cell epithelioma of the skin

This lesion, often referred to as rodent ulcer, extends through the superficial lymphatics, but rarely involves the lymph nodes, even after many years of growth. A permanent cure can be expected in from 85 to 95 per cent of cases. The superficial ulcerated type, and the type covered with a crust are best treated with unfiltered irradiations. In ulcero-nodular lesions, in which there is evidence that the infiltration and ulceration extend into the subcutaneous tissues, and in some instances into muscle and other structures, filtered irradiation is best employed. This is also true of deep infiltrated lesions of the nodular and verrucous types.

Squamous-cell epithelioma.

In these epitheliomas, sometimes also spoken of as "prickle-cell", the results are not so good, because of the rapidity of metastasis. However, if the lesion is recognized early, and treatment properly applied, the growth can be eradicated. In this type of skin malignancy, the importance of careful study of each case, and of individualized treatment cannot be overemphasized. Should there be suspicion of metastasis in the lymphatics draining the site of the lesion, these should receive irradiation.

In the treatment of epitheliomas of the skin, whatever the type, our efforts should be directed towards destroying the cells within as short a time as possible.

Tubercular cervical adenitis.

Roentgen-ray therapy can cure any gland of this type that surgery can remove, and do it more positively and with less

discomfort to the patient. There is also less danger of spreading the infection. Only cases in which the glands have broken down through secondary infection, or through liquefaction necrosis, should be submitted to surgery.

Thymic enlargement.

This condition is rapidly receiving more attention because of the ease of diagnosis from the Roentgen-ray findings. Roentgen-ray therapy is by far the most efficient and specific treatment of this condition, and response to such treatment is so positive that, if relief is not obtained after a few exposures, one is justified in concluding that the diagnosis is probably incorrect. Treatments are administered over the thymic area.

Whooping Cough.

During the past year much attention has been given to the Roentgen-ray treatment of this disease, which causes 40,000 deaths a year, and its value has been definitely established. The most constant effect of such treatment has been the prompt cessation of vomiting. A large majority of cases show improvement after the first treatment—diminution of cough, etc. The relief obtained is believed to be due to the action of the rays on the tracheo-bronchial lymph nodes.

Deep Roentgen-Ray Therapy

In the last few years, the treatment of deep lesions by Roentgen-rays has been much modified and improved in the light of scientific investigation, and clinical successes and failures. It is the consensus of opinion among Roentgenologists in this country and abroad that the type of treatment now employed in such cases is producing results with the old type of apparatus and technic could not approximate.

The present dosage for sarcoma, epithelioma, carcinoma and the very ovary, as given by Seitz and Wintz, are relative terms, and do not imply that they are effective in all cases. Whether or not the entire dose should be administered within

twenty-four hours, or should be divided and administered over a longer period, can only be determined after a careful study of the individual case.

Ewing, in his Mutter lecture, in speaking of radiation therapy, says: "One serious obstacle stands in the way of prompt acceptance by the public of radiation treatment of early cancer and precancerous lesions, and this is the attitude of the medical profession towards the new therapy. It is, on the whole, a matter of congratulation that a method so revolutionary should have received such prompt recognition the world over. Only the most tangible and overwhelming evidence could have compelled this recognition. The rapid adoption of radio-therapy must stand as evidence of intellectual honesty of the medical profession. Yet there is still an undercurrent of antagonism which reaches the public with much force, greatly impedes progress, interferes with the spread of knowledge, retards the acquisition of equipment, and prevents many from receiving the benefits now available."

Hemorrhagic metropathies: Hemorrhages of the uterus, due to conditions other than fibromas or malignancy, are readily relieved by irradiation. Usually an ovary dose is administered. Its action is positive and painless. As Desjardins says, "It is one of the triumphs of irradiation therapy."

Uterine fibromas: Practically all tumors of the uterus which do not extend to the umbilicus can be made to disappear. Tumors larger than this can be reduced in size, but in such cases surgery rather than irradiation is the method of choice, particularly in women less than forty years of age, who have not yet reached the menopause, and who desire children. Pedunculated tumors, also, are best removed by surgery, because of the possibility of slough following irradiation. Following the Roentgen-ray treatment for metropathies and fibromyomas, an artificial menopause is produced in from one to three months, de-

pending on the dose administered. Usually an ovary dose will give satisfactory results.

Carcinoma of the cervix: In cases of carcinoma of the cervix surgery is considered inadvisable unless the disease appears to be limited to the cervix, and mobility is not interfered with. Hence the sole hope of the patient lies in irradiation treatment. If there is moderate lateral infiltration, or extensive lateral involvement and fixation, irradiation will, if properly carried out, salvage many a "hopeless" case. In any event, it will increase the comfort of the unfortunate patient.

John G. Clark says "radiation challenges most favorable comparison with the radical abdominal operation, but skillful surgery followed by post-operative irradiation cannot yet to be criticized. To discard or fail to use radiation as an adjunct to surgical measures in the face of available statistics lays the operator open to a charge of criminal negligence." Clark says further "not to talk too loudly about cures, because the palliation would alone justify radiation."

Carcinoma of the breast: I believe that every case of carcinoma of the breast, in which the malignant tissue has been removed by operation, should receive early postoperative irradiation, for even after most careful radical operation, there remain somewhere in the field small islands of carcinoma cells. Irradiation will destroy these cells, and at the same time seal up, as it were, the lymphatics and blood vessels which were left open by the knife. The ideal treatment of carcinoma of the breast is pre-operative irradiation, early radical removal of the tumor, and early post-operative irradiation, thus striking three death blows at the carcinoma cells.

Burton J. Lee, in the last radium report of Memorial Hospital, says: "All in all, the outlook in the treatment of carcinoma of the breast by radiation is a most encouraging one. We feel that in no case of mammary cancer treated by surgery can the proper use of X-ray radiation be discarded. Radiation properly administered is the most effective aid in the care of car-

cinoma of the breast surgically treated; and in every surgical clinic a preoperative and postoperative cycle is to be employed if best results are to be obtained."

Leukemia: Roentgen-ray treatment is the method of choice in cases of leukemia, and it accomplishes results, when no other method can.

Sarcomas: Sarcomas of all types should always receive irradiation treatment in preference to surgery.

CONCLUSIONS

This review has, of necessity, been rather cursory, and some of our statements may have seemed slightly dogmatic. The literature is replete with case reports, and with discussions of the pros and cons, and because time forbids my going into the reasons underlying the preference given to irradiation treatment in the instances here enumerated, I must ask you to follow up this phase of the question yourself, with full confidence that you will find I have under- rather than over-stated the case.

In closing, let me urge a closer co-operation between the surgeon, internist, and roentgenologist. It is only by working together and by close study of the patient that we can hope to achieve the best results.

DISCUSSION.

Dr. M. H. Foster (Alexandria): I would not give up my cystoscope for any other instrument under the sun, but occasionally I do get a case where the kidney does not have enough function, and whenever I have a skin condition that shows hyperkeratosis I find that by giving such cases a few ionizing doses of X-ray first, I can melt down the fibrous tissue to an extent I would not have believed possible, before I tried it out and found that it worked.

Dr. Harold G. F. Edwards (closing): I happen to have no experience with ionizing doses. It is possible there is something to it, based on the modern conception of the structure of atoms. Workers in Philadelphia have recently been working on carcinoma on the electron theory, that is, that all matter is made up of a positively charged nucleus around which are revolving negatively charged electrons in perfect balance, and that in carcinoma there is an imbalance. On the surface they have produced splendid results with soft irradiations, attempting as it were to restore the cell balance.

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PRIVILEGED COMMUNICATIONS.

There is something of sacredness about the contents of a letter. The writer often reveals more of himself on the written page than he would in direct conversation. This revelation, of course, is designed only for the eyes of the correspondent. Particularly is this true of letters passing between physician and patient.

In this country a wholesome respect has been built up for the sanctity of a letter, but it is not so respected in many other countries where the opening and reading of sealed mail becomes, at times, so prevalent that the practice has earned the appellation "cracking seals."

The average American would be filled with wrath and the timid soul would shrink

with horror at the thought of a third person, and a stranger at that, reading his "personal correspondence."

Yet, that is exactly what happens to 21,000,000 letters a year and will continue so long as letter writers fail to put return addresses on their envelopes.

When a letter, without a return address, can not be delivered for any reason, it is sent, after a certain time, to the Dead Letter Office.

There it is opened and read—not for the possible scandal it may contain—but with a view to finding some clue which will enable forwarding on to the addressee or returning to the sender.

Out of every five letters received at the Dead Letter Office such a clue is found in one and it is sent merrily on its delayed way to one or the other of the two persons most interested in its disposition. The other four are destroyed.

Every person knows his own address, and if he would put it on the envelope, the contents would remain inviolate and the letter would be returned with notice of non-delivery.

USES AND ABUSES OF NARCOTICS.

The Federal Narcotic Law known as the Harrison Act was passed December 17, 1914 for the purpose of curbing a growing menace in this country. How well it has succeeded may be judged from the figures showing the gross importations of opium and its alkaloids:

Decade—	Population in millions	Total pounds opium annually	Total ozs. alkaloids annually
1860-69	34	131,481	588
1870-79	44	241,307	22,896
1880-89	56	414,381	20,212
1890-99	68	605,533	20,193
1900-09	83	628,177	17,511
1910-19	98	366,054	27,143
1920-23	106	144,805	5,282

NOTE—Figures taken from Reprint No. 924, U. S. Public Health Reports, May 23, 1924.

In spite of the great increase in population since the passage of the Harrison Act in 1914 there has been a tremendous drop in the quantities of opium and morphine entered in the United States for consump-

tion. It is obvious therefore that an enormous amount of narcotics was being previously used for the sake of indulgence primarily, since we have been able to dispense with more than three-fourths of the annual supply of the decade preceding the passage of the Harrison Act, without any curtailment of the legitimate use of morphine and opium.

As an instrument for the conservation of vital forces and the actual saving of human life, to say nothing of its power to ease pain and produce comfort, morphine is perhaps without an equal in all the armamentarium of drugs, but it is likewise without an equal in the abuse to which it is subjected.

It never was the intent of the law to deny the use of morphine where it properly belongs. Some of the conditions in which this drug is especially serviceable are severe hemorrhage, the prevention of shock by control of excessive pain, immobilization of the intestines in abdominal operations, and many other acute conditions which can not be otherwise controlled. Certain chronic conditions, particularly incurable states associated with severe pain, may properly be considered as entitled to the continued use of morphine. A familiar example is inoperable cancer in its excessively painful stages.

From the standpoint of ambulatory treatment, the acute conditions demanding the use of morphine are negligible, if not quite non-existent. Among the chronic states there are occasional ambulatory cases deserving narcotic administration, but these in last analysis are extremely few. In general therefore the administration of morphine to any ambulatory case must be considered presumptive evidence of illegitimate use until proven otherwise.

Drug addicts are notorious for their ability to enlist the sympathy of the physicians, and even to convince the careful practitioner of a rightful claim to the drug. Instances have been known in which addicts, at will, could cause themselves to bleed from the nose, mouth and ears. A

physician may be deceived at rare intervals by manoeuvres of this kind, but the careful doctor need never be the victim of repeated fraud by the same case. Physicians are warned to be especially on guard at this time, since there are a large number of narcotic addicts floating about the State as a result of a recent campaign of large magnitude against the illegal use of narcotics in one of the cities of Louisiana.

Article 117, Exceptions 1 and 2, Harrison Narcotic Act, are as follows:

"Exceptions to this rule may be properly recognized (1) in the treatment of incurable diseases, such as cancer, advanced tuberculosis, and other diseases well recognized as coming within this class, where the physician directly in charge of a bona fide patient suffering from such disease prescribes for such patient in the course of his professional practice, and strictly for legitimate medical purposes, and in so prescribing endorses upon the prescription that the drug is dispensed in the treatment of an incurable disease; and (2) where the attending physician prescribes for an aged and infirm addict whose collapse from the withdrawal of the drug would result in death, and in which case he endorses upon the prescription that the patient is aged and infirm, giving age, and that the drug is necessary to sustain life."

Exception 1 has been shamefully abused by a few physicians. It appears that some physicians have interpreted this to mean that the occurrence of any incurable disease is blanket authority for the prescribing of narcotic drugs without limit. It is barely conceivable that any physician capable of qualifying for practice in Louisiana could be acting in good faith in dispensing narcotic drugs on such grounds. But assuming that there are such physicians, they must be aware of the difficulty in convincing a court of their good faith under such circumstances.

In one locality also a more or less general custom has been discovered whereby an addict secures from some certain physician a certificate stating that he is suffering from some incurable disease for which the use of morphine is suggested or recommended. This certificate of incurability is then taken to another physician who regards it as his authority for prescribing the drug. Cer-

tainly there is in this a suggestion, at least, of a conspiracy to evade the law. But it must be pointed out that nothing can be gained by this, since the law holds the man issuing the prescription personally responsible for so doing. He can not take the word of some other physician as his authority. He must satisfy himself by his own examination, and offer his own diagnosis as the sole grounds upon which to base his treatment.

In lieu of the prescribing of morphine, physicians are privileged to dispense the drug direct to the patient, under the provisions of Article 126 of the Harrison Act, as follows:

"Practitioners are permitted to dispense narcotic drugs to bona fide patients pursuant to the legitimate practice of their professions, without prescriptions or order forms. (See Article 117.) However, a record of drugs so dispensed must be kept, except when the practitioner is in personal attendance upon the patient. A practitioner is not regarded as in personal attendance upon a patient, within the intent of the statute, unless he is in personal attendance upon such patient away from his office. As to the data to be shown by the record, etc., see Article 128."

Unfortunately, this privilege also has been miserably abused. While this provision aims at the rightful use of morphine, it also carries a ban against the practice of placing drugs into the hands of addicts for self-medication.

In substance, the judgment of our foremost authorities on the subject of narcotic drug dispensation is almost unanimous in the view that, with rare exceptions, any patient who is able to come day after day to a physician's office for drugs, is not in such a critical physical condition as to require the administration of morphine in addiction doses.

The definition of an addict given by the advisory committee to the Commissioner of Health in New York, and adopted by the State Board of Health is as follows:

"A drug addict is one who uses habitually a narcotic drug for the comfort such indulgence

affords, and who has no illness or other legitimate reason for such practice."

Persons who are legitimate subjects for use of morphine, in accordance with the foregoing definition, are not to be considered addicts at all. All others who are habitual users of the drug are addicts, and the physician who dispenses morphine to them in any way is courting trouble.

The characteristic excuse given by physicians for dispensing morphine to addicts is the alleged danger of death from deprivation of the drug. Of course, the addict will use every art within his power to create this impression. Moreover, the denial of drugs does bring about a violent reaction and undoubtedly severe suffering, temporarily, but from the records of large numbers treated by abrupt and complete withdrawal of the drug, we learn that this method of treatment is not a serious danger to life. The following excerpt from an article on this subject by Dr. S. Dana Hubbard, of New York, in the *New York State Journal of Medicine*, March 21, 1924, carries great significance:

"The drug addict can be cured safely, surely, and without danger. The cure administered is quick. It is almost specific. It is not secret. It can be applied by any honest physician, but the addict must be under control and beyond the reach of misguided friends or subsidized agents surreptitiously supplying the drug against the advice and counsel of the physician.

Three thousand addicts were successfully denarcotized at Riverside Hospital without fatality or a single complaint in a humane and comfortable fashion. King's County Hospital, Sing Sing Prison, and the Federal Penitentiaries at Atlanta and Leavenworth can further attest to these facts, and to state to the contrary leads one to infer that motives sinister and self-interested are behind one's conclusions."

The experience of the Louisiana State Board of Health and other agencies that have pursued the same methods of treatment of addicts corresponds closely with the experience and conclusions of Dr. Hubbard.

FREDERICK WILLIAM PARHAM.

At the recent commencement exercises of Tulane the University honored itself when it conferred the honorary degree of LL. D., upon Dr. F. W. Parham, '79, one of its most illustrious alumni. For his personality and the services he has rendered to his profession, to medical education and to Tulane in particular serving as one of its administrators, and to the community in which he resides, are everywhere recognized and appreciated. Born in New Orleans in 1856, he has just entered his seventieth year with a record of forty-six years of continuous service in the medical profession, which began with his graduation in the Medical Department of the University of Louisiana, now Tulane, in 1879. If we include the years of his undergraduate career, he has well-nigh completed a half-century of professional service, during which he has participated and led in every movement that has tended to the uplift and advance of his profession and, as a citizen, to the welfare of the people of our community, of the commonwealth of Louisiana and of the South.

A graduate of the high school of New Orleans, a student of Randolph-Macon, Virginia (1873-75), he was well prepared for matriculation in the medical department of the University of Louisiana in 1875. In 1877, he was admitted, by competitive examination, to the Charity Hospital, where he served as interne, with dis-

tingtion, for two years,—notably during the malignant epidemic of yellow fever in 1878. Since his graduation in April, 1879,



DR. FREDERICK WILLIAM PARHAM

his career has been one of continuous service as a general practitioner, consultant, specialist and teacher in surgery. During this time he has occupied numerous positions of great distinction and responsibility. As assistant resident surgeon at the Charity Hospital, in the eighties, he inaugurated and carried out a system of antiseptic and aseptic practice which practically eliminated the fearful mortality caused by puerperal fever in the maternity wards of the

hospital.

As professor of surgery in the New Orleans Polyclinic, now the Graduate Medical School of Tulane University, he has been a recognized leader and authority in surgery, performing many daring and successful operations and contributing many original essays, observations and devices which have enriched the literature and practice of his profession and which have won for him both national and international reputation. Step by step, as he matured in his professional experience, his conspicuous qualities for leadership were recognized and almost every post of trust and honor in the medical profession have been given him. President of the Orleans Parish Medical Society in 1895; president of the Louisiana State Medical Society in 1902; president of the Southern Surgical

Association in 1908; for years, chairman of the Medical Advisory Board of Charity Hospital; chairman of Medical Advisors of the Draft Board during World War; has also held positions of distinction in our national bodies, such as vice-president of the American Surgical Association in 1917, American Medical Association, member of the Board of Regents of the American College of Surgeons 1920-1923, member of the International Society of Surgery and other societies and organizations too numerous to mention, which attest to the confidence and trust that the profession and the public have reposed in him.

His many years of service as chairman of the Medical Board of Administrators of Tulane University stand pre-eminently as a model of conscientious and intelligent devotion to the highest interests of the Medical School and the University. During his tenure of office, many of the great reforms which have characterized the history of the Medical School in later years, have been effected largely through his able and expert co-operation with the Faculty.

This splendid example of the highest personal character of Dr. Parham joined with the other attributes of professional culture, initiative, skill and learning unquestionably prompted his Alma Mater to hold forth this man, not as a duty, but as a pleasure—a truly representative type of the great physician that younger and coming generations of students might strive to emulate.

Dr. Parham has led a life of duty and conspicuous achievement in spite of the obstacles set by a delicate and frail body, often beset by trying assaults upon his health and strength. But his iron will and

high resolve have surmounted all obstacles and truly do we express our admiration for all these qualities of heart and soul that Dr. Parham has displayed during the nearly half-century of unflinching and unremitting usefulness in the service of his profession and of his people.

CORRECTION

Through an error on the part of our printers there appeared in the June issue, page 560, in the editorial on Dr. S. M. D. Clark, the statement: "was associate professor of gynecology from 1911 to his death." Dr. Clark served Tulane as full Professor of Gynecology and Clinical Obstetrics from 1911 until his untimely death. We regret the mistake and therefore desire to correct same herewith.

TULANE GRADUATE SCHOOL OF MEDICINE TO REORGANIZE.

The Board of Administrators of the Tulane University of Louisiana has determined upon a complete reorganization of the Graduate School of Medicine, so as to more fully meet the recommendations of the Council on Medical Education of the American Medical Association.

A Committee has been selected to work out plans of reorganization with a view not only to improve the short review courses but to include graduate courses in certain specialties leading to a degree.

The details will be carefully worked out by this Committee and it is expected that the School will be fully organized and ready for work by the beginning of the college year of 1925-26.

MISSISSIPPI STATE MEDICAL ASSOCIATION

The twenty-second annual session of the House of Delegates of the Mississippi State Medical Association met in the Crown Theatre, Biloxi, May 12, 1925, 8:15 a. m., President J. J. Haralson presiding. Roll call showed thirty-three delegates present.

G. E. Adkins, Jackson, was elected a member of the Committee on Budget and Finance to succeed E. F. Howard, whose term had expired.

The Secretary read the following report: To the House of Delegates:

Gentlemen: At the 1924 meeting of the House of Delegates a committee consisting of Drs. E. F. Howard and S. W. Johnston, together with the Secretary, was appointed to act in the matter of the New Orleans Medical and Surgical Journal.

After carefully going over the proposition the committee decided to adopt this Journal as its official organ at a cost of one dollar a year upon the membership. You know the result. The New Orleans Journal is a splendid publication and serves its purpose well. However, many of us miss the old Transactions.

In the closing hours of the 1924 House of Delegates the following proposed changes were read and carried over to this meeting:

Changes in the Constitution:

"Amend Article VI, Section 3, to read as follows: 'The officers of this Association shall be elected by the House of Delegates as the last order of business of the House of Delegates on the last day of the annual session following the adjournment of the General Session.'"

"Amend line 4 of Section 4 of Articles VI to read twenty-five years instead of ten years."

Changes in the By-Laws:

"Change part of Chapter VI, Section 2, to read as follows: 'It shall nominate three men from each Congressional District in the state for membership on the State

Board of Health in accordance with the state law governing same.'"

Sincerely yours,

T. M. DYE,
Secretary.

May 12, 1925.

The financial report of the Secretary was referred to the Committee on Budget and Finance, as was also the report of Treasurer Buchanan. (See exhibits A and B.)

The change of the Constitution pertaining to the time of election of officers as referred to in the Secretary's report was called up and passed. The change making the election of honorary members contingent upon twenty-five years of continuous membership, was called up and failed of passage.

The proposed change in the By-Laws referred to in the Secretary's report pertaining to the nomination of members of the State Board of Health was called up and passed.

Henry Boswell, Sanatorium, made a verbal report of the conference of Legal Medicine of the A. M. A. The committee of which he is a member was continued.

I. W. Cooper, Meridian, made a report as Fraternal Delegate to the Alabama Medical Association.

At this point a recess of five minutes was taken for the purpose of permitting the delegates from the different councilor districts to select members of the Nominating Committee. The following were reported as members of the Nominating Committee:

First District—S. W. Glass, Clarksdale.

Second District—B. S. Guyton, Oxford.

Third District—M. W. Robertson, Rienzi.

Fourth District—W. E. Tabb, Leflore.

Fifth District—G. E. Adkins, Jackson.

Sixth District—I. W. Cooper, Meridian.

Seventh District—A. Hand, Shubuta.

Eighth District—W. L. Little, Wesson.

Ninth District—R. T. Ratliff, Lucedale.

On motion of G. E. Adkins, delegates from each Congressional District were requested to suggest to the Nominating Committee the names of suitable members for membership on the State Board of Health.

A motion by J. S. Ullman was adopted, requesting the Committee on Public Policy and Legislation to endeavor to have the Legislature pass a law requiring children to be vaccinated against small pox before they are permitted to enter the public schools of the state.

The following motion by F. J. Underwood was passed:

“Resolved, that the House of Delegates instructs the Committee on Public Policy and Legislation to prepare and present to the next meeting of the Legislature a bill providing that all packages containing commercial lye offered for sale in this state shall bear conspicuously on the wrapper a poison label.”

A motion by F. J. Underwood was adopted requesting the Legislature to make adequate appropriation for the support of the Board of Health.

A motion by R. W. Burnett to pay expenses of delegates to the A. M. A. was referred to the Committee on Budget and Finance, whereupon adjournment was had until 8:30 Wednesday morning.

The House of Delegates reconvened Wednesday morning May 13th, at 8:30, President Haralson in the chair.

The Council made its report. (See Exhibit C.)

The question of adopting the New Orleans Journal for another year was brought up at this time, and was liberally discussed. The chair recognized the Editor of the Journal, H. W. E. Walther and also Oscar Dowling, who entered into the discussion.

A motion was made by J. S. Ullman to continue the adoption of the Journal and to print also the transaction and roster of members and Constitution and By-laws in pamphlet form. This was amended by W.

H. Frizell so as to include the President's address and the minutes of the Woman's Auxiliary.

E. F. Howard moved to refer the publication of the pamphlet to the Committee on Budget and Finance. T. M. Dye moved to refer the whole matter to the Committee on Budget and Finance with authority to do as it saw best in the premises. The motions of Howard and Dye were tabled. The amended motion of Ullman prevailed, the vote on this motion being unanimous.

A motion by D. W. Jones to have the Committee on Budget and Finance look after the publication of the pamphlet was adopted.

At this point J. W. Young, a veteran in medical service, was recognized and presented to the House. He responded very feelingly.

The House adjourned to meet after the adjournment of the General Session on Thursday.

The House of Delegates reconvened at 2:45 Thursday afternoon, May 14, J. J. Haralson presiding. Roll call showed forty-nine present.

A resolution of thanks offered by Henry Boswell and W. H. Frizell was unanimously adopted and ordered spread upon the minutes as follows:

Resolved, That the Mississippi State Medical Association now in session in the historic city of Biloxi desires to express its sincere thanks and appreciation of the courtesies shown them by the Saenger Amusement Co., and especially to its manager, Mr. Kleinpeter, for the free use of its Crown Theater for this session, also to Messrs. C. B. Foster and the Foster-Fountain Co., for the gracious loan of boats for the two water rides, and to the Harrison-Stone Co., Medical Society, the physicians of Biloxi, the press and citizens of Biloxi in general, for their gracious hospitality and especially for the many courtesies shown the wives of those attending.

Further Resolved, That these resolutions be spread upon the minutes of this meeting and a copy sent to the local press.

Respectfully submitted,

HENRY BOSWELL

W. H. FRIZELL

W. H. Scudder read the nomination of W. S. Weissinger for honorary membership from the DeSoto County Society. He was elected. I. W. Cooper moved the suspension of the By-Laws and the election by acclamation of J. W. Young and W. H. Folkes as honorary members of the State Association. This motion was carried unanimously.

The Committee on Budget and Finance made its report which was adopted except that part providing for the expenses of the delegates to the A. M. A. (See Exhibit D.)

The Nominating Committee made the following report:

Biloxi, Miss., May 14, 1925.

To The House of Delegates,
Miss. State Medical Ass'n:

Your nominating Committee submits the following nominations:

President: Dr. H. M. Folkes, Dr. John Darrington, Dr. G. S. Bryan.

Vice-President: Dr. F. G. Riley, Dr. O. N. Arrington, Dr. E. S. Bramlett.

Delegate to A. M. A.: Dr. S. W. Johnson.

Fraternal Delegate Arkansas State Medical Association: Dr. S. W. Glass.

Fraternal Delegate Tennessee State Medical Association: Dr. I. B. Seale.

Fraternal Delegate Alabama State Medical Association: Dr. A. C. Bryan.

Fraternal Delegate Louisiana State Medical Association: Dr. I. W. Cooper.

Members State Board of Health:

First District: Dr. J. W. Lipscomb, Dr. M. W. Robertson, Dr. R. P. Caldwell.

Second District: Dr. S. E. Eason, Dr. I. B. Seale, Dr. G. H. Woods.

Third District: Dr. L. B. Austin, Dr. R. C. Smith, Dr. T. H. Foster.

Fourth District: Dr. T. W. Holmes, Dr. B. J. Shaw, Dr. J. K. Avent.

Fifth District: Dr. J. J. Haralson, Dr. M. J. L. Hoye, Dr. Dudley Stennis.

Sixth District: Dr. W. W. Crawford, Dr. J. N. Rape, Dr. J. E. Green.

Seventh District: Dr. J. M. Dampeer, Dr. R. W. Brumfield, Dr. J. S. Ullman.

Eighth District: Dr. W. H. Watson, Dr. J. B. Howell, Dr. N. C. Womack.

Councilor Second District: Dr. J. S. Donaldson.

Councilor Third District: Dr. M. W. Robertson.

Respectfully submitted,

I. W. COOPER, Chairman.

M. W. Robertson, W. L. Little, B. S. Guyton, Albert Hand, Geo. Adkins, Sect'y.; S. W. Glass, N. G. Tabb, R. T. Ratliff.

H. M. Folkes very graciously asked to be allowed to withdraw his name as one of the nominees for president. The election resulted in the selection of G. S. Bryan, who was presented to the House by John Darrington in a very happy speech, to which Bryan responded delightfully. On motion J. S. Ullman, the secretary was instructed to cast the vote of the House for the remaining nominees, and it was so done.

After the selection of Jackson as the place of meeting in 1926 the House of Delegates adjourned to meet at eight o'clock a. m., on Tuesday, May the eleventh, 1926.

(Signed) T. M. DYE, Secretary.
May 14, 1925.

EXHIBIT A.
SECRETARY'S FINANCIAL REPORT.

RECEIPTS 1924

(May 10 to Dec. 31, 1924)

May 10	Balance in Bank	\$3089.64	
Dec. 31	113 Dues	339.00	
	Total		\$3428.64

DISBURSEMENTS 1924

(May 10 to Dec. 31, 1924)

May 14	Registrar	\$ 12.50	
May 20	Programs	40.00	
May 20	Printing	13.00	
May 20	President Dearman	100.00	
May 20	Counc. Spalding	11.56	
May 20	Counc. Jones	7.45	
May 20	Counc. Frizell	5.80	
May 20	Counc. Guyton	7.50	
May 20	Treasurer Buchanan	17.00	
May 20	Refund F. J. Underwood	3.00	
June 10	Treasurer Buchanan	2000.00	
June 25	1000 Envelopes	22.60	
July 19	Printing	11.00	
Dec. 31	Postage	10.00	
Dec. 31	Secretary's Salary	500.00	
	Total		\$2761.41
Dec. 31	Balance in Bank		667.23

RECEIPTS 1925

(Jan. 1 to May 5, 1925)

Jan. 1	Balance in Bank	\$ 667.23	
May 5	833 Dues	2499.00	
	Total		\$3166.23

DISBURSEMENTS 1925

(Jan. 1 to May 5, 1925)

Feb. 5	Stationary	\$ 18.58	
Feb. 11	Printing	3.50	
Mch. 21	Treasurer's Bond	18.75	
May 1	1000 Envelopes	22.82	
May 4	Programs	42.00	
	Total		\$ 105.65
May 5	Balance in Bank		3060.58

(Signed) T. M. DYE, Secretary.

May 12, 1925.

EXHIBIT B.
TREASURER'S REPORT
TO
MISSISSIPPI MEDICAL ASSOCIATION
MAY 11, 1925

Balance Association funds as shown by last report.....	\$2,359.40
June 12, 1924, received from Dr. T. M. Dye, secretary.....	1,666.75
Total	\$4,026.15

DISBURSEMENTS

May 27, 1924, to Dr. F. J. Underwood, chairman	\$290.51	
June 6, 1924, to F. E. Dillian	219.30	
Sept. 19, 1924, New Orleans Med. & Sur. Journal	237.67	
Dec. 6, 1924, New Orleans Med. & Sur. Journal	241.08	
Mch. 14, 1925, New Orleans Med. & Sur. Journal	242.50	1,231.06
Balance	\$2,795.09	

RECEIPTS MEDICO-LEGAL FUND

Balance on hand last report	\$6,475.70
June 12, 1924, received from Dr. T. M. Dye, secretary	333.25
May 5, 1925, received from interest on T. C. No. 17636 to May 1, 1925	39.98
May 5, 1925, received from interest on T. C. No. 17637 to May 1, 1925	55.12
May 5, 1925, received from interest on T. C. No. 17638 to May 1, 1925	72.41
May 5, 1925, received from interest on Liberty Bonds	170.00
Total	7,146.46

DISBURSEMENTS

June 2, 1924, to Dr. C. W. Norwood	\$125.18	
June 2, 1924, to Dr. H. N. Mayes	250.00	
June 7, 1924, to Dr. T. E. Hewett	250.00	
Oct. 3, 1924, to Dr. Walton Shields	150.00	775.18
Balance	\$6,371.28	

Association balance	\$2,795.09
Medico-Legal fund	6,371.28
Total	\$9,166.37

The above funds are represented as follows:

Cash in hand	\$1,087.45
Time Certificate.....No. 19088	3,971.52
Second Liberty Loan Bond No. E-00167150	1,000.00
Third Liberty Loan Bonds No. 1539096-1539097 for \$1,000.00 each	2,000.00
Fourth Liberty Loan Bond No. K-00705340	1,000.00
Balance of check Clarksdale and Six County Medical Society on Delta Bank	107.40
Total	\$9,166.37

Respectfully submitted,

J. M. BUCHANAN, Treasurer

MEETING OF THE COUNCIL

May 12, 1925

Called to order by Chairman Williams. Present: Councilors Lucas, Spalding, Jones, Gill, Frizell, Guyton, Holmes and Williams. The secretary submitted a report of the work done during vacation, which was approved. Reports of Councilors showing status of the several districts were read and filed. (See separate sheets.)

Action of Executive Committee in allowing appropriation of \$150.00 for attorney's fee in case of Dr. A. G. Payne was approved. \$150.00 was appropriated for attorney's fee in case of Dr. N. R. Curry. No other suits for defense were presented to the Council.

In regard to the transactions, the Council recommends to the House of Delegates that some arrangements be made whereby the transactions of the 1925 meeting, including transactions of the Woman's Auxiliary, with roster of membership, be printed in separate volume from the Journal; and, if practicable, this volume to contain the same for 1924.

Council adjourned subject to call of chairman.

D. W. JONES, Secretary

THE COUNCIL AND HOUSE OF DELEGATES

The First District is organized into two active wide-awake Medical Society organizations, the Clarksdale and Six Counties Medical Society and the Delta Medical Society. The Delta Medical Society is a recent and wise combination of Washington County Medical Society, Leflore County Medical Society, and the Southern portion of Clarksdale and Six Counties Medical Society, embracing Sunflower County and a portion of Bolivar. It also includes the new county of Humphrey. Both societies meet semi-annually with a good attendance and an interesting program. Our District still has a few good

men who have never lined up with either society and to date we show our pro-rata share of delinquents on dues, the latter class, we believe, will come in on the home stretch. The damage suit of Lee Britt, plaintiff, vs. Dr. A. G. Payne, Greenville, Mississippi, was decided by the court in favor of the defendant. The Council readily and cheerfully responded to the call for assistance in the defense and the case was settled satisfactorily in favor of Dr. A. G. Payne.

Fraternally,

J. W. LUCAS,
Councilor, First District

To the Council:

The Second District is in about the same condition it has been for the past two or three years. The attendance at the county societies is very good. The work of the North Mississippi Six County Society is especially valuable. We meet quarterly in different places, and reach many members who never attend the state meetings.

Respectfully,

B. S. GUYTON, Councilor

West Point, Miss., May 9, 1925.

To the Council and House of Delegates:
Gentlemen:

The East Mississippi Eleven Counties Medical Society is doing excellent work. There is a good program for every meeting and the attendance is good. The last report of the membership I received was one hundred fifty-six. This is probably the largest component society in the association. Alcorn-Tishomingo Counties Medical Society has a membership of twenty-three which is five less than for 1924. The loss of membership is due to one doctor of Corinth becoming peeved and to lack of interest by Tishomingo County doctors.

Respectfully submitted,

F. C. SPALDING,
Councilor, Third District

REPORT OF 4th COUNCIL DISTRICT

T. W. Holmes, Councilor.

Everything working fine; no suits; five societies visited; no expenses.

T. W. HOLMES,
Councilor, Fourth District

COUNCILOR'S REPORT 5th DISTRICT

The organized activities of the Fifth District are comprised largely in the work of the Central Medical Society, and that of the Warren County Medical Society. Organizations exist in name only in the other counties, no scientific meetings being held, a few doctors getting together once a year to select officers and delegates.

The Central Medical Society carries out a regular scientific program each month, with an average attendance of about forty. They publish a monthly journal in which the papers read before the society are published.

This society recently passed a resolution strongly condemning the practice of criminal abortion and pledging its membership to report to the Board of Censors all cases of this kind that come to their knowledge, and instructing the Board of Censors to prefer charges with a view of expulsion from membership in the society whenever justifiable evidence of guilt can be shown. The membership also pledged themselves to give to the grand jury any evidence of criminal abortion they may have.

The Warren County Medical Society meets monthly with an average attendance of ten or twelve, always carrying out a scientific program. They are closely affiliated with the Central, occasionally exchanging meetings.

Claiborne County with a membership of only five doctors; Sharkey County with a membership of only eight; Issaquena County with a membership of only five, have no scientific meetings. These counties should be affiliated with the most convenient larger societies where their members could be developed by regular meet-

ings and association with active societies. It is the judgment of the councilor that the larger societies are doing the best work in developing the membership and scientific growth of individual members, and the smaller county societies doing no regular scientific work should be urged to merge into the larger societies.

D. W. JONES, M. D.,
Councilor, Fifth District

All counties in Sixth District organized and doing good work, yet there is room for improvement up to a few days before the meeting Lauderdale's membership was very small.

W. G. GILL, M. D.
Councilor 6th District.

To the Council and House of Delegates.
Mississippi State Medical Ass'n.,
Gentlemen:

The organization in the Eighth District remains unchanged. There seem to be too much carelessness among the membership about paying their annual due. After repeated solicitation the membership is not yet up to the high mark we wished for.

There is a spirit of good fellowship among the physicians and the two component societies have regular scientific programs of high quality. With these attractions we still have difficulty in bringing into the organizations the outside eligible physicians.

Respectfully submitted,

W. H. FRIZELL,
Councilor, Eighth District.

May 12, 1925.

The Harrison-Stone County Medical Society continues to be the best organized in the district holding regular monthly meetings with good scientific programs, which are well attended.

The Jackson County Medical Society holds regular monthly meetings which are well attended, and has a membership consisting of every eligible doctor except one.

The Hancock County Medical Society holds bi-annual meetings and has a membership of every eligible physician in the county except one whose membership has lapsed because of non-payment of his dues.

The remaining counties of the district are not holding regular meetings as the physicians of these counties have by mutual consent of the Councilors of the Seventh and Ninth District been given permission to join the South Mississippi Medical Society.

Harmony prevails throughout the district and we have not been called upon to defend any of our members for alleged malpractice.

Respectfully,

DAVID J. WILLIAMS,
Councilor, Ninth District.

REPORT OF COMMITTEE ON
BUDGET AND FINANCE

EXHIBIT D

Biloxi, Miss., May 14, 1925.

HOUSE OF DELEGATES, MISSISSIPPI
STATE MEDICAL ASSOCIATION,

Biloxi, Miss.

Your committee on budget and finance has examined the account of the secretary and of the treasurer and find them to be correct and well kept.

The attached accounts representing the expenses of Treasurer Buckhanan and Councilors Frizell and Jones, total of \$43.85 has been approved.

Your committee recommends the adoption of resolution by Dr. R. W. Burnett providing for the expense of the delegates to the American Medical Association, if it be amended to read as follows:

“Pay necessary expense of travel, not to exceed \$100.00, for each delegate.”

The following budget for year is approved:

Expense meeting	\$ 250.00
Councilors	100.00
Secretary's salary, expense.....	600.00
New Orleans Medical Journal.....	1,000.00
Pamphlets of minutes.....	250.00
Delegates expense	200.00
President's expense	100.00
Incidentals	50.00

Total.....\$2,550.00

Respectfully submitted,

GEORGE E. ADKINS,
J. S. ULLMAN,

WOMEN'S AUXILIARY MISS. STATE
MEDICAL ASSOCIATION*

ANNUAL ADDRESS OF STATE
PRESIDENT

MRS. D. J. WILLIAMS.

GULFPORT, MISS.

Madam Chairman, Members of the Auxiliary and Guests:

Permit me to thank you for the honor you conferred upon me in having chosen me your President for the past two years. While this honor has carried with it much responsibility and has necessitated a great deal of hard work, it has been a pleasure because of the association with you and your husbands.

My message to you is brief—long papers and addresses are something the public in general will flee from. Let me admonish the Presidents of local Auxiliaries to be considerate of your members and not permit long drawn out paper and discussions. While I believe that as wives of physicians, we probably practise common sense philosophy more than any other class, yet we are apt at times, to be swayed beyond our best judgment.

There are a few observations I have made the past two years, while serving you as President, that I hope may prove

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

a bit helpful to all. In the first place I have observed—without egotism or prejudice, that the doctors' wives in every community are among the outstanding women. I am speaking for Mississippi, but feel positive that observation holds good every where. We have said that we consider our husbands' professions unexcelled, so isn't it only natural that they should choose as wives, women who average high in all the qualifications necessary for the betterment of homes, community or wider service? Keeping this foremost in our minds, let us plan our work and pleasures that the Communities we claim as ours will be constantly benefited for our having lived in their midst.

For the benefit of our new members, allow me again to read Article Two of the State Constitution as adopted at the organization two years ago. "The object of the Auxiliary shall be to extend the aims of the medical profession through the doctors' wives, to the various women's organizations, which look to the advancement of health, and education: to promote acquaintance-ship among doctors families that local unity and harmony may be increased." You note the phrase regarding extending the aims of the medical profession, through the doctors' wives to the various women's organizations. Nearly every doctor's wife in Mississippi lives within the jurisdiction of a Federated Woman's Club or Parent-Teacher's Association.

The originators and organizers of this organization were women familiar with the work of the great Federation of Women's Clubs, and were convinced that through no other channel could the object of the medical profession be so earnestly and successfully advanced; and no other group of women could possibly extend these aims as the doctors wives. Again, we believe as wives of physicians, that our husbands' profession is unexcelled. We know the many years of earnest study and preparation, the unselfish treatment of humanity, the constant day and night call

upon their physical and mental strength. We have found them ever ready to grasp new ideas for the prevention of disease, when they know they were working against their personal income. They were among the first to recognize the work of the various women's organizations which look to the advancement of health and education, and have given them their undivided support and encouragement.

The Woman's Auxiliary of the Medical Association recognizes that the requisites for the advancement of any program we might wish in our community, are harmony and unity. These are absolutely necessary before strength can be acquired. We believe, that the greatest good will come by correlating our programs with those of our men.

Mrs. John D. Sherman, the gifted President of the General Federation of Woman's Clubs, is earnestly striving through the Women's Clubs to break down the barrier between the city and country women. I believe the doctors' wives will lend valuable aid in this, for what other group of women is more familiar with the problems of town and country women, especially in Mississippi; which is looked upon as a rural state. Every conscientious doctor's wife in our State should be a contributing factor in helping to secure better home conditions in her respective Community, and this through co-ordinating their club work with that of her husband.

When you return to your homes, I want every member of this organization to impress upon the other Woman's Clubs of your locality, that there exists in your State an organized body of women to whom they may turn for information along certain lines, especially education, health, sanitation and child welfare, and who stand ready to assist in every worth while undertaking.

As an educational measure I think that the establishment of the Child Health Camps in Mississippi through the administration of the State Board of Health and the State Tuberculosis Association may be

made probably the widest avenue through which we may be privileged to work. We have heard this discussed in a most intelligent manner, giving this organization a definite line of work that should inspire the most indifferent member. Carry this back home with you and see that the spark you carry kindles into a flame of response. Keep constantly in mind that our children are priceless, and the pleasure of serving the under-privileged is ours.

The work to be done for the State Sanatorium is so splendidly outlined by Dr. Boswell, is another important message to take back home and follow up. Keep in close touch with the Chairman of Public Health, Mrs. Henry Boswell.

In the beginning I said I believe that doctors' wives practice more common sense philosophy than any other class of women and I agree further with one of our foremost women writers that besides the philosophy which teaches us to make the best of things; that patience, one of the coveted attributes, and which solves most of our moral woes, is one of our virtues; that tolerance, which makes us charitable for all things that on the surface may seem wrong is another outstanding virtue. We recognize the victims of heredity and environment as probably do no other group of women.

In closing, let me leave this message—No life ever rises far above the home life—No community is any better than the home within it. Even though we may come from a little rural town, if we use the influence that is ours as wives of the physicians in our communities, right there we will find a bit of heaven.

Minutes of the Woman's Auxiliary to The Mississippi State Medical Association, 1925.

The second session of the Executive Board of the Woman's Auxiliary to the Mississippi State Medical Association met at the Avezel Hotel, Biloxi, Miss., at 3:30

p. m., May 12, 1925, Mrs. D. J. Williams, President, in the chair. The roll call showed eight members of the board present.

The President advised certain changes necessary in the by-laws. Discussion followed and motion was made and carried that she appoint a committee for that purpose. The Committee was composed of Mrs. D. J. Williams, Mrs. S. H. Hairston and Mrs. J. M. Acker, Jr.

Mrs. Williams, who is to serve as State Chairman, explained the health camp in detail and told how the State Auxiliary could be of great service in co-operating with the State Board and Tuberculosis Association, and in furnishing equipment for same. A motion was made and carried that Councillors be appointed to serve five years.

The Executive Committee then adjourned to meet at 9:30 a. m., Wednesday.

A general meeting was held at 9:30 a. m., May 13, 1925, at the Riveira Hotel with sixty members present. The meeting was called to order by the President. The morning prayer was offered by Dr. Cambell. Mrs. Margaret Caraway of Gulfport welcomed the Woman's Auxiliary on behalf of the Harrison-Stone County Society. In this gracious address she recited many interesting legends and gave an outline of the romantic history of the Gulf Coast Country. Mrs. C. F. Carroll gave the address of welcome on behalf of the City of Biloxi. Mrs. W. H. Frizell, of Brookhaven, responded to these two addresses.

The following Councillors were present and reported on the activities in their districts. 2nd Mrs. B. S. Guyton, 6th Mrs. W. G. Gill, 8th Mrs. W. H. Frizell. The President submitted her report. Much has been accomplished under her splendid leadership.

The following Committees were appointed. Courtesy Committee—Mrs. W. H. Frizell, Chairman, Mrs. C. C. Applewhite and Mrs. A. Street.



WOMEN'S AUXILIARY, MISSISSIPPI STATE MEDICAL ASSOCIATION.

Nominating Committee—Mrs. W. H. Gill, Chairman, Mrs. C. A. Sheely, Mrs. S. C. Culpepper and Mrs. L. B. Austin.

Resolutions Committee—Mrs. T. M. Dye, Chairman, Dr. Margaret Caraway and Mrs. Alberta Bryan.

A roll call of local Auxiliaries showed five societies represented. Mrs. Sheely, of Gulfport, reported the Harrison-Stone County society; Mrs. Street, of Vicksburg, the Warren County; Mrs. Hairston, of Meridian, the Lauderdale County; Mrs. Applewhite, of Jackson, the Hinds County; and a letter from Mrs. Elmore, of Durant, told of the Holmes County Society.

At this point Mrs. Williams stressed the fact that doctors' wives could be of much assistance to the local hospital by personal contact with the patients and nurses and by beautifying grounds, etc. The committee on revision of Constitution and by-laws submitted the following changes which were adopted. Article 3—Memberships. The membership of the Woman's Auxiliary of the State Medical Association shall be composed of the County Woman's Auxiliaries to the County Medical Societies and members at large from counties that are not organized as Auxiliaries. Article 4—Officers. The officers of this Auxiliary shall be President, President-Elect, two Vice Presidents, Recording Secretary, Corresponding Secretary, Treasurer and Parliamentarian. Article 5—Executive Board. These officers together with the nine Councillors and Chairmen of Standing Committees shall constitute an Executive

Board to conduct the business of this Auxiliary.

An interesting feature of the morning was the address given by Dr. Underwood on the relation that exists between physician and health officer.

The meeting adjourned at noon for luncheon at the Avon Hotel.

The session on Thursday morning opened at 10:30 at the Riveira Hotel with twenty-eight members present; Mrs. Williams in the chair. Dr. Margaret Caraway gave the invocation.

The resolutions committee rendered the following report.

Your Committee begs to report that whereas our retiring President, Mrs. D. J. Williams, has recommended that local auxiliaries devote some time to work connected with hospitals, particularly the social life of the nurses, Be it resolved that the State Auxiliary endorse her suggestions and urges its observance upon Auxiliary Members.

Whereas, the health work among underprivileged children is a subject that touches our hearts,—Therefore be it resolved that the Auxiliary endorse the plans suggested by Dr. Underwood and pledge the co-operation of the Woman's Auxiliary.

Respectfully submitted,

Mrs. T. M. Dye, Chairman.
Mrs. Alberta Bryan,
Dr. Margaret Caraway.

The motion was made and carried that Mrs. Williams be made Chairman of State

Committee with the Councillors as members and sub-chairman on equipment for health camp.

The Courtesy Committee offered the following report:

In behalf of the Woman's Auxiliary of the Mississippi Medical Association, we wish to express our sincere appreciation for the many courtesies extended us in making our visit to Biloxi so pleasant.

First, to the Harrison-Stone Auxiliary, our hostesses, for their hospitality. To the State Medical Association for their helpful suggestions. To Dr. Underwood, especially, for presenting to us some definite work for the coming year. To the Press which has given us space in the papers. To Dr. Boswell who has offered suggestions as to the assistance we might give the Sanitorium. To the Hotels of Biloxi and Citizens as a whole who have made our visit so delightful.

Signed—

Mrs. W. H. Frizell,
Mrs. C. C. Applewhite,
Mrs. A. Street.

The Nominating Committee reported as follows:

President—Mrs. S. H. Hairston, Meridian.

President elect—Mrs. S. W. Johnson, Vicksburg.

1st Vice President—Mrs. J. J. Haralson, Forest.

Second Vice President—Mrs. C. A. Sheely, Gulfport.

Recording Secretary—Mrs. C. C. Applewhite, Jackson.

Treasurer—Mrs. S. E. Dunlap, Wiggins.

Parliamentarian—Mrs. D. J. Williams, Gulfport.

COUNCILLORS.

District 1 to serve 1 year—Mrs. LeRoy Wilkins, Clarksdale.

District 2 to serve 2 years—Mrs. B. S. Guyton, Oxford.

District 3 to serve 2 years—Mrs. J. M. Acker, Jr., Aberdeen.

District 4 to serve 3 years—Mrs. T. W. Holmes, Winona.

District 5 to serve 3 years—Mrs. A. Street, Vicksburg.

District 6 to serve 4 years—Mrs. W. G. Gill, Newton.

District 7 to serve 4 years—Mrs. E. N. Blount, Bassfield.

District 8 to serve 5 years—Mrs. W. H. Frizell, Brookhaven.

District 9 to serve 5 years—Mrs. L. L. Polk, Purvis.

We further recommend that the past Presidents be made members of the Executive Board.

There being no other nominations the above candidates were declared elected.

The speaker of the morning was Dr. Boswell who told of the wonderful work being done at the Sanitorium and explained how the Auxiliary might assist in this great work.

At the close of the morning session the State Auxiliary presented Mrs. Williams, the retiring president with an arm bouquet of roses, Mrs. Guyton gracefully making the presentation. The Auxiliary rose in appreciation of the splendid work of the retiring president and to pledge support to Mrs. Hairston, the new leader.

The business session closed during luncheon at the Avon Hotel with Mrs. Sheely presiding. Mrs. Williams then gave the annual address. Mrs. S. W. Johnson and Mrs. L. L. Lippincott were elected delegates to the National Auxiliary of the American Medical Association.

The Woman's Auxiliary of the Mississippi State Medical Association adjourned to meet in 1926 at Jackson, Miss.

Signed Mrs. James M. Acker, Jr.,
Recording Secretary.

Registered Members of the Woman's Auxiliary of the Mississippi State Medical Association.

Acker, Mrs. J. M., Aberdeen.

Anderson, Mrs. W. C., Forest.

- Applewhite, Mrs. C. C., Jackson.
 Austin, Mrs. L. B., Rosedale.
 Beech, Mrs. Thos. R., Ellisville.
 Blount, Mrs. E. N., Bassfield.
 Bryan, Mrs. A. C., Meridian.
 Butler, Mrs. J. C., Laurel.
 Campbell, Mrs. C. N. D., Greenwood.
 Caraway, Dr Margaret, Gulfport.
 Carrell, Mrs. G. F. Biloxi.
 Cockerham, Mrs. H. L., Gunnison.
 Collins, Mrs. F. E., Brookhaven.
 Cooper, Mrs. I. W., Meridian.
 Crider, Mrs. J. O., University.
 Culpepper, Mrs. S. C., Wiggins.
 Dampeer, Mrs. J. M., Crystal Springs.
 Day, Mrs. Carl A., Yazoo City.
 Dearman, Mrs. W. A., Longbeach.
 Dickerson, Mrs. L. D., McComb.
 Dunlap, Mrs. S. E., Wiggins.
 Dye, Mrs. T. M., Clarksdale.
 Eley, Mrs. W. W., Biloxi.
 Folkes, Mrs. H. M., Biloxi.
 Foster, Mrs. T. W., Tchula.
 Frizell, Mrs. W. H., Brookhaven.
 Gaudet, Mrs. L. S., Natchez.
 Gay, Dr Emma, Gulfport.
 Gill Mrs. W. G., Newton.
 Glass, Mrs. S. W., Clarksdale.
 Guyton, Mrs. B. S., Oxford.
 Hagan, Mrs. Z. C., Union.
 Hairston, Mrs. S. H., Meridian.
 Hand, Mrs. Albert, Shubuta
 Haralson, Mrs. J. J., Forest.
 Henderson, Mrs. J. W., Clarksdale.
 Higdon, Mrs. J. C., Belzoni.
 Hightower, Mrs. G. D., Webb.
 Hood, Mrs. L. W., Biloxi.
 Johnsten, Mrs. S. W., Vicksburg.
 Jones, Mrs. D. W., Jackson.
 Jones, Mrs. J. C., Gulfport.
 Lippincott, Mrs. L. S., Vicksburg.
 Little, Mrs. W. L., Wesson.
 McCalip, Mrs. H. L., Yazoo City.
 McDevitt, Mrs. J. A., Gulfport.
 McWilliams, Mrs. C. A., Gulfport.
 Newell, Mrs. S. D., Inverness.
 Pittman, Mrs. C. J. Ruleville.
 Robertson, Mrs. A. R., Pass Christian.
 Rush, Mrs. B. C., Vaughan.
 Sharp, Mrs. W. E., Pascagoula.
 Sheely, Mrs. C. A., Gulfport.
 Shipp, Mrs. C. M., Bay St. Louis.
 Smith, Mrs. A. P., Bay St. Louis.
 Smith, Mrs. H. P., New Augusta.
 Smith, Mrs. R. C., Ruleville.
 Street, Mrs. Augustus, Vicksburg.
 Tippins, Mrs. H. K., Gulfport.
 Ullman, Mrs. J. S., Natchez.
 Wallace, Mrs. Geo., Biloxi.
 Wallace, Mrs. J. E., Biloxi.
 Walley, Mrs. Willis, Jackson.
 Weeks, Mrs. J. T., Biloxi.
 Weeks, Mrs. W. H., Doodsville.
 Welch, Mrs. B. Z., Biloxi.
 West, Mrs. H. H., Gulfport.
 Wilkins, Mrs. E. LeRoy, Clarksdale.
 Williams, Mrs. D. J., Gulfport.

PRACTICAL MEDICAL ECONOMICS

Chas. A. Bahn, M. D. Department Editor.

MEDICAL MANAGEMENT.

Part 11.

Chas. A. Bahn, M.D.

The day of the one man doctor is largely past because for economic reasons, he cannot ordinarily compete with the efficient organization any more than the average small corner grocery can compete with the larger chain store. By one man doctor is meant the physician who has no assistance whatever in conducting his medical practice,—who is everything from porter to president. You of course think this is not a fair comparison because doctors and grocers are different. You are correct, only in that the medical profession has not been compelled to evolve quite as far and as fast as grocerymen. We dispense knowledge, skill and service, grocers dispense merchandise and service; reduced to the naked fundamentals, the principles of success are essentially the same.

As most of us are directly or indirectly dependent upon the assistance and efforts of others for our professional and financial success, it is important that we should really know those who are working with us and the conditions associated with their effort, otherwise we do not understand each other, which means discord and often failure.

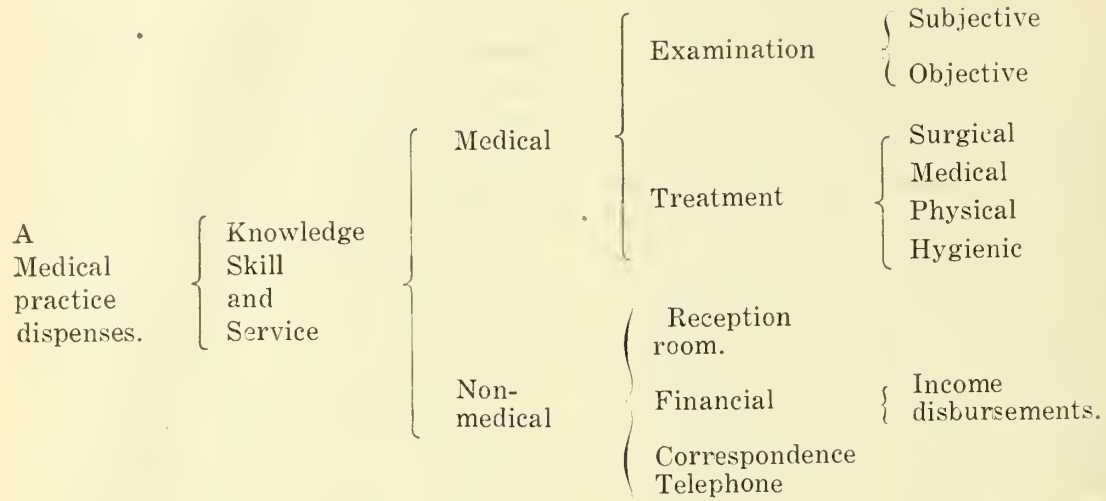
The basic idea of organization is that under favorable conditions, the efforts of several persons can produce more or better results together than separately. There must of course be sufficient work to justify the amount of effort engaged, which also must be profitably and productively directed. This assumes that all concerned will carry their part of the load and possibly a bit more under exceptional conditions, and that to a reasonable degree a feeling of responsibility and a real desire to produce exists. This brings in a new factor usually called administration or management, which is essentially the ability to direct or help those engaged, produce their maximum, with the best interest of the whole always in mind. In other words the administrator or executive is

one who helps others get the best out of themselves. Unfortunately management costs time, effort and money, which increases disproportionately with the size of the organization, because overlapping of effort and, lost motion or misdirection of effort, become more difficult to minimize.

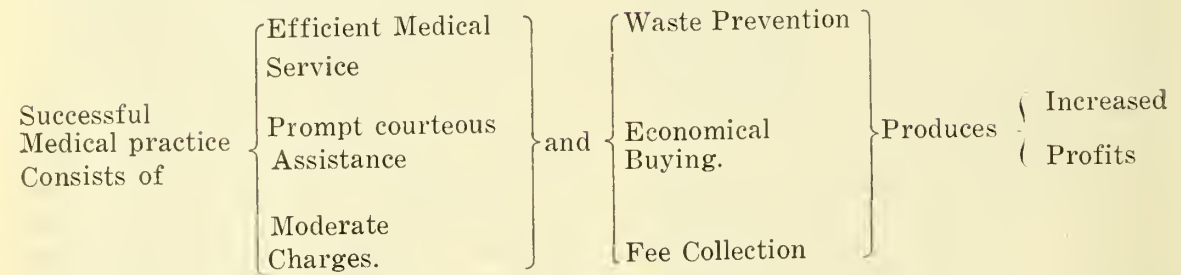
In the management of any enterprise large or small there are a few simple fundamentals which will often decide its success or failure. First one must be able to take the enterprise to pieces and study the pieces in a simple practical way from the standpoint of the reason for their existence. Next, it must be reconstructed from these pieces keeping in mind the practicality and real purpose of each part. Then one must pass from the mental to the material and use the equipment on hand, be it human, financial, mechanical, etc., to accomplish what has been planned. And lastly having constructed or reconstructed the enterprise it must be kept going smoothly, which sometimes involves very different objectives from construction. Then too, we must not lose sight of those who are helping us build, who must be fitted and trained for the type of effort entrusted to them, who must have a feeling of responsibility and co-operation, and whose productive effort must be repaid in money or its equivalent, and appreciation. These ideas are not entirely original with me but are partly adapted from a very excellent small series "The Knack Of Management" published by "System, The Magazine of Business." So far as management facilitates production, just so far does it justify the expense of time, money and effort involved. As it ceases to increase practical production, it becomes parasitic and usually takes the form of two extremes, buck passing or the evasion of responsibility and effort; or despotism or the unwillingness to understand all sides. An important factor in management is that work should not be deputized unless the effort involved will be otherwise more profitably employed.

Let us simply diagram these ideas.

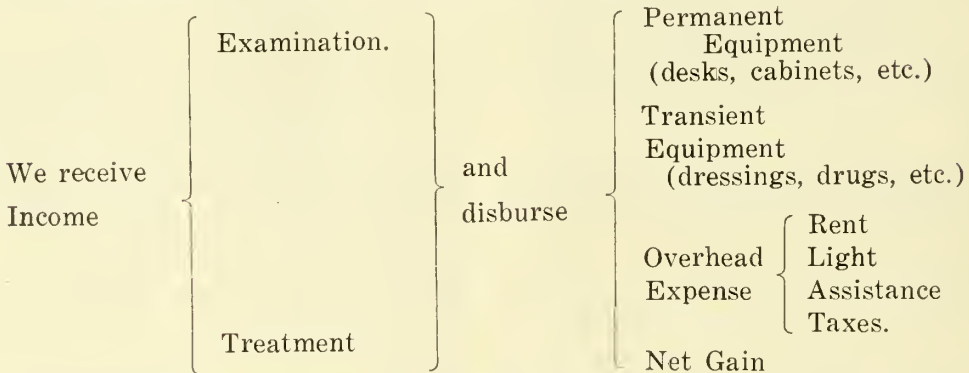
First, let us analyze a medical practice.



Then let us reassemble the plan.



Or let us look at the problem from a different angle.



Or, let us separate the factors requiring personal attention from those which under reasonable supervision can be deputized to others.

Require Personal Attention	Can Be Deputized
Responsibility to patient.	Certain parts of examination.
Understanding of patient's complaint.	Certain parts of examination.
Understanding of subjective and objective examination.	Collections, etc.
Direction of treatment.	Routine reports and correspondence.
Fixing of fees.	Details.
Difficult reports and correspondence.	
Administrative policy.	
Understanding of income.	
Understanding of disbursements.	

You can probably improve upon these to facilitate an understanding of your individual problems. Our idea is to illustrate the advantage of simple diagrams in the practical solution of medical administrative problems.

Many doctors have a vague idea of employing an unknown amount of assistance at an unknown expense to do an unknown amount of work in an unknown way. The result, if the details are not further understood, is an expensive failure to all concerned. One might as well expect to get the exact details desired by asking a grocer for fifty dollars worth of unspecified merchandise and assume that he will furnish the exact quantity and quality of sugar, lard, etc., that you desire.

If you expect profitably to secure assistance, it is therefore necessary that you understand exactly to what extent and in what way you want to be helped, that you secure those who are temperamentally and technically able and willing to render this assistance, that you teach them how you want to be helped, and that you do those things which cannot be deputized to others, that you neither overload nor underload with responsibility your associates, and that you repay their productive effort with money or its equivalent, and appreciation. Administration as such, directly produces nothing, although it materially facilitates production, or should do so. Deputizing effort to others is only profitable where your effort will be better elsewhere employed.

If you feel that it is easier and less costly to do all of your work personally, and directly, it is,—very often; you must not expect, however, to draw presidents pay for doing porters work. Not that one is any better than the other, but the former is justly remunerated at a different rate.

Having discussed a few of the elementary principles as applied to small medical organizations, let us apply them to medical firms or groups in which more than one physician assists in the care of patients and actually contributes patients. Here we have a division of ownership, production, and expense which must be equitably distributed. The usual methods employed are; (a) direct percentage, based upon an estimate of contribution and expense, (b) direct production, in which the contribution and expense of all or a major part of the organization is computed on a daily, weekly, monthly, or yearly basis, (c) a combination of these two methods, in one form or another. The direct production method is of course the more accurate but likewise the more difficult and costly to estimate and carry out. For those who desire especially simplicity and are willing more slowly to remedy inequities the direct percentage method is probably the most satisfactory.

(To be continued)

Inquiries, criticisms, and comments are requested. Address Dr. Chas. A. Bahn, 1551 Canal Street, New Orleans, La.

NEWS AND COMMENT

Lucien A. Ledoux, M. D., Department Editor

"Every man owes some of his time to the up-building of the profession to which he belongs."

—Theodore Roosevelt.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

During the month of May two scientific meetings were held, one was devoted to the showing of motion pictures:

"The Muscular Mechanism of the Stomach with Demonstrations by Motion Picture," by Dr. S. K. Simon and Dr. E. C. Samuel.

"The Science of Life," by the U. S. Public Health Service, an innovation which proved popular and was well received, as demonstrated by the "Standing room only" sign at this meeting.

At the second scientific meeting three papers were read:

"Hay Fever from Tree Pollens," by Dr. Wm. Scheppeggrell.

"The Dental X-Ray Picture," with lantern slides, by Dr. William A. Lurie.

"Acute Appendicitis in Latter Weeks of Pregnancy." Case report. By Dr. E. A. Ficklen.

The attendance at the first meeting was over 350, at the second approximately 50.

Since the last report the following have been elected to membership: Active membership, Drs. Gayle Aiken, M. Earle Brown, D. A. Lyons, J. H. Musser, A. R. Crebbin, T. A. Tumbleson, L. J. Genella, H. C. Magee and C. V. Perrier.

Interne membership: Drs. Cosmo Tardo, Nathan Palmer, H. B. Alsbrook and W. W. Flowers.

The following were reinstated: Drs. J. A. Lewis, W. H. Robin, M. W. Swords, L. M. Thomson and L. C. Chamberlain.

Dr. S. F. Braud, a member of this Society died during the past month.

An attempt is being made to increase the membership of the Society and to include every eligible physician in this City. The Board of Directors have appointed a Special Membership Committee consisting of Drs. Roy B. Harrison, P. T. Talbot and the Secretary to devise ways and means of accomplishing this purpose. Application blanks and any other information desired will be promptly furnished upon request. The present membership of the Society is 462, the largest in the history of the Society.

The Judiciary Committee has held several meetings and their completed report will be presented at the next quarterly meeting.

The Library received a gift of books from the late Dr. Paul Michinard.

Dr. Ben R. Heninger, a Member of the American Heart Association, has been appointed Chair-

man of a Special Committee to study the prevention of heart disease.

The Board ratified the following appointments as medical members of the Pure Milk Society: Drs. J. Signorelli, L. von Meysenbug, Rena Crawford, G. K. Logan, J. Lanford, I. Lemann, R. Lyons, O. Bethea and Elizabeth Bass.

The Board has endorsed the recommendation for the holding of an annual banquet, but it was stipulated that the expenses thereof were not to be paid out of the Society's funds. In regard to the above, announcement is to be made at a future date.

Members are urged to advise the office promptly of any changes of address. This will insure prompt receipt of meeting notices and of the Journal.

Following the Second Quarterly Meeting, the Society, as has been the custom in the past, will adjourn for vacation during the months of July and August.

LUCIEN LEDOUX, M. D.,
Secretary.

EIGHTH CONGRESSIONAL DISTRICT.

Following the prophecy of the Eighth District Councillor with reference to the possibility of a Charity Hospital or Clinic for Central Louisiana at Alexandria, the Honorable Bertrand Weil of Alexandria donated a lot, building and equipment for the establishment of a free clinic in that city, to be known as the Weil-Gehr Memorial Clinic, and which threw open its doors to the indigent sick and helpless of that section on June 22nd.

The institution will be under a board of directors headed by the Mayor of Alexandria, Hon. John Foisy, and arrangements with the medical and dental professions of Alexandria for the conduct of the institution have been well perfected.

This forms the nucleus for a large Charity Hospital in the near future for Alexandria and Central Louisiana and the citizenship of the Eighth Congressional District extends thanks and salutations to Senator Bertrand Weil for such a philanthropic act.

The medical societies of Avoyelles and Rapides are up in arms as a result of the menaces of the Police Juries of their respective parishes to place a ban on the medical profession with reference to alcoholic prescriptions.

The Police Jury of Avoyelles submitted the matter to the local medical organization for consideration, who, however, refused to surrender their constitutional privilege to prescribe alcoholics when they saw fit. In their resolution, they

offered assistance to the Police Jury in suppressing any offenders of this law by any member of the profession from Avoyelles parish. The Rapides Police Jury passed the ordinance but it met with strong resentment from the medical society of Rapides—branding the ordinance as a “backward step” and a “stumbling block” to the “advancement of science.”

On June 10th, meeting of the Avoyelles Parish Medical Society, Dr. S. J. Couvillon presented a paper on “Narcotics,” which created a good deal of interest and discussions. “Opium, its various derivatives and Cocaine, while the very best agents at our command for the relief of acute violent pains, are yet by careless and indiscriminate use, the greatest CURSE in all the land of medicine,” the doctor argued.

LAFOURCHE VALLEY MEDICAL SOCIETY.

At the monthly meeting of the Lafourche Valley Medical Society, the first since Dr. P. A. Dansereau was elected Secretary, the principal event was a talk by Dr. Amedee Granger of New Orleans, who gave valuable information regarding the X-ray. After the business meeting the doctors had a sumptuous supper at the Blue Parrot Cafenette.

WASHINGTON PARISH MEDICAL SOCIETY.

The monthly meeting of the Washington Parish Medical Society was held May 28th, 1925, at 8:00 P. M. The meeting was held in the dining hall of the Pine Tree Inn, Bogalusa, where a luncheon was served. After the luncheon the Society took up the regular order of business.

Dr. H. E. Menage of New Orleans, invited guest, appeared on the program, and read a paper with illustrations from steriopticon, “Some Ringed Eruptions of the Skin with Lantern Slide Illustrations.” The discussions were opened by Drs. Lafferty and Warner.

EAST BATON ROUGE MEDICAL SOCIETY.

The regular monthly meeting of the East Baton Rouge Parish Medical Society was held June 10th, at 8:00 P. M. at the Alvis Hotel. A paper on Bilateral Popliteal Aneurism by Dr. Paulson, with presentation of case, was freely discussed. Dr. Chas. Stumberg of the Louisiana State University appeared before the society and presented a new plan to be inaugurated by the University Extension Department. The plan is to have Dr. Willis of John Hopkins to deliver a series of 12 lectures and clinics on the subject of Tuberculosis. These lectures to be given one a week for the benefit of the doctors of the sur-

rounding cities, namely, Alexandria, Monroe, Lake Charles, Baton Rouge and perhaps one or two other cities. The lecturer to visit the various cities to deliver the lectures on a specified day, The cost of the course to be \$30.00 per member taking the course. After a free discussion it was decided to approve the course and a good number of doctors subscribed thereto. The meeting then adjourned.

Dr. R. B. Wallace, Secretary of East Baton Rouge Parish Medical Society, was operated upon for an attack of appendicitis.

Rapides joins Livingston and Tangipahoa Parishes, through its police jury, in placing a ban on physicians’ prescriptions for whiskey.

In each instance, it is reported that this action is the result of abuse on the part of some physicians of the rights and privileges accorded them under the Prohibition Act.

This is something for the local medical societies to start thinking about!

BIRTH REGISTRATION

WHAT IS YOUR PARISH RECORD?

It is of no consequence where a man is born: it is the great consequence that his birth be recorded. Is the name of your child and date of birth recorded with the State Board of Health as required by law and for the future protection of your child?

Where conditions are normal there are not less than 25 births annually for 1,000 population. Louisiana is short of birth 3,492 for 1924. Is one of these your child?

Forty-eight parishes failed to register their quota of births, and of these 31 are more than 100 short. To our credit, 16 parishes exceeded the normal number from 5 to 389, Lafourche Parish leading.

Parishes showing number of children registered in excess of 25 per thousand are:

Acadia	62	Livingston	66
Assumption	122	Orleans	109
E. Baton Rouge....	197	Plaquemine	5
Iberville	77	St. Charles	107
Jefferson	148	St. John	38
Jeff Davis	48	St. Mary	180
Lafayette	230	Terrebonne	324
Lafourche	389	Vermilion	63

Parishes registered short 100 or more of the 25 per thousand are (Rapides taking the lead, 339 short):

Avoyelles	208	Morehouse	117
Beauregard	156	Natchitoches	230
Bienville	215	Ouachita	100
Bossier	331	Pointe Coupee	133
Calcasieu	106	Rapides	339
Claiborne	182	Red River	203
Concordia	172	Richland	142
De Sota	189	St. Helena	113
E. Carroll	135	St. Landry	136
E. Feliciana	159	St. Martin	261
Evangeline	273	St. Tammany	137
Franklin	271	Tensas	101
Grant	118	Webster	170
Jackson	189	W. Feliciana	191
Lincoln	101	Winn	128
Madison	160		

Under 100 short:

Allen	94	St. Bernard	5
Ascension	84	St. James	23
Caddo	17	Tangipahoa	20
Caldwell	26	Union	64
Cameron	14	Vernon	22
Catahoula	69	Washington	60
Iberia	48	W. Baton Rouge	40
La Salle	56	W. Carroll	80
Sabine	58		

PIKE-LINCOLN-CAPISH-WALTHALL.

The Tri-County Medical Society met June 9th in Brookhaven, and were guests of the Superintendent of the King's Daughters' Hospital, Miss M. A. Brunner, who served a most delightful banquet to the twenty-five members and visitors present; after which the meeting was called to order by Pres. J. H. Beavers, with Secretary C. R. McKee.

Papers by Dr. A. B. Harvey, Tylectown, Miss., "Incidence and Causes of Heart Diseases." Dr. S. Paul Klotz, McComb City, Miss., "The Dysenteries." Dr. F. E. Collins, Brookhaven, Miss., "Some of the Kidney Diseases," which were freely discussed. The Society meets in McComb September 8th, as guests of the local doctors.

Dr. H. R. Fairfax, formerly of Bristol, Virginia, after special courses in New Orleans, is practicing in Brookhaven, limiting practice to diseases of eye, ear, nose and throat only.

Dr. C. R. McKee after special work in Roentgenology has located in Brookhaven, Miss., at the King's Daughter's Hospital, and has a well equipped laboratory for X-ray.

The subject of periodic health examination is being agitated by medical societies over the country.

In some instances, the local societies have taken up this work among their membership, resulting not only in direct benefit to themselves, but in stimulating public interest, following favorable press comment.

NEW REGISTERED NURSES.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and Shreveport, May 25-26, 1925.

The successful applicants are:

Misses Katie Lee Baker, Alice Elizabeth Barr, Mrs. Velma Barry, Mildred Alice Bateman, Rita Agatha Belliveau, Wilhelmina Odessa Berry, Emily Bourg, Mrs. Gussie Boyd, Effie Cecile Braud, Henrietta Bernadette Brink, Clara Catherine Brogan, Martha Sophia Bryan, Gracie Viola Bryant, Iris Brown, Evelyn Claire Chaney, Daisy Bell Clark, Pattie B. Clements, Annie D. Cobb, Rosalie Coker, Mrs. Mary Elizabeth Collums, Hazel Meridith Davis, Alice Louise Dolhonde, Laura Elizabeth Douglas, Rosa Gay Douglas, Mrs. Ida Lee Purdon Duggan, Jennie Duggan, Helen Elizabeth Durrett, Velma Odessa Fletcher, Mrs. Iona Hutcherson Franks, Helen E. Grabenhorst, Lillian Mary Hale, Mrs. Gertrude Hamilton, Mary Hanrahan, Jessie May Harris, Pearl Hazel, Leslie Henry, Mrs. Lillian Elaine Cannon Herbert, Marguerite Allen Horta, Ruth M. Horton, Goldie Virginia Kerr, Katherine Kumke, Ruth Kynerd, Ruth Marie Lasseigne, Eula Estelle Lester, Fannie McCowen, Clara Albertha McGoey, Ella Louise Magee, Eugenie E. Margot, Rose Margot, Jane Eloise Martin, Gillie Edith Neyland, Patricia Catherine Noonan, Ruth Odom, Irma Pignolia, Marguerite Janet Quinn, Anita Rachal, Dorothy Ramsey, Rose May Reddell, Lillian Jo Reed, Viola Claudia Robertson, Sister Mary Etheldreda, Rosa Louise Schafer, Jewel Neomia Sims, Nona Gwendolyn Smith, Violet Vivian Sollberger, Lucille Helen Souza, Bessie Lela Stagg, Daisy Antoinette Taylor, Theo. R. Thomas, Jennie Catherine Williams, Chrystine Bass, Ruth Benson, Elizabeth Stewart Bethea, Mary Eugenia Bethea, Margaret Marie Bodin, Minnie Cleo Byram, Willie Elma Byrd, Mary Estelle Byrnes, Clara Cornelia Carter, Frances Catherine Daricek, Emily Blanche Doty, Leta Josephine Fontenot, Mrs. Hattie A. J. Giroir, Mildred Mathilde Glasscock, Hilda Ivey, Stella James, Ethel Laffitte, Flora McNeill, Opal Lanier Regan, Bernice Ethel Souza, Dorothy A. Wiley, Jessie Wood.

Colored applicants: Josephine Evelyn Hill, Bessie Mae Whitman, Lela Clara Herlene Williams.

The Louisiana Nurses Board of Examiners is composed of the following members: Dr. John T. Crebbin, President; Miss Julie C. Tebo, R. N., Secretary-Treasurer; Dr. George S. Brown, New Orleans; Dr. Fred J. Frater, Shreveport; Dr. Robert W. Faulk, Monroe.

NEW BAPTIST HOSPITAL, NEW ORLEANS.

Dr. L. J. Bristow, superintendent of the Southern Baptist Hospital, New Orleans, has announced the following heads of departments:

Dr. Carroll W. Allen, surgery; Dr. Oscar W. Bethea, medicine; Dr. John T. O'Ferrall, orthopedics; Dr. Thos. B. Sellers, gynecology and obstetrics; Dr. H. W. E. Walther, urology; Dr. C. S. Holbrook, neuro-psychiatry; Dr. R. Crawford, pediatrics; Dr. J. P. O'Kelley, otorhino-laryngology; Dr. Victor C. Smith, ophthalmology; and Dr. Ansel M. Caine, anesthesia. The heads of roentgenology and pathology remain to be named later. The Hospital, according to Dr. Bristow, will be open to receive patients on January 1st. The first unit will have a capacity of 150 beds.

CHARITY HOSPITAL GRADUATION.

A class of twenty-six young women was graduated from the Charity Hospital School for Nurses last night at the hospital nurses home. Awards were made of the class honor pin and the Kostmayer scholarship to Goldie Virginia Kerr and Minnie Jane McRight, both of the graduating class.

Lieutenant-Governor O. H. Simpson in an outline of the history of the nursing profession, pledged his support of an increased appropriation for the Charity hospital from the 1926 Legislature.

Dr. E. D. Fenner, senior visiting Staff surgeon, said: "The Hospital authorities are determined to improve and enlarge the nurses' and internes' quarters." He pointed to the enormous forward stride of the profession since the time of Sarah Gamp.

Sylvan Levy, of the board of administrators, presided and greeted the class on behalf of the board. The Rev. Robert H. Harper, pastor of the First Methodist church, offered invocation.

EYE, EAR, NOSE AND THROAT HOSPITAL STAFF APPOINTMENTS.

Appointments for the current year of Dr. H. Dickson Bruns, as chief surgeon and a staff of twenty-two specialists, and the the gift of \$5000 to the hospital by T. H. McCarthy, trustee, were announced at the meeting of the Executive board of the Eye, Ear, Nose and Throat hospital here. The following physicians are on the staff:

Ear, Nose and Throat Department—Dr. Robert C. Lynch, surgeon in charge; Dr. John T. Crebbin, Dr. Kotz Allen, Dr. F. E. Lejeune, Dr. W. A. Wagner, Dr. John R. Hume, Dr. C. E. Granberry.

Eye Department—Dr. Charles A. Bahn, surgeon in charge; Dr. W. R. Buffington, Dr. Park Hewell, Dr. George Upton, Dr. Clothilde Jauquet.

Pathologist, Dr. W. H. Seemann. Roentgenologists, Dr. S. Samuel, Dr. E. R. Bowie. Consultants: Internist, Dr. Charles Eshleman. Neurologist, Dr. Henry Daspit, Dr. Fred Fenno. Dermatologist, Dr. Henry Menage, Dr. M. T. Van Studiford. Urologist, Dr. Paul Gelpi. Anesthetist, Dr. A. M. Caine.

HONORED.

Tulane University recently honored two of its prominent Alumni when it conferred the degree of LL.D. on Dr. F. W. Parham of New Orleans and Dr. W. S. Bickham of New York City.

Dr. Robert C. Lynch of New Orleans has been elected to the members' Council of the American Laryngological, Rhinological and Otological Society, Inc., at its thirty-first annual meeting in Atlantic City, N. J., according to advices received here.

Dr. Wendell P. Phillips of New York was unanimously elected president of the American Medical Association by the House of Delegates. It was the first time in the history of the association that a president has been elected unanimously.

GORGAS MEMORIAL.

Beginning early in May with the Special Medical Societies which constitute the membership of the Congress of American Physicians and Surgeons, the progress of the Gorgas Memorial Institute has been publicly reported to many interested groups.

The same program is being continued during May among the State Medical Societies and will be extended into June.

The Memorial was congratulated for its able work in urging the recognition of scientific medicine as the only authority in health matters, especially at a time, when influence of this kind is needed in so many communities of every state.

"BABY FARMS," PENNSYLVANIA.

Infant boarding homes in Pennsylvania must now be licensed by the State department of public welfare, according to provisions of a "Baby Farm" Act recently signed by the Governor. The license must first be approved by the local health

authorities, or, in the smaller towns and villages, by the person or agency designated by the welfare department. The Act also provides for the registration of all children in boarding homes.

Rhode Island has accepted the provisions of the Federal Maternity and Infancy Act. Forty-three states and Hawaii now co-operate with the National Government under this act.

Decreased infant mortality, fewer commercial agencies profiting from the unfortunate situation of unmarried mothers, fewer abandoned babies—these were found by the United States Children's Bureau to be some of the results of the Maryland law forbidding, except under special conditions, the separation of mother and baby for the difficult first six months of the baby's life.

Medical and health authorities of the United States, in a survey made public today, stress the new health values of gelatine in child nutrition and dietetics recently discovered by Mellon Institute of the University of Pittsburgh. The survey was made by the Medical Publicity Bureau in conjunction with the Home Economics Bureau for Gelatine, both of New York City.

PUBLICATIONS RECEIVED.

W. B. Saunders Company, Philadelphia and London: "Collected papers of the Mayo Clinic and the Mayo Foundation," edited by Mrs. M. H.

Mellish, Vol. XVI, 1924. "Physical Diagnosis of Diseases of the Chest," by Joseph H. Pratt, A. M., M. D., and George E. Bushnell, Ph.D., M. D. "Pediatrics," edited by Isaac A. Abt, M. D., Vol. VII. "Modern Surgery," by John Chalmers DaCosta, M. D., LL.D., F.A.C.S.

J. B. Lippincott Company, Philadelphia, London, Montreal: "Simplified Nursing," by Florence Dakin, R. N.

Lea & Febiger, Philadelphia and New York: "Infections of the Hand," by Allen B. Kanel, M. D.

P. Blakiston's Son & Co., Philadelphia: "Practical Clinical Psychiatry for Students and Practitioners," by Edward A. Strecker, A. M., M. D.

Paul B. Hoeber, Inc., New York: "Approaching Motherhood," by Georeg L. Brodhead, M. D.

The MacMillan Company, New York: "The Principles of Public Health Engineering," by Earle B. Phelps, B. S.

Government Printing Office: Mortality Statistics for 1922.

Miscellaneous: New and Nonofficial Remedies, 1925. American Medical Association Council on Pharmacy and Chemistry Reports, 1924.

REPRINTS.

"Lues and Luetism in Abdominal Condition," by Eugene Hertoghe, Sc.D., M. D., and William Seaman Bainbridge, Sc. D., M. D. "Lues and Luetism," by Eugene Hertoghe, Sc. D., M. D., and William Seaman Bainbridge, Sc. D., M. D.

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THE PREVENTION OF HYDROPHOBIA (RABIES)

OF LATE a great many cases of rabies in dogs have been reported from various parts of the United States. These reports show that the infection is widely distributed. No section of the country is entirely free from rabies. The dog, from the very nature of his habits, is the main disseminator of this disease.

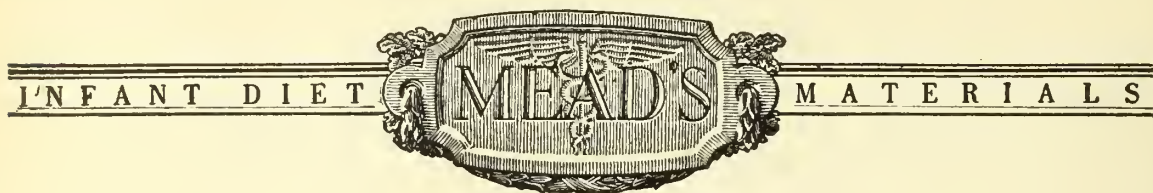
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AUGUST, 1925

No. 2

THE ABUSE OF FOOD*

JOHN B. ELLIOTT, M. D.

NEW ORLEANS.

Mr. President, Ladies and Gentlemen:

I wish to thank you, Mr. President, for the honor you have conferred upon me. I appreciate this honor all the more because for twenty years, off and on, I have been a guest of your society and feel that I come as a friend amongst friends: and again, because I have had so many splendid students from your state.

It is the custom, I know, for the annual orator of a Medical Society to review and congratulate the profession on achievements accomplished in the past year and I trust that I may be pardoned for not following this generally accepted rule.

I wish, however, to-night to bring to your attention some thoughts which have haunted me for many years: thoughts which have become more insistent as the years have rolled by and I have seen patient after patient and friend after friend pass away, just at the age when experience and study have made them useful members of society.

The prolongation of life is really the chief aim of the medical profession; the alleviation of suffering: the curing of disease: is only incidental: prevention of disease should be our highest aim. This is exemplified strongly today in the curricula of our medical colleges.

The National Government is more and more endeavoring to prolong life by the teachings and practices of its Public Health Service: during the world war the greatest demonstration of all times was staged by the medical departments of the Allied Armies in the fight against Typhoid Fever and it is hard to realize that there were only 1000 cases of Typhoid amongst the two million men that the United States sent to France.

The National Tuberculosis Association: the National Association for the study of Cancer: the National Association for the study of Heart Disease: the Rockefeller Foundation: all of these, each in its own sphere, are fighting for the prevention rather than the cure of disease.

The States are taking on more work yearly in the effort to eradicate disease, because each day lost to the state from sickness means less development of resources; greater slowing up in material and mental progress.

The County and City Health Boards are no longer satisfied to be rubber-stamps for permits for dairy and market, but are endeavoring through lectures and motion pictures, to teach the people how to work, as well as how to play, so that there be no lost motion in the striving for the perfect man in the perfect State.

The great Life Insurance Companies have learned that it pays, in dollars and cents, to teach prevention and yearly physical examinations have become an established practice in the more progressive companies. In comparatively recent years

*Annual Oration delivered before the Mississippi State Medical Association, Biloxi, May 12, 1925.

the Life Extension Institute of New York, with our great Chief Justice as First President, has been formed to teach the public the absolute necessity of yearly physical examinations if they wish to live to the biblical age of three score and ten.

These various agencies are not entirely altruistic; the Nation, the State, the City, have learned in the hard school of experience, that just when a citizen has come to that age when he or she is of the greatest usefulness to society, that he or she is snatched away by some perfectly preventable disease or accident and the hard grind of building up a new patriot and new citizen has to be started all over again.

If you will notice, amongst all the foregoing agencies for the promotion of health and thereby the prolongation of life, nothing has been said specifically about the subject to which I am asking your attention tonight, i, e; "The Abuse of Food, or to put it more strongly the "Curse of Overeating."

That we "dig our graves with our teeth" is a truism of many years standing, but like many another truism, it is studiously not observed.

Thirty years of practice and teaching, the last fifteen confined to medical diseases as seen in the adult of this southern country, has forced on me the preaching of a crusade against this curse, which, in my experience at least, is the predominant factor in the slaughter of the middle-aged.

As every medical man knows, 80% of all deaths after 55 years of age, are due to disease of heart or kidney or artery and too much food is the one outstanding factor in the causation of these diseases.

I do not believe that we eat more than our forefathers; but they led different lives; more country; less city; more walking; less motoring; the latter factor, the motor has made legs unnecessary appendages except for jazzing or parading Biloxi beaches. It is not altogether the fault of the present generation that this curse is

so prevalent, often and again do I hear the story from the middle aged patient of how he was forced to eat more than needed or desired by the fond parent when he was being "raised", a big meal was taken as the sign of good health and he who could hold the most was supposed to last the longest; I am not of those faddists who believe in having every mouthful weighed and seeing that fat and starch and proteid are in exact proportion, all that I am pleading for is moderation in quantity rather than quality. Common sense dictates that the mechanic; the farmer; the axemen shall have more food than the bank clerk or teacher. We physicians must teach that the amount of food taken shall be in direct ration to the amount of physical work done, but what we really see is almost exactly the opposite. Go into any restaurant or dining car and watch the lawyer; the banker; the merchant; ordering meals twice too large for men leading sedentary lives. I believe that we in the South need less food than those living in colder climates, the very effort to keep warm requires more calories per pound of body weight. From a rather limited observation I am inclined to believe that Europeans as a rule eat less than we do and certainly they seem to attain a riper old age and if you are of those opposed to the Volstead act you may say that this is because they have light wines and therefore require less solid food and to this I heartily assent; there is no better or more digestible food than light pure wine in moderation and just in the same degree there is no worse or more indigestible food than whiskey taken to excess.

The popular fad just now amongst the laity is high blood pressure; before you can ask a patient his name and age, he shouts at you that his pressure is 200 plus and that if he could only find some Doctor who could knock it down pronto, why, he would be well in a week. This is the physician's fault, we have stressed too much the fact of high pressure and have

not stressed strongly enough the main causes behind this elevation of pressure; before the days of prohibition, alcohol was blamed as the source from which all this trouble came; then the wild hurry and scramble after the almighty dollar was blamed for this seeming increase in the number of high pressure cases and yet as I look back over my cases I find that the highest pressures I have seen or am seeing are amongst those both men and women, who are leading not the most strenuous lives and who have never tasted alcohol but they have just steadily day in and day out and three times each day, called on the organs of digestion to do work that would stall a Ford car.

This crusade against overeating must start in the home, we must convince the mothers that we as physicians see very, very few deaths from undernourishment and that when the bread winner of the family drops off at 50 from high blood pressure, which means heart and arterial and kidney disease, that the trouble is not of recent origin but dates back 20 years and is the inevitable result of the groaning table and the second helping.

I realize that I am treading on dangerous grounds when I beg the housekeeper to cut the market basket at least one third, someone has to start the fight on this bad habit, for that is just what it is, a BAD HABIT; the boy and girl are taught it at home; the man and woman are taught it at banquet and club and hotel; mind you, I say we are taught this bad habit and yet we are commanded not to taste alcohol under penalty of the law and in some States we are forbidden to smoke cigarettes and not allowed to teach evolution.

Please do not class me as a pessimist or a kill-joy but 30 years of practice has left its mark and I resent this sacrifice of fine men and women to the "Abuse of Food."

THE RHEUMATIC, SYPHILITIC AND THYROID HEART.

J. H. MUSSEY, M. D.

NEW ORLEANS.

But a little over 300 years ago lived William Harvey, who by his discovery of the circulation of the blood, was destined to exert a more pronounced influence upon modern medicine than almost any other man before or since his time. A hundred and fifty years later, Withering (1785) wrote upon digitalis and thirty years before, Auenbrugger (1755) had first described a method of detecting disease by tapping on the chest wall, a method which was to be scorned until Corvisart, the personal physician to Napoleon, revived it fifty years later (1818). To Laennec, however, we are indebted, as with lung disease, for our greatest advance in exact cardiac diagnosis, for it was in the second edition of his famous work on mediate auscultation that there was first laid the foundation stone of modern clinical diagnosis of heart disease. It is a far cry from the past centuries when Harvey first established cardiac physiology, Withering cardiac therapeutics, and Auenbrugger and Laennec methods of diagnosis, to the modern period, yet in the interval relatively slight the advances had been made and it was not until the latter part of the last century that new and fresh discoveries came piling the one upon the other in such rapid sequence that at the present time one almost is overwhelmed by the mere mass of the material that appears in print relative to cardiac physiology, pathology, therapeutics and diagnosis. This, then, is my excuse and my apology for this paper: The ever broadening field of cardiology which must be reviewed critically and analyzed from time to time. In the present presentation I will omit any discussion of the cardiac mechanism and its pathological-physiological disorders and will confine myself to a broad discussion of some of the phases of the etiology, diagnosis and

treatment of the three most important types of heart disease of adolescence and adult life up to the time of senescence. There may be grouped or discussed in the following order:

- I. Rheumatic heart disease;
- II. Heart in hyperthyroidism;
- III. Syphilitic heart disease.

I. *The Rheumatic Heart.* Acute rheumatic fever is without doubt the most frequent cause of endocarditis, myocarditis and pericarditis in youth, certainly up to and through adolescence. As an indication of the widespread incidence of rheumatism, it might be mentioned that it is estimated that there are 180,000 deaths each year in this country from acute articular rheumatism, or rheumatic fever, which of course is equivalent to saying that there is a cardiac death in most of these individuals. The specific organism responsible for the disease has not been established. Numerous observers have described organisms which they believed were the cause of rheumatic fever, but the work has not been substantiated by others. Closely allied etiologically to acute articular rheumatism or rheumatic fever, but with entirely different manifestations, are chorea and tonsillitis. Parenthetically, it is of interest to note that St. Lawrence found a quite decided improvement in the incidence of recurrence of rheumatic fever after the removal of the tonsils, though Hunt and Osman at Guy's Hospital, London, do not corroborate this statement.

Pathology. In discussing the pathology of the rheumatic heart, it is well to use the terminology that has been suggested by MacCallum, who suggests the term endocarditis should be restricted to cases showing an existing active inflammation of the endocardium, while the permanent deformity of the valve, the scar or healed lesion which prevents proper function and which is the late result of endocarditis, should be spoken of as chronic valvular disease. It is in this latter condition that we are primarily interested. The permanent deformity may be the result of actual destruction of a portion of the valve, as well as

the organization of the vegetations, the subsequent fusing of the valve segments, thickening and deforming of the leaflets producing primarily a cicatricial narrowing of the mitral valve. This latter valve is the one usually involved, though it is by no means uncommon to have the aortic valve independently involved or involved in conjunction with the mitral lesion. In the acute stages of acute rheumatic fever there is practically always present a pancarditis, evidence of which shows itself in the myocardium by a focal collection of large concentrically arranged wandering cells around the minute vessels, which are known as Aschoff bodies and which are indicative of a rheumatic heart, the only pathology which is truly pathognomonic of the disease.

Symptomatology. Chronic valvular disease is usually manifested first as a pure mitral insufficiency, but frequently and usually sooner or later it is associated with mitral stenosis. It might be well to accentuate the fact that changes in enlargement of the heart are usually those in the direction taken by both conditions, that is upwards and downwards towards the left. The thrill felt at the apex is a very obvious finding which is frequently missed simply because of failure to place the hand upon the chest wall. The murmur of mitral stenosis occurs in early, mid or late diastole or often in presystole, with a crescendo character terminating in a sharp, snapping first sound. The pulmonic second sound is usually accentuated. Of course the physical signs vary considerably, depending upon the grade of the stenosis and the compensation. The same may be said also of the subjective symptoms.

The late result of rheumatic heart disease with mitral stenosis is frequently shown by the occurrence of fibrillation of the auricles in contrast to syphilitic heart disease in which auricular fibrillation rarely if ever occurs. It might be well here to interpolate a word or two as to the mechanism of auricular fibrillation. Garrey, and Mines independently, first ad-

vanced the hypothesis and Lewis definitely proved by extensive research that auricular fibrillation is due to the so-called circus movement in which the contractile impulse starts at the base of the great vessels and is propagated in a circular movement around the auricle at an incredible speed. As a result of this extremely rapid impulse the refractory period in many of the fibres of the auricle will vary. Instead of the normal impulse conveyed from the sinus node down to the bundle of His, a large number of irregular impulses in force and in time are set up by this primary circular stimulus and the bundle of His is bombarded by large series of extremely disjointed and irregular impulses, of which the strongest only will be conducted through this neuromuscular bundle. This haphazard stimulation of the ventricle results in an absolute irregularity of the heart and the pulse.

Treatment. During the stage of pancarditis the treatment essentially is very much prolonged rest and because of the almost specific action of the salicylates they should be continued in large doses for many weeks and then should be continued in relatively large doses for a period of at least a year after the attack. The treatment of the chronic valvular defect that has resulted from the acute lesion is primarily that of any ordinary case of cardiac insufficiency. General heart hygiene should be rigidly enforced. Medication is unnecessary until fibrillation supervenes.

II. *The Heart in Hyperthyroidism.* In conditions of hyperthyroidism, the cardiac manifestations are sometimes spoken of as the thyrotoxic or goitre heart. Just how frequently cardiac changes take place in hyperthyroidism depends very largely on the criteria used by the individual observer. Of course, in any condition of hyperthyroidism, heart changes and symptoms are present, but that does not imply by any means that any permanent injury has taken place to the heart muscle, which after all is the one factor of importance

in maintaining properly the circulation. Hamilton says that it occurs in about 35 per cent of cases. Willius and Boothby in their studies found that in 2 per cent of the patients with hyperthyroidism severe myocardial changes were present and of these 2 per cent, 25 per cent showed auricular fibrillation. Dameshek reported evidence of cardiac damage in 25 per cent of his cases.

Three theories have been advanced to explain the changes that occur in the myocardium; first, mechanical pressure of the enlarged thyroid gland, a theory which is too obviously faulty to require discussion; second, mechanical increased work; and, third, the toxic effect of the hypothetical poison upon the myocardium. Either the second or the third theory would seem to be satisfactory fully to explain the cardiac changes that take place. As both factors are undoubtedly involved, it would seem the part of wisdom to accentuate neither but to consider any cardiac disfunction a result of both of these factors. Mechanical strain is a result of increased metabolism which in turn leads to increased work of the heart with a greater volume output, resulting eventually in cardiac hypertrophy, and dilation later, which in turn results in degenerative changes in the heart muscle. Arrhythmias may develop and impair the circulation in the heart muscle; there is a loss of tonicity and hypertrophy results, again leading to dilatation. These mechanical effects are exaggerated and made more obvious by the effect of the circulating toxin (Fahr).

Type of Disorder. Dameshek, in 141 cases, found that 25 per cent showed "damaged hearts." Willius in his series stated that 20 per cent showed weakened hearts and that 2 per cent showed badly damaged hearts.

The cardiac manifestations that result from the over-active thyroid gland, be it a toxic adenoma or an exophthalmic goitre, are first those of palpitation, which not infrequently is of a paroxysmal character.

Subsequently there develops a persistent tachycardia and in occasional acute cases the tachycardia is present from the beginning, while fibrillation, transient, paroxysmal or even persistent, and more rarely auricular flutter or paroxysmal tachycardia, may be observed on the first examination of the patient. These complications of a disturbance of mechanism in the thyroid heart are the most dangerous manifestations and, as Pardee speaks of it, are the most dangerous effect of a toxic goitre. Persistent auricular fibrillation practically always implies severe damage to the heart, whereas intermittent fibrillation is not necessarily associated with severe damage to the organ. In fact, it is still maintained by some cardiologists that paroxysmal auricular fibrillation is perfectly compatible with a normal myocardium.

The treatment of the goitre heart, of course, depends upon the elimination of the cause and implies such measures as are usually directed towards overcoming thyrotoxicosis. Treatment is not directed towards the heart primarily unless it shows marked evidence of damage or unless auricular fibrillation is present. In these cases sometimes quinidine is of value, according to some authorities, but personally I feel more comfortable in using large size doses of digitalis.

III. *Syphilitic Heart Disease.* On account of the avidity with which the spirochete localizes in the aorta, it might be said that all syphilitics are potentially likely to have aortitis and aortic heart disease. However, again there is some difference of opinion among pathologists. Undoubtedly the figures are not 100 per cent, but at least they are very high. If it is conceded that there are several strains of spirochetes, one of a neurotrophic strain and the other a angiotrophic strain, it is fair to argue that at least a few individuals with syphilis of the central nervous system do not have aortic manifestations. In a large series of cases that Dr. Bennett and I studied recently, a goodly number did not

show aortic involvement but as the statistical study ran back to 1907, it must be admitted that the finer technic, such as is employed by Warthin, was not in use at the time and that the criteria of the present day for the diagnosis of aortic syphilis was not used throughout.

Aortic disease per se will not be discussed. We will discuss only aortic insufficiency and syphilitic myocarditis. Aortic insufficiency has always been considered to be syphilitic in the great majority of cases, but some cardiologists are coming to believe that rheumatic fever is also a frequent cause, as shown by a statement of Dr. Lewis Conner, President of the American Heart Association, in which he stated that he believed that rheumatic fever is more frequently an etiological cause of aortic insufficiency. Lambert, in the same discussion, said that he believed that 90 per cent of the cases were syphilitic in origin. The point of view apparently depends upon the source of the physician's clientele.

Involvement of the myocardium is usually considered to be essentially chronic in type, manifested by a perivascular round cell infiltration, but there is no true characteristic pathology. Scott in 23 carefully studied cases found evidence in 8 of latent syphilis, whereas 15 cases showed only ordinary hypertrophy. These cases, however, seem to function very much more poorly than do ordinary cases of cardiac hypertrophy with dilatation, probably as a result of interference of the coronary circulation. That acute myocarditis occurs is shown by a very recent report of Warthin of several cases of sudden death in which there were evidences of acute exacerbation of latent syphilis with innumerable spirochetes in the heart muscles. In conjunction with these remarks on the pathology of syphilitic heart disease it is well to bear in mind that the cause of death in syphilis is very frequently cardiac.

Diagnosis. The diagnosis of syphilitic heart disease rests upon the physical ex-

amination, the laboratory studies and the history of syphilitic infection. Physical examination discloses a high pitched, early diastolic murmur in the second right inter-space or along the left border of the sternum. A word about the character of this murmur. At times it can be demonstrated in the same individual without any trouble. A few days later it may not be present or brought on only by exercise. Again I have seen it disappear with exercise and be present when the patient was at rest in bed. Associated with this of, course, is the cardiac enlargement downward and to the left and the characteristic pulse findings. Auricular fibrillation very rarely occurs. As to other types of irregularity, heart block is occasionally seen and has been reported as a result of gummatous infiltration of the bundle of His.

Treatment, of course, should be directed towards the eradication of the spirochetes, but a word of warning should be given with regard to the danger of using the arsenicals in cardiovascular degenerative disease associated with syphilis. Dependence should be placed upon mercury and the iodides. Here might be mentioned the value of bismuth in the treatment of syphilis, the spirochetacidal effect of which is midway between arsphenamin and mercury. I have recently had the opportunity of treating certain cases with bismuth and have had the most gratifying results. The treatment otherwise should be that of cardiac hygiene and when decomposition occurs the use of the digitalis, rest in bed and so on should be insisted upon, nay more, should be absolutely required.

Conclusion. A knowledge of the effects and of the results of rheumatic fever, thyrotoxicosis and syphilis upon the heart is necessary to all medical men engaged in the treatment of heart disease. Acute infectious endocarditis may present a definite clinical picture which may occur in the course of a pneumonia, or be of an indefinite origin and symptomatology, such as infection of the blood stream and heart

valves by *Streptococcus veridans*. These conditions are relatively more frequent than is generally thought. Recovery from these infections, however, is relatively rare and it cannot be said they are likely to produce chronic disease in many individuals. Influenza is presumed in a certain number of cases to produce definite myocardial changes, but it rarely produces valve changes. The particular danger of these infections lies not in the rare case in which they produce a primary cardiac lesion but rather in the frequency with which they attack hearts previously damaged as secondary invaders. They often complete the cycle started by the original disease. Every effort should be made, therefore, in the individual with chronic heart disease to eradicate any focus of infection. In such a person every intercurrent infectious disease, no matter how trivial, should be treated by prompt and prolonged bed rest.

THE USE OF THE LIBRARY IN MEDICAL AUTHORSHIP*

MARY LOUISE MARSHALL,

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NEW ORLEANS

Specialism in any field must necessarily be purchased at the expense of other endeavor, and thus experts in the branches of medical science, performing with eagerness and ease the feats of their art, frequently experience great difficulty in formal expression of a very well-known subject in the medium of written English. The technique of authorship and a thorough knowledge of the sources of material constitute a specialty in themselves—a most necessary adjunct for successful and constructive medical writing. With this idea in mind, it is my purpose to try to clarify and smooth away some of the difficulties which have made themselves evident in my

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four years of work with and for the medical profession of New Orleans.

First comes the choice and limitation of a subject. In order to serve a true purpose, every contribution to medical literature must be expressive of original thought and research on the part of the author, a formula of conclusions drawn from facts gleaned from experience and observation. A review of the work of other authors on the same or related subjects may be made to any extent desired but should always form a necessary background for individual contribution of original thought.

Difficulty frequently results from failure to set up clearly defined limits in the presentation of a subject. In an attempt to cover too wide a field, the main purpose of a theme may be completely obscured and thereby defeated. Sometimes it may prove wise to follow date lines and delineate the work done on a certain subject during the stated period of years. Whatever may be the treatment, there must be in the author's mind, manifest limits of inclusion.

The gathering of correlative material from the literature presents a distinct problem. If a complete bibliography is desired, perhaps the first index source to be consulted will be the Index Catalog of the Surgeon-General's Office.

This valuable reference aid is now in its third series. It contains in an author, subject and title index, in dictionary order, references to both book and journal material received in the Army Medical Library since the corresponding alphabetical volume of the preceding year. It has been the plan to publish one volume each year—to contain that part of the alphabet in references, which might be given in an approximately equal number of pages, continuing consecutively from the preceding annual volume. In this manner the entire alphabet has been covered twice. The first series includes the material in the Library of the Surgeon-General's Office through the publication dates of the sixteen annual

volumes, 1880-95. The second series records accessions in twenty-one volumes through the publication years, 1896-1916. The third series is published through the letter D, covering 1917-23. Journal articles are listed only under subject in the main alphabet while books are indexed under subject, author and title. This guide forms a basis for all exhaustive bibliographic work.

With the method of publication as shown, it will be seen that by the time the volume containing the end of the alphabet is due for appearance, the volume containing the corresponding references in the preceding series is some 15-20 years old.

For instance, in making a complete bibliography on Osteomyelitis, we find that the last volume containing this entry, was of the second series, published in 1907. This will contain all material on this subject added to the Library in question during the dates 1890-1907, since in 1889, the volume was published indexing the material current to that date.

The next problem, then, is the location of references to material published since the date of the last available volume of the Index-Catalog of the Surgeon-General's Office, and we gain an introduction to the Index-Medicus.

The first volume of this reference index appeared in 1879. It was published monthly, was edited by J. S. Billings and Robert Fletcher, and listed in classified subject arrangement, the material received currently in the Library of the Surgeon-General's Office. Twelve monthly numbers constituted a volume, for which were compiled an author's index and a subject index, with page references for the entire volume. This monthly publication continued through its twenty-first volume, and was discontinued in April, 1899. The entries herein included have since been published in the succeeding volumes of the Index-Catalog, and are thus made more available.

With the discontinuance of this Index, there appeared one published monthly by the Institut de Bibliographie de Paris. This was also made into an annual volume with author and subject indexes, and continued through three years, covering the current medical literature for the dates 1900-02, under the name *Bibliographia Medica*.

In January, 1903, the *Index Medicus* resumed its monthly publication under the direction of the Carnegie Institute of Washington. This second series followed the same plan as the first, the references are classified by subject, with author and subject indexes appearing at the completion of each annual volume. Publication continued on this plan through volume eighteen, 1920.

In January, 1921, the scheme of publication was changed. The index appeared quarterly instead of monthly and the references were placed in alphabetical subject order. An author index is published at the end of each year and volume giving page references. With this change the volume numbering began again in a Series 3.

The *Index Medicus* is an almost complete record of current medical literature throughout the world. Its plan of arrangement makes it laborious to use and difficult to understand on first examination, but it is invaluable to exhaustive compilation of medical bibliography, and it should be studied for complete familiarity by all medical authors.

In April of 1916, there appeared the first number of a new index to current medical journals, published by the American Medical Association under the title *Quarterly Cumulative Index*. As indicated in the name, it is published every three months, each number being a complete cumulation of all preceding numbers for a given year. This index has grown extensively in the number of journals included. Its arrangement in dictionary order, of authors and subjects in one alphabet makes it most usable for quick reference. It is based on

the journals received in the Library of the Journal of the American Medical Association. In the fourth number, or complete annual volume, is to be found a list of medical books, considered worthwhile, published during the current year. New editions are not included. There is also, a cross-reference list of the same titles arranged in a subject classification order. Moreover, in the annual volume may be found a list of government documents of current publication, which might be of interest to the medical profession. In each quarterly number is a list of the journals indexed, with addresses, frequency of issue and cost.

On account of the simplicity of its arrangement, and the ease with which it may be used, this index series has gained wide popularity and is perhaps the first to be consulted for rapid location of current periodical material.

In summary then, of our indexes to medical literature, suppose we take the subject *Osteomyelitis*, mentioned before. Through the two series of the *Index-Catalog of the Surgeon-General's Office*, we have reviewed material on the subject through the year 1906. From this time to date, the reference may be collected year by year from the volumes of the *Index Medicus* and *Quarterly Cumulative Index*. Then if the subject is to be limited to the progress made in the treatment of the condition during a certain length of time, only those indexes covering that period need be consulted. If only the material in the local Library is desired, the medical indexes may be checked with the Library periodical file in the formation of a list.

The Library of the Orleans Parish Medical Society and that of Tulane Medical School comprise some 30,000 volumes, immediately available to the medical profession of New Orleans. The current journal lists cover a large percentage of the periodicals in English and many foreign ones. In your own Library alone, are 42 files of journal which are complete

from volume one to date, and many other files which lack only a few numbers. It is our policy to complete each year as many of our files as our resources permit.

The service now offered by your Library has been developed with the enthusiastic co-operation and aid of the doctor librarians and the members of the Library Committees. It includes the preparation of bibliographies on any subject, without charge, and the collection of the material available in the city. Requests for references may be made by telephone, letter or personal call. We have established privileges on interlibrary loan with the Army Medical Library, the College of Physicians in Philadelphia, John Crerar Library in Chicago, and the St. Louis Public Library. From any of these institutions material may be borrowed for the cost of transportation. From John Crerar Library, we receive material of a scientific, but not necessarily medical nature. From the Library of the Journal of the A. M. A., we may secure journals of very recent date, since unbound material is unavailable for loan from the Army Medical Library. From the St. Louis Public Library, we borrow material of a popular nature which might have a bearing on the subject at hand.

Your Library receives the complete series of Abstracts published monthly by the American Institute of Medicine, from which we secure short resumés of articles in foreign languages or not at hand in our collection. We are members of the Prior Consulting Bureau, by virtue of which we receive the abstracts published in their *International Medical Digest*. Through this same service we secure abstracts, at length or in brief, of unavailable material, complete translations, copies of designated articles. A further feature of this service is the furnishing of photostat prints of material desired, an invaluable asset as regards plates, or in the case of rare books, which may not be borrowed from any Library.

It is our endeavor, through our organization, to make available to the medical profession of New Orleans, the entire field of medical literature, either from our own shelves or by loan from co-operating libraries.

So much for the collection of material. Having reviewed the literature to the extent desired, the next step is the formation of a working outline and the development of the theme. From the articles examined, a summary decision will have been made as to the method of treatment for the subject-matter presented. The formation of an outline is most important to obtain emphasis, from the standpoint of rhetoric, in bringing out with greatest benefit the purpose of the contribution. It is only by means of a well-formed outline that coherence in the whole, and the limits of inclusion as regards content may be observed.

This preliminary frame-work of subject-matter should include a suitable title, suggestive subheads, a clear summary and logical conclusions. The statement of title should be brief and definitely indicative of content. Subheads should cover specifically the various phases touched upon in the theme. A summary should review the content and form a basis for a formula of logical deductions.

The development of the theme and the preparation of a paper for presentation and consequent publication bring into play a knowledge of many technical details of authorship—conformation to one person and tense; the introduction of case reports, illustrations, charts, and the forms in which they may best be made to serve their purpose; the citation of bibliographic references in consistent form—all these make up a distinct problem to which time and space forbid adequate treatment on this occasion. Each lends its aid toward correct style and power in composition.

Just a word as to the time element. We are all too prone to postpone until the last minute matters outside our regularly

strenuous routine. In medical authorship, however, if the preparation of a communication is delayed and correspondingly hurried into form immediately before presentation, it loses thereby a power which can only be gained through re-reading, study and careful revision. Successful authorship has the prerequisite of careful method, technique and correction, prior to publication. It is only by studied care in these matters that skill and prowess in writing are to be obtained.

In conclusion, I would again offer for your full use, the complete resources of your professional library, with the various services it has developed, including any possible aid which the Assistant Librarian, in charge, may have it in her power to give you.

DISCUSSION

Dr. H. E. Bernadas: Miss Marshall's paper should not be passed over without ample discussion. The very idea that brought the paper forth should be discussed. I think our President and the Chairman of the Scientific Essays Committee are to be congratulated on entering upon a new line of thought.

Miss Marshall's paper on the preparation of medical papers and the possibilities of our library, which has grown to be a source of such invaluable information, is a radical departure in medical papers. I know of nothing which should furnish more food for thought than this paper. She has endeavored to impress upon us the aid which we may receive from her research work. She has at all times been and is always ready to help in any research work in her library. She has stressed the methods and technique required to write a paper intelligently. She has laid stress upon the fact that, first, we must be familiar with the subject we intend to exploit; second, to correlate and gather all information pertaining to the matter from other sources, and last, but not least she has impressed upon us the fact that we must, after this is done, forget that we are medical men and become temporary authors, that is, see that our papers are written in good English—correct English.

She has impressed upon us that our papers are the records of our knowledge, our attainments and our ability by which the future will gauge us. In other words, she very probably would have told you that our writings are the finger prints of our mentality.

Dr. Homer Dupuy: Having served as Librarian for nine years, I may be forgiven when I pour the unction of flattery to my soul by indulging the belief that I did my share towards the upbuilding of our really great Medical Library. I agree with Miss Marshall, the medical author should have a clear, definite idea of the matter to be included in his essay. I go further, he should likewise know what is to be excluded. For he above others must practice the most humane of virtues in a medical writer, **brevity**. The Medical Index is our greatest asset for research work. At first it presents difficulties in its manner of procedure; this once mastered it will prove invaluable as a source of reference to the literature. With such an efficient, courteous and helpful Assistant Librarian, our research work is now made easier. With 30,000 volumes available, and with access to the Surgeon General's Library, Miss Marshall will agree with me, when I say, we must dig deep or taste not of the Perian spring, for a little knowledge is a dangerous thing.

ACCESSORY NASAL SINUS DISEASE IN CHILDREN*

CHAS. A. McWILLIAMS, M. D.,

GULFPORT, MISS.

On account of so much attention being directed to the relationship of infected tonsils and adenoids to diseases of the upper respiratory tract we very often forget to include the sinuses in our examinations of children. It is a common practice to attribute all chronic colds with nasal discharge to diseased tonsils and adenoids but we are frequently consulted about cases in which tonsils and adenoids have been completely removed, yet the child continues to have the same nasal discharge and cough. It is in just this class of case that we do not get the full benefit of the operation and in the mind of the laity the operation is a failure.

It is for this purpose that I make a plea for a very careful examination of the sinuses of every child. Especially is this important when the nasal symptoms predominate. I have reference to the case

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

before the removal of the tonsils and adenoids, because I find it better to explain to the parent about the presence of a sinus infection before operation. Then if the nasal symptoms do not clear up in due time we can direct our treatments to the relief of the sinus disease.

Dean and Armstrong investigated the sinuses in a group of children presenting the common symptoms of infected tonsils and adenoids. They found 65 out of 150 cases to have some definite involvement of the sinuses.

Our attention has been drawn to the importance of the sinuses in children during the past few years by Dean, Arbuckle, Montgomery and others. Numerous cases of cardiac disease, nephritis, arthritis and bronchitis have been reported by them.

Schaeffer's description of the sinuses is as follows:

"By the end of the first year the maxillary sinus is sufficiently developed in width to extend beneath the orbit.

"As a rule, one can not be sure of the frontal sinus until the sixth to twelfth month of post fetal life.

"It must not be overlooked that even in early childhood the anterior and posterior group of ethmoid cells are fairly well established and subject to disease. The sphenoid sinus in early childhood is more precocious than one would infer from diverse statements in the literature. They may come in intimate relationship with the ophthalmic and maxillary nerves and be a potent factor in childhood neuralgias of the trigeminal nerve as early as the third year. It is obvious that the sphenoid sinus is of early importance clinically and by the second or third year has assumed proportions sufficiently large, to become the seat of pathological processes and to retain infectious material in its cavity."

We find during each severe coryza, measles, scarlet fever, influenza and some of the other infectious diseases that the sinuses of children are more or less involved. If there is proper drainage and

the patient's resistance is good there is no permanent damage.

Probably the most frequent symptom is sneezing, particularly in the morning. The next most frequent symptom, I find, is a dry, unproductive cough. This is especially common at night and sounds very much like whooping cough. One case of mine had a slight afternoon temperature and some suspicious shadows in her lungs with a cough of several months duration. Drainage of the sinuses cleared up the cough. Hoarseness is frequently a symptom. Enlargement of the posterior group of cervical glands occurs. There is always a chronic nasal discharge but the patient is not aware of it as a rule. It usually drops in the post nasal space.

In making diagnosis I depend chiefly upon a visual examination of the nose and throat. If the nasal symptoms predominate it is very important to exclude infection of the accessory sinuses. The throat is examined to determine the condition of the tonsils and adenoids, but more attention is given to the pharynx. A thick muco-purulent discharge coming from the post nasal space with an enlarged lateral band of lymphoid tissue is good evidence of sinus infection. A follicular pharyngitis is often found.

The nares are examined before and after shrinkage. The nasal mucous membrane is thick and boggy and the discharge is usually found along the inferior turbinate or coming from under the middle turbinates. A spur, ridge or thickening of the septum is usually seen. Suction gives valuable information. Transillumination sometimes is of value but more often is a useless procedure, especially as used under ordinary conditions. And so is the X-Ray, in some cases, misleading, unless the infection is unilateral. A purulent discharge will show more in an X-Ray than a simple mucous discharge.

The nasopharyngoscope gives valuable information but often can be used only with a general anesthetic. Irrigation of

the antrum can be done in the older children.

The simple acute infections respond very quickly to treatment. A laxative, rest in bed, nasal irrigation with normal saline and argyrol instilled in each nostril usually suffice. The more stubborn cases require suction. Very frequently a Brawley or other water suction apparatus is given the patient to use at home.

Dean has found that 80% of his cases cleared up after the tonsils and adenoids were removed.

If we have a case with a definite sinus infection and diseased tonsils and adenoids, we first remove the tonsils and adenoids and then irrigate each maxillary sinus, using Deans antrum trocar. By injecting about 4 cc. normal saline with a 10 cc. glass syringe through the trocar canula and aspirating it with the syringe, we are able to determine whether the antrum is infected. If the solution is cloudy or very thick an antrumotomy is done, using a Brawley rasp and enlarging the opening with a 4 mm. Reaves punch forceps. A rubber tube size 16 French with a collar is inserted through the opening with the aid of a frontal sinus probe. This is placed so as to interfere as little as possible with respiration through the nose. It is removed after 48 hours. None of the inferior turbinate is removed, in fact seldom is it necessary to sacrifice any functioning part of the nose. Even if the ethmoid sinuses are badly diseased the drainage obtained by an antrumotomy together with suction and irrigation will practically always result in a cure.

The treatment of accessory sinus disease in children along the lines outlined will give splendid results to both the patient and the rhinologist. There will be fewer failures following tonsillectomy when we make it a routine practice to investigate the sinuses of every child coming to us for examination.

THE RELATION OF ORTHOPAEDIC SURGERY TO GENERAL MEDICINE*

JOHN T. O'FERRALL, M. D.,

NEW ORLEANS.

During recent years I have become aware of a growing misunderstanding of the branch of surgery which relates to bone and joint disease and a misconception of its purposes and accomplishments, upon the part of the average physician as well as the layman. With this fact before me, I am going to resurrect a few details, which may be common knowledge to most of you but may serve to refresh the memories of others, or enlighten some.

Orthopaedic Surgery as a part of general medicine dates back many generations. Its name, taken from the two Greek words "orthos" and "pais," meaning straight child, is often misinterpreted as being derived from the Latin "pes," and therefore confining its activities only to pathological conditions of the feet. It is a distressing fact that so many shoe fitters and salesmen of stock arch supports are taught this derivation and in calling themselves "Orthopedic Specialists" more easily defraud the ever-gullible public and continue their harmful practices. It is of much more serious moment to know that a very great many of our own profession send their patients to these people for the relief of their complaints; whereas, an intelligent and careful examination would reveal the real condition, and the application of a few simple measures would bring relief.

The growth and importance of this branch of general medicine has developed so rapidly in recent years that its name has become a misnomer. It can now be said that modern Orthopaedics represents a surgical and medical treatment of the bones and joints, preservation of the func-

*Read before the South Mississippi Medical Society, September 11, 1924.

tion of their controlling ligaments, muscles and tendons, and the prevention and correction of distortion and deformity, whether congenital or acquired. There is no mystery or clairvoyance associated with it as a specialty. It is based upon the sound principles of careful medicine and conservative surgery.

One of the reasons for the rapid development and growth of this branch of medicine is the absence of interest shown by the average physician in unusual disabilities and chronic conditions; unfortunately, also, from the lack of attention to detail and the failure of the application of the principles and methods of progressive surgery on the part of the general surgeon and general practitioner. It is too often the case that the patient has not been carefully examined; in many instances removal of his clothing and examination of the part complained of has not occurred. This is not happening only in the country and smaller cities but is daily brought to our attention in the important medical centers. A careful physical examination, general, or the part complained of, should be religiously done.

Orthopaedic Surgery, contrary to the belief of some, is not a specialty which teaches you that all cases falling within its province are chronic and therefore incurable. To the contrary, it loudly sounds the call for preventive medicine and offers relief and cure for preventable deformities and so-called incurables. Nor does it teach you that every hip condition in a child or young adult is tuberculous and the patient therefore condemned to be, and expected to be, a life long cripple. It cries out to you, the men who generally see these conditions in their incipiency, to apply modern diagnostic methods, investigate all possible sources of infection and be ready to apply simple traction to relieve pain and prevent deformity. It most emphatically does not teach you that congenital club foot should be given indifferent treatment, or no treatment at all, until the baby is

3, 6 or 9 months old, or even older. It pleads with you to demand of the parents that correction be begun as soon after birth as possible. Plaster-of-Paris splints are often applied at the early age of 10 days to 6 weeks. In this day of enlightenment an uncorrected club foot, at any age, is a reflection upon the community at large and especially upon its doctors.

With the help of the general practitioner and the general surgeon, the orthopaedist is greatly concerned in the early, as well as the late, care of the many cases of infantile paralysis which exist throughout every part of our country. The early diagnosis is, as we all know, difficult, but fortunately the acute or painful stage is short and what has occurred is soon realized when the child again attempts to walk. It is at this time that active steps must be taken to prevent the development of deformities, which are, of course, due to contraction of the active groups of muscles, and represent the real problem in the treatment of the disease. If complete co-operation of the parents and the physicians seeing these cases early could be obtained, thus preventing deformity, the late treatment of infantile paralysis would be greatly simplified. As soon as possible after the acute stage of the disease has subsided, splints or braces, designed to prevent deformity should be applied and worn continuously, day and night, associated with massage, muscle training and intelligently administered electricity, to preserve muscle tone. Of course, after deformity has occurred, which is the usual thing and is due to improper treatment, operative stabilization is indicated and usually offers opportunity for improvement. I therefore make an appeal to you all to give adequate protection to all extremities involved in these cases with the paramount idea of preventing deformity.

Very little thought and attention is given to the subject of attitudinal disturbances or conditions due to poor posture. I mean by poor posture the attitude we

assume in sitting, standing and walking, which gives evidence of faulty weight bearing lines and resulting in visceroptosis, back and foot strain and scoliosis, especially in young women. The popular "debutante slouch" which is exaggerated by the modern practice of "parking corsets," gives one a continuous demonstration of these flat-chested individuals, with prominent abdomen, flat lumbar spine and round shoulders. It is needless to remind you that such a relaxed carriage, upon the part of anyone, gives rise to frequent back strain, foot strain, and gastro-intestinal disturbances. An even more serious result is the production of a fixed scoliosis of varying degree, the correction of which represents one of the most difficult problems with which we are confronted. The many growing children of school age and young adults brought to their family physician for vague pains, often called "growing pains" and described as undernourished, should have the benefit of a careful examination of the spine and extremities to discover such deformities in their incipiency, when they are correctable. In this connection, every child of school age should be examined at least once a year for such attitudinal or postural defects. It is a common thing in my experience to have mothers bring their children in with an uncorrectable scoliosis with severe rotation, saying the condition has just been discovered, when, as a matter of fact, it has existed for a year or two. Nevertheless, the condition has escaped the family physician, the school physician and the school nurse, because the spine has never been examined. I am heartily in accord with examination of the hearts and lungs of our school children, but I regret that so little attention is given to the examination of the spine and extremities.

Another neglected form of posture, giving rise to preventable deformities, is that associated with recumbency. Many of our friends and patients present themselves after a prolonged illness with contracted

Achilles tendons, shortened ham-string and thigh flexor muscles and round back, some of whom carry these conditions through the remainder of their lives, because proper attention has not been given to bed posture. With proper springs and mattresses, bed shoes and posterior splints, all of these deformities can be prevented.

Back strain, the "industrial lame back," lumbago, sciatica, sacroiliac strain, all can be classified under one heading, that is, sacro-lumbar strain. Such a condition of painful back is always with us and is one of the most common conditions we see in its varying degrees of severity. It is also one of the most puzzling conditions, especially in compensation cases, with which we have to deal, and tests the patience and ingenuity of most of us, to determine when a man is malingering or when he is free from pathology. A very common type of back strain is that manifesting itself as the symptom complex known as "sciatic-scoliosis." The history obtained in these conditions generally indicates that the trouble had existed over quite a long period of time and the symptoms are usually precipitated while the patient was stooping forward or lifting something. The clinical symptoms are, a list of the lumbar spine toward or away from the affected side, with a compensatory curve of the dorsal spine. There is tenderness over one or the other lumbo-sacral angles and pain referred to the buttock, thigh and leg, or the entire sciatic distribution on the affected side. There is spasm of the lateral spinal muscles. The condition is exceedingly disabling and does not respond to the ordinary methods of treatment for back strain. It is found necessary to put the patient at rest in bed in Bucholz position, which is 45° of straight leg raising, on the affected side, with extension of from 10 to 15 pounds. The leg is gradually lowered, as the spasm subsides, until the straight position is reached. After a few additional days' rest in this position, a plaster jacket is applied with the patient

in the Sayre frame. After 4 to 6 weeks of such fixation a wide lumbo-sacral belt is applied and generally no further discomfort is experienced.

It is not meant to infer that all cases of lame back occurring in those engaged in industrial occupations are due to back strain. It is necessary in many of these conditions to differentiate between the real back strain and cases of chronic arthritis, especially of the hypertrophic type. It will often be found that patients have not before suffered from back pain until an injury is received, but upon careful examination it is discovered that they have a severe hypertrophic arthritis. Their injury has precipitated the symptoms, yet the basic condition has in no way the injury as its real etiological factor. It is also believed that many cases of anomalous 5th lumbar transverse processes are potential lame backs and undoubtedly in some instances trouble is due entirely to these large transverse processes of the 5th lumbar vertebra. It has been discovered in some instances that the transverse process has impinged upon the wings of the ilium and a fracture of the transverse process produced. If time permits, a few lantern slides, illustrating such cases, will be shown.

Although the subject has been written upon frequently and discussed in many medical meetings, it is still not understood by the profession at large that fractures of the surgical neck of the femur occurring in adults, and especially in those beyond the age of 50 years, are readily curable if given adequate treatment. This existing misunderstanding is far too easily proven by the large number of patients condemned to the permanent use of crutches, especially older people, because they have been told they are too old to be given the proper treatment and instead have been left to "let nature take its course." Nature very often takes its course in the form of hyperstatic pneumonia and takes the patient along also. It is hard to understand why surgeons forget the first principle of the

healing of fractures when confronted with such problems, that is, that successful healing of bone fragments is dependent first upon proper apposition. The fixation of these fractured hips in a plaster-of-Paris spica in Whitman's position offers painless reduction, accurate apposition of fragments, and anatomical alignment, which means a minimum of shortening. Not only do the above essential and ideal conditions prevail, but the patient is comfortable; she can be easily and frequently turned in bed, thereby reducing the danger of pneumonia to a minimum. Within a few weeks after the application of such a plaster the patient can be gotten on her feet, assisted by crutches, and her period of complete disability considerably lessened. After it is certain healing has been accomplished, the use of a walking caliper splint is essential to protect the soft callous from the stress of weight bearing and possible late shortening.

Despite the fact that broken bones have been mended since the beginning of man and still play a large part in the practice of medicine, there is no one subject which is more grossly neglected and the principles of the treatment of which no more frequently violated than that of fractures. Ever so frequently patients are seen who are complaining bitterly of pain after reduction of a fracture. To quote Sir Robert Jones, "This should never be, for upon the complete reduction of any fracture pain ceases." It is not, however, the faulty reduction which is accountable always for this pain. It is far too frequently discovered that the coaptation splints, whether of boards or plaster, are so much too tight that the pain is unendurable and ischaemia is imminent. It seems to be a common belief that in order to maintain the alignment of a fracture, after reduction has been accomplished, that the splints must be applied as tightly as possible, forgetting that circulation must not be interrupted and that swelling must be allowed for. Once a fracture is reduced the slightest

pressure from the splints will maintain the alignment, the patient will be comfortable and danger of deformity from ischaemia will be overcome. If the splints are to be made of plaster-of-Paris, they should be immediately bivalved, thus permitting swelling without pain and deformity.

A common belief prevails that the text book must be followed to the last letter and once a splint is applied it must not be removed until the accepted six weeks necessary for its healing has elapsed. Of course forgetting that if a fracture is reduced, that cohesive properties of the callus produce sufficient union for careful handling within 10 days to 2 weeks, and in order to insure joint function and reduce both bone and muscle atrophy, very careful removal of the splints associated with active and semi-passive motion should be begun. Such treatment, if properly done, increases circulation, thus hastening union.

While it is important to remember, as mentioned a few moments ago, that enough callus is thrown out in fractures cases to permit early motion of adjacent joints, at the same time it is equally essential to realize that the callus manufactured in the repair of fracture does not become sufficiently consolidated to permit ordinary use or full weight bearing in the time advised in the average text book. It has been conclusively proven that callus is still soft and shortening of fractured extremities is still possible six to eight months after reduction of the fracture. It is for this reason that many can account for shortening of their lower extremities some time after the splints have been removed. Many cases, also, of so-called non-union are simply cases in which consolidation is slow, and a satisfactory result will occur if the facts just stated are kept in mind and the case handled accordingly.

It is an unfortunate fact, in this connection, that so little is known of the caliper splint by the general medical profession. There is no one splint which is so useful, so important, in the treatment of fractures

of the lower extremities, and so simple, in its measurements and manufacture. This splint is designed to transfer the weight from the bones of the lower extremity to the pelvis. This is accomplished by means of a padded iron ring to fit the upper thigh and against the tuberosity of the ischium, to which is attached two iron uprights which terminate by a caliper into a tunnel into the sole of the shoe. The only measurement necessary in ordering this apparatus from the bracemaker is the circumference of the thigh at the groin and the inside length of the leg from the crotch to sole of the shoe. The brace should be fitted full long to insure protection of the fracture and accurate transfer of weight to the pelvis. This brace not only serves to protect the recent fracture, but at the same time permits activity on the part of the patient.

Further after-care of fractures is in many instances of equal importance to that of the initial care. Physiotherapy offers this much needed adjunct to medicine and surgery. No community is fully equipped to properly handle bone and joint conditions unless at least one institution or office can offer such facility. Baking and massage administered by a fully trained individual are invaluable in the mobilization of joints and increasing muscle function. It is a mistaken idea that massage can be administered by anyone that comes along; it must be done by a competent, trained person. Diathermia has proven itself of greatest assistance in promoting the reduction of scar tissue and adhesions, the absorption of excess joint fluid and the healing of fractures in which there is non-union or delayed union. Faradic and Galvanic electricity, intelligently applied, is often of the greatest value in maintaining muscle tone and assisting the return of nerve supply. The present day apparatus is far superior to the cumbersome machines of a short time ago, and if carefully selected almost universally proves satisfactory.

In closing I wish to impress upon you that this paper is not presented in a spirit of criticism but in an effort to bring before you some of the common errors in treatment and to suggest some of the means toward improving our end results.

Since writing this paper, I have seen two cases in consultation, both of whom had spent a week in a private hospital in a city of 50,000 after an automobile accident and were sent home with diagnosis of bruises. Upon applying to my office for treatment, it was found that one had a crushed fracture of the 12th dorsal and 1st lumbar vertebrae, and the other a fractured pelvis in three places. These mistaken diagnoses resulted from careless examination.

PNEUMOTHORAX THERAPY IN TUBERCULOSIS*

INDICATIONS—RESULTS

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GENERAL CONSIDERATIONS

The age old quest for a cure of pulmonary tuberculosis is prosecuted today perhaps more intensively and extensively than ever before in medical history, but, unfortunately, none of the recently heralded (by the lay press) cures have demonstrated their value and safety. I do not come to you today with a discussion of a *cure*, but in presenting the subject of pneumothorax therapy in tuberculosis it is my object to attempt to evaluate, in only a limited way, certain phases of this *proven aid* in treatment. I use the term *proven* advisedly, for there has been no single contribution to tuberculosis therapy within the past twenty years comparable to it, and I feel it would be indeed an unwarranted waste of time, as well as an unnecessary defense of an accepted mode, to labor the point, that pneumothorax therapy has an *accepted*

position in the armamentarium of the modern phthisiologist. Granted, then, that this method of treatment has proven its value, within the limitations of its present applicability, it may be worth while to summarize most briefly, (for the literature is voluminous as well as valuable), under what conditions it should be used, and what results may be expected from its use in the hands of the competent. At the risk of possible misunderstanding and facing the chances of criticism for too narrow dogmatism, I insist that it is a method (like a good many other high powered ones, for both good and evil) which should be undertaken only by the competent and careful observer.

It is quite obvious that the method attempts putting at rest at least the pathological portion of the diseased lung, if not the whole of it, and Krause has well argued that *Rest* is a *specific* treatment of tuberculosis. It further presupposes one adequately competent lung for respiratory purposes, if one only relatively free of disease. This at once suggests that the ideal case for such a treatment is one with advanced or advancing lesion that is practically unilateral—a condition not found as often since the general use of stereoscopic plates as was formerly supposed. In a discussion of the slides I shall have something further to say later relative to the value of the X-ray in the choice of cases for pneumothorax therapy, as well as its valuable help in the course of treatment. The discovery of such a unilateral advanced case does not assume the immediate institution of the treatment, until a sufficient time has elapsed under routine conservative treatment in bed to demonstrate the inadequacy of such measures. As in the management of pneumothorax, so in the selection of cases it is well again to remember the old maxim, *festina lente*—make haste slowly—try to be sure rather than sorry—that is, sure that you are dealing with a pair of lungs, one side of which gives a reasonable expectation of sustaining the entire res-

*Read by invitation before the Medical Association of the State of Alabama, at Birmingham, April 21-24, 1925.

piratory effort, granting the success of the collapse of the worse diseased side. Since discredit, as well as discouragement follows any radical remedial effort unwisely chosen or hurriedly instituted, it is almost superfluous to add that its use, only in those last hopeless and desolate cases, when it is spoken of as an *ultimum refugium*, and frankly admitted to be such, is hardly fair in the expectation of accomplishing the impossible, miraculous as have been some of the results which we have all seen. In other words, pneumothorax therapy has its definite limitations.

Before discussing these, it might be well to state that pneumothorax can best be used with the patient under sanatorium control, and in proximity to the fluoroscope. Certainly a rigid regimen is indicated in the beginning of the treatment, and to allow infractions of the rules of rest early is to court disaster. Also, to attempt too general a classification and routine in these cases is most unwise, for the rule of individualization, so necessary in the general management of tuberculosis patients, obtains here with equal force.

INDICATIONS

What, then, are the indications and limitations of pneumothorax therapy? With respect to the *worse diseased* lung, there is fairly general unanimity that it should be used (1) in severe acute infiltrating and cheesy pneumonic processes involving one lung or a part thereof; (2) in chronic fibrocaceous tuberculosis that is progressive with little or no demonstrable cavitation; (3) in chronic destructive processes with fibrous degeneration and cavitation; (4) in the replacement of extensive pleural exudate, sometimes combined with auto-serotherapy; (5) for the control of otherwise uncontrollable, or too often repeated hemorrhage with the danger of dissemination therefrom; and (6) to continue spontaneous pneumothorax. In such a classification it is quite obvious that these cases are arrived at by a proper correlation of the physical, roentgenological and clinical

findings. I deem it important to emphasize this, as reliance upon either one to the exclusion of the other is sure to lead to disaster.

In addition, pneumothorax is used at times in desperate cases as a palliative measure for the control of cough and copious expectoration, though its indiscriminate use for these purposes should not be undertaken. The more or less general unanimity of opinion as to the indications for pneumothorax, so far as the worse diseased lung is concerned, unfortunately does not obtain with respect to the good or better lung, and every writer has his own opinion as to the extent and degree of tuberculosis present in this lung that is permissible with the hope of safety and success. Naturally, the ideal is a contralateral lung that is practically negative, so far as clinical and roentgenological examinations show. These cases are rare if the disease is more than moderately advanced in the bad lung. The next in point of hopefulness are those in which there is a peribronchial infiltration, spoken of only a few years ago as peribronchial beading or studding. In these cases, the abnormal physical signs are usually confined to breath changes, though the X-ray reveals definite increase in the shadows of the bronchial tree. The next class of cases is that of fibrocaceous lesions involving the upper portion of the contralateral lung, these involvements being divided into quiescent and active lesions. The most careful study and critical discernment are necessary in such a determination, for, if much activity is present, there is danger of its aggravation, whereas, if the lesion is relatively quiescent the pneumothorax may be undertaken with a considerable degree of confidence and hope. The classical physical sign of activity (if there is such) is the presence of moist rales, particularly those heard in showers, though it is always well to recall how remarkably pleural crepitations can simulate moist rales. As always, in pneumothorax work, the stereoscopic plates

give invaluable assistance in the effort to determine the activity or quiescence of a lesion. But this method too has its very definite limitations, for the X-ray at best is but an instrument of precision for recording densities, and it is the interpretation of these densities that calls for the greatest skill and experience. Here it is well to emphasize the frequent failure of the physical and roentgenological findings to agree. Reliance upon one to the exclusion of the other will lead to serious error. Early in pneumothorax work, so great was the respect for the contralateral lung that one presenting more than the minimal evidence of disease was rarely subjected to the procedure. Again, early in this work, observers were somewhat divided in their opinion as to the effect pneumothorax had on the contralateral lung. With wider observation, with better technic of administration, and improvement in judgment and experience, it has been so common an experience to see a lung that gave evidence of considerable disease show unquestionable evidence of improvement with the progress of the collapse on the other side, that many observers are extending the field of the choice of cases to those that ten years ago even would have been considered impossible. True, the result in these cases depends upon a good many other factors, such as the skill of the operator and his judgment in the management of the collapse, the degree of compression obtained and the kind of lesion collapsed, the flexibility of the mediastinum, the occurrence of exudate, etc.—but the point I wish to make is that, if you have a progressive and destructive lesion in one lung, with a mild fibrocaceous lesion in the upper half of the upper lobe of the contralateral lung, such a case may be given pneumothorax with, at times, miraculous results. If the progress and destruction in the worse lung is not too great, it is always wise to wait awhile, placing the patient at complete bed rest with the hope of allowing the better lung to quiet down. How long it is safe to wait

calls for only the wisest discrimination and the keenest judgment, and unfortunately there are no rules to supply these.

Some advise the use of small injections, with the idea of partial collapse, until the severity of the active process is somewhat quieted down, and the pneumothorax then undertaken more fully.

DUBIOUS CASES

In spite of the most careful clinical and roentgenological study, there always will be a certain number of cases about which you will be dubious;—first, as to the possibility of doing a pneumothorax, and second, as to your justification in attempting it. With respect to the former, I think it can be stated with assurance that at times, in spite of clinical evidence of an apparent obliteration of the free pleural space, and X-ray findings that seem hopelessly to discourage the effort by showing a homogeneous density associated with thickened and adherent pleural leaves, you will find, with care in the selection of your point of entrance, a relatively free space, and the pneumothorax can be readily started. In other words, if the other conditions warrant the effort, no matter how discouraging the physical and X-ray findings appear, it is impossible to foretell the possibilities of effecting a pneumothorax until you have tried, and this may mean a good many trials. Again, if you are in doubt about the integrity of the contralateral lung, and yet, in spite of the most rigid rest regimen, the condition is progressive in the worse side and the patient's general condition is becoming graver, it is the better part of judgment not to wait too long before starting pneumothorax, for your patient must have some fighting chance left when you decide on the pneumothorax; and not infrequently the relief from toxemia, as a result of the compression, will have the most remarkably salutary effect on the uncompressed side. Here, too, you proceed with sufficient slowness to observe the first evidence of disaster to the good lung, and either cease the injections or withdraw

what has been put in, should necessity arise.

LIMITATIONS

Of the limitations of the method a great deal has been said, and much of the disparagement of it is doubtless due to the reason that its injudicious use in improperly selected cases, with consequent failure and disaster, has naturally fostered criticism and disrepute. It is obvious that it is impossible to effect a pneumothorax unless there is a certain amount of free pleural space, and yet you can't tell whether it is free or not until you have tried. One of the most spectacular cases in my experience of twelve years with the method was the successful effort on the *seventh* trial at entry, after six devastatingly sad failures, for I was convinced failure meant the death of this patient. The patient has now been well two years and recently spent the winter in St. Petersburg, Fla., without any ill effects. Again, with large cavities near the periphery of the lung, in addition to the highly probable presence of firm pleural adhesions preventing a satisfactory collapse of the cavity and the consequent failure of the procedure, there is the imminent danger of spontaneous pneumothorax occurring as a result of the gas pressure, and this too frequently means a speedy termination. In collapsing a lung for the control of hemorrhage—first comes up the decision of the origin of the hemorrhage—not always the easiest thing in the world to determine—and then the next thing is the degree of compression compatible with safety, first in stopping this hemorrhage, and second in not forcing blood into uninfected areas or blocking it up in excavations with the inevitable disaster of such procedures. Advancing, particularly edematous, laryngeal tuberculosis, as well as manifest involvement of the intestinal tract, naturally forbid the employment of the method. I naturally have refrained from a discussion of its use in those far advanced bilateral cases in which it is a question

which lung should be collapsed, for here, usually only palliation is expected, and if the procedure is expected to be used later on the other side, there are too many factors for decision to enter into a discussion of them now.

CAUSES OF FAILURE

The causes of failure of the method, are of course, first of all failure to find a free pleural space, due to an obliterative pleuritis—not a failure of the method, for, of course, in such a case no pneumothorax is possible. The impossibility of effecting a real collapse because of pleural adhesions is one of the most potent causes of failure—and yet it is one of the blessings of pneumothorax that its clinical benefits are not entirely limited by the completeness of the collapse, as I shall try to show you with the lantern slides. Progress of the disease in the contralateral lung also is responsible for a good many of our failures; and yet, in these cases I have often felt justification for it in the amelioration for some time of many distressing symptoms, and because of the undoubted prolongation of life it gives. The natural hazards and causes not dependent on or associated with the tuberculosis, as well as the perversity of human nature, and the consequent failure of proper co-operation on the part of the patient, also add to the the list of failures. The very common presence of pleural effusion and its not infrequent sequel of obliteration of the pleural space, in spite of your best efforts to maintain the pneumothorax, also account for not a few failures. And the list could be added to by minor causes, but these are the chief ones.

RESULTS

What of the results? In a mode of therapy, varying all the way from complete and total compression of the lung to the injection of the merest quantity or film of air, because of adhesions and consequent pocketing, it is naturally almost impossible to evaluate the results with a degree of accuracy that cannot be challenged.

But granting first, the suitability of the material selected and the experience of the qualified observer, and the possibility of securing an effective, if not a complete collapse, the results justify the high place the procedure has taken in late years. In following the selection of cases by some such rules as I have laid down, you will arrive at the conclusion that the method is applicable in only about five to ten per cent of the patients presenting for treatment. And success attends its employment in this group in percentages that vary from fifteen to something above fifty, the latter figure being rarely achieved in any large series of cases. It is practically impossible to evaluate results in tabulated form because of so many factors concerned, and further because in these factors such a wide diversity occurs; for instance, the choice of cases by an individual reporter, and the classification of these with results tabulated according to classes; the degree of disease manifested in the contralateral lung; the degree of collapse obtained conditioned upon pleural adhesions; the flexibility of the mediastinum; the length of time the collapse was maintained; the presence of tuberculous, as well as non-tuberculous complications; the control of the patient during the course of treatment (sanatorium management offering manifest advantages over routine home treatment); the length of time elapsed since the last treatment was given; the skill and experience of the writer, and a good many other factors. It is obviously unscientific to attempt to group results of two workers, one of whom uses the method quite early, and the other who waits until it is the *last* chance, too frequently the *lost* chance; or again to contrast recent results with those reported six or eight or ten years ago. Granting, then, that it helps only about

thirty per cent of a group who represent, say, only about seven and a half percent of those presented for treatment, it is eminently justified in what it does for them, for in the large majority of these cases, pneumothorax is undertaken because of failure of routine measures, and without it an early termination is most likely. It has been used in the past too frequently as a last resort. I do not agree with those who extend its application to earlier and earlier cases, first, because this is not usually necessary, and second, because of the dangers of the method, of which I haven't time to speak.

As to my own results while I have used the method constantly since 1914, because of the great difficulty in keeping up with patients after their return home, I shall only report on thirty-six cases whose subsequent history is definitely known to me. Of these thirty-six, eight achieved an economic cure—or, in other words, have been able to return to ordinary living and business pursuits; sixteen were markedly benefited, or else materially helped; thirty-four per cent are dead. In other words sixty-six per cent of thirty-six per cent apparently hopeless cases are either better or cured. Some of these are still under observation—the oldest one has not been gassed for over ten years.

CONCLUSIONS

Pneumothorax therapy in tuberculosis has an established place but definite limitations. The more carefully the case is chosen, the more likely is the result to be satisfactory. Its occasional spectacular result should not create blind enthusiasm; its failure should not discourage its continued use. It is not a substitute for proven means of treatment—it is an accepted aid to them. It should be used with meticulous care, with constant fluoroscopic and clinical observation, with alert apprehension, and sober but confident zeal. Generalization is dangerous, individualization is the key to success.

SECONDARY TUBERCULOUS PERICARDITIS WITH REPORT OF CASES.

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Tuberculous pericarditis secondary to infection elsewhere in the body is more common than is generally believed; Bamberger and McPhedran state that next to rheumatic fever it is the most common cause. Thym in 1897 in a detailed report of 94 cases found pulmonary tuberculosis in 53, miliary tuberculosis in 28 and tuberculosis in other organs in 14 cases. In 5 cases the condition appeared to be primary. Roberts points out the rarity of the involvement of the serous pericardium as compared to the involvement of other serous membranes in miliary tuberculosis. At necropsy of 40 cases of miliary tuberculosis observed by the author there was involvement of the pericardium in only one instance as compared to involvement of the peritoneum in 27 instances. Osler found involvement of the pericardium in 7 out of 275 cases of tuberculosis at necropsy. Willigk noted 11 cases in 1387 necropsies. Wells in 1048 necropsies found pericardial adhesions in 128 cases. The process was acute in 71 and chronic in 57 cases. Eight of the acute cases were tuberculous. Metcalf states that the pericardium is involved in 5% of the cases of tuberculosis. Mach-Lachlin in 975 necropsies found pericarditis in some form in 100 cases, or 9.75%. Ten of these were tuberculous, or .975%; among these were the largest of pericardial sacs filled with large amounts of fibrin and fluid. Christ out of 3000 necropsies on aged subjects found that tuberculous pericarditis is frequently the cause of death in aged individuals, but is usually secondary to tuberculosis elsewhere in the body. Out of 81 cases of pericarditis admitted to the St. George's Hospital, London, between 1911 and 1923, only 3 were tuberculous or 3.6%.

In 300 necropsies observed by the author there have been 2 cases of secondary tuberculous pericarditis and one of primary tuberculous pericarditis. Since it is generally accepted that most cases of idiopathic pleurisy with effusion or adhesive pleuritis are tuberculous, is it not logical that the same may hold true for the pericardium? Difference of opinion has been expressed in the literature in regard to the relation of a large amount of exudate to tuberculous pericarditis. Bertau collected from the literature 12 cases of secondary tuberculous pericarditis proven at necropsy; in which the effusion varied in amount from 1000 to 2000 cc. Berard and Pehu reported a case in which 2000 cc. were aspirated and emphasized the fact that the patient was able to walk about and was remarkably comfortable in spite of the large effusion. While a tuberculous exudate can and often does reach 1 or 2 liters, it does not necessarily follow that a large exudate may not be non-tuberculous or that a relatively small exudate may not be tuberculous. Probably the reason that the patient tolerates such a large effusion; while some patients have died from strangulation of the heart with small amounts of fluid (only 250 cc. in Gluck's case), is that the chronic course has allowed the pericardium to stretch sufficiently to keep the intra-pericardial tension below the limits of normal thus preventing a serious embarrassment of the circulation. The presence of a large effusion with a relatively symptomless course points to a chronic course, and tuberculous pericarditis with effusion is practically the only form that runs a prolonged relatively symptomless course. The fluid may be sero-sanguinous at the beginning of the disease or it may be unmixed with blood, and rarely is it purulent from the outset. The blood is believed to come from the capillaries that appear in the organization of the successive layers of fibrinous deposits (Virchow), in some cases it may come from ulceration of the visceral pericardium.

CASE REPORT NO. 1.

W. G., white male, unmarried, age 39 years, sawmill worker, admitted to Shreveport Charity Hospital Nov. 25th, 1923, complaining of (1) pain in hips and back, (2) swelling of the feet. No history of tuberculosis or syphilis in the family. He had gonorrhoea in 1918 which lasted for 2 months; had epididymitis for 2 weeks following this and the left testicle has never been entirely free from swelling since attack in 1918. No history of chancre or chancroid. He dates present illness from October the 1st, 1922, when, while doing heavy lifting he was taken with a sudden sharp pain in the left testicle which radiated to the right hip and down the right leg. He was forced to go to bed and a few days later he began to have some fever, but there was no swelling of the joints or no tenderness. The pain and fever continued for 4 weeks during which time he was confined to bed. At the end of this time he was confined to bed. At the end of this period the temperature became normal and the pain in the right leg gradually decreased and the patient was up on crutches for 4 weeks, at the end of which time the pain had entirely disappeared. Two weeks later he returned to work, worked for 2 days; when he was taken with a dull aching pain in the lumbar region, right hip and right leg. During this attack he had no fever and there was no swelling of the joints. His local physician then gave him a series of 9 injections of Neoarsphenamine over a period of 9 weeks. At the end of third period there was no improvement in the pain and he was then sent to the Charity Hospital in New Orleans; where he was given 5 intravenous injections of neoarsphenamine and 1½ hours later following each injection his spinal fluid was drawn off. After these he was given "rubs" and other medical treatment. He received treatment at the above hospital from Jan. 16, 1923, until August, 1923, he was then discharged and returned home. The pain was still present in the back, hips and legs. This pain continued about the same until October the 10th, 1923, when it became more severe and at this time the left leg began to contract and flex on the abdomen. The pain continued about the same until he entered the hospital on November the 25th, 1923. One week before entrance he noticed a mass forming over the right kidney region.

Physical examination revealed a fairly well nourished and developed white male, about 30 years of age. Pupils were equal and reacted to light and accommodation. Deep reflexes were apparently normal. Epitrochlear lymph glands enlarged on the right, posterior cervical lymph

glands were enlarged on the left, inguinal lymph glands were hard and about the size of olives on both sides. Lungs: Breathing was abdominal in type and the excursion of the diaphragm was decreased. Tactile fremitus was decreased over the lower left lobe posteriorly. There was decreased resonance from the angle of the left scapula to the base. Breath sounds were suppressed over the lower left lobe posteriorly. There were moist rales from the angle of the left scapula to the base. Heart: Apex beat was not visible and the apex beat was diffuse. There was no palpable thrill. Cardiac dullness extended 18 cm. to the left in the 6th interspace and 5 cm. to the right in the 4th interspace and downwards to the 7th interspace on the left. There was no shifting of the area of cardiac dullness. Heart sounds were weak and distant, no murmurs were heard. Abdomen: The liver was enlarged 4 cm. below the costal margin in the mid clavicular line, and was tender on palpation. The spleen was palpable 3 cm. below the costal margin. There was slight tenderness on palpation over the entire abdomen. Just below the 12th rib about 4 inches from the spine on the right side there was a small fluctuating mass. Urine showed a large amount of albumen and a few coarse granular casts. Wasserman was negative. Blood count showed, red blood cells 2,816,000, white blood cells 13,000, polymorphonuclear neutrophiles 79%, large lymphocytes 10%, small lymphocytes 11%, Hemoglobin 33%. Blood cultures daily for seven consecutive days were negative. X-ray examination showed a destruction of the articular processes of the second and third lumbar vertebrae with bone proliferation. There was marked enlargement of the cardiac shadow in all diameters the outlines being of a smooth rounded symmetrical formation. The glands at the hilus of the lungs were enlarged. On November the 27th the abscess over the right kidney was aspirated and a large amount of thick yellow pus was obtained. On November the 29th 150 cc. of turbid hemorrhagic fluid was withdrawn from the pericardium by the substernal route. Guinea pig was injected with the pericardial fluid and at necropsy of the guinea pig seven weeks later miliary tubercles were found in the lungs and liver and there was enlargement of the mesenteric lymph glands. A smear from a macerated lymph gland from the guinea pig showed tubercle bacilli present. Pericardium was again aspirated on December the 3rd and 200 cc. of the same type fluid obtained. He was then referred to surgeon for appropriate treatment of the tuberculosis of the vertebrae and for the abscess over the kidney region. He gradually grew worse and died January 19th, 1924. Was unable to obtain necropsy.

CASE REPORT NO. 2.

J. M., white male, age 18 years, admitted to the Shreveport Charity Hospital May 15th, 1924, complaining of (1) enlargement of the neck, (2) choking sensation, (3) pain in the shoulders and chest, (4) night sweats, and (5) unable to swallow. Five months before admittance to the hospital he gradually became weak, would tire easily and lost interest in his work and surroundings. This continued gradually growing worse for three months and at the end of which time he was so weak that he was forced to quit work and spend most of his time in bed. Four months after the onset of the weakness he noticed that his neck was getting stiff and that he could not turn his head without severe pain. Three days after the beginning of the stiffness of the neck he noticed a small mass on the right side of the neck which gradually increased in size until he felt as if "he was going to choke." At this time he had difficulty in deglutition and could only take liquids. One week after the beginning of the enlargement of the neck he noticed sharp shooting pains in his upper abdomen and the right side of his chest appearing at irregular intervals. At this time he also began to have a dry and non-productive cough, an afternoon temperature and frequent sweats, and rapid loss of weight. The above symptoms continued until the time he entered the hospital.

Physical examination revealed white male lying in bed on back in semi-stupor. Pupils were equal and reacted to light and accommodation. Deep reflexes were present but decreased. There was a large fluctuating mass about 7 cm. long and 4 cm. wide just to the right of the mid line of the neck and extended down into the supra-sternal notch. Lungs: Expansion was poor and there was some limitation on the left. Tactile fremitus was apparently normal. There was decreased resonance on the left from the angle of the scapula to the base. There were numerous moist rales over the bases of both lungs posteriorly. Heart: Apex beat was diffuse and was felt best in the sixth interspace 15 cm. from the mid-sternal line. There was no palpable thrill. The area of cardiac dullness extended 19 cm. to the left in the 6th interspace and 7 cm. to the right in the 4th interspace. There was no shifting in the area of cardiac dullness. Heart sounds were very weak and distant. There were no murmurs heard. Abdomen: The liver was enlarged 3 cm. below the costal margin in the mid-clavicular line. Blood: Wasserman was negative. Four consecutive blood cultures were negative. The pericardium was aspirated on May the 17th and 50 cc. of turbid hemorrhagic fluid was obtained. Culture of the pericardial fluid was negative. On May the 18th the abscess on

the right side of the neck was incised and a large amount of thick yellow pus obtained. X-ray examination showed an enlargement of the cardiac shadow in all diameters, the outlines being of a smooth rounded symmetrical formation. He gradually grew worse and died on May 20th, 1924.

EXTRACT FROM NECROPSY REPORT

There was a large abscess in the right side of the neck which extended down into the mediastinum and connected with the 5th and 6th cervical vertebrae. There was destruction of the articular processes of the 5th and 6th cervical vertebrae, with some bone proliferation. The lymph glands along the hilus of both lungs were markedly enlarged and contained caseous material. The pericardial sac was markedly enlarged in all diameters, the greatest transverse diameter being 23 cm. On section of the pericardium it was seen to contain a large amount of turbid hemorrhagic fluid, with a large amount of fibrin floating free in the fluid. The fibrous and serous coats of the pericardium were much thickened and laminated. The inner surfaces of the pericardium and epicardium were covered by a large amount of granulation tissue to which were adhered masses of partly organized tissue. Beneath the layers of the granulation tissue on the epicardium there were a few small miliary tubercles. The heart was enlarged in all diameters, weight was 350 gms. The endocardium was smooth and glistening. The valves were normal. The liver was enlarged and markedly congested. There was a small abscess about 2 cm. by 3 cm. in the right kidney.

DISCUSSION

The diagnosis of tuberculous pericarditis in case No. 1 was based on the chronicity, guinea pig injection and the presence of tuberculosis elsewhere in the body. In No. 2 the diagnosis was based on necropsy findings. The small amount of fluid obtained on aspiration of both the above cases was accounted for by the fact that the pericardial cavity was divided into numerous smaller cavities by the larger amount of granulation tissue present. In cases of secondary tuberculous pericarditis there is usually an involvement of the lymph glands at the hilus of the lungs. The course of the disease seems largely determined by the type and location of the primary lesion. Postmortem statistics indicate that few disease processes are so frequently over-

looked as those that affect the pericardium. The polygraph, the electro-cardiograph, the Roentgen ray and many studies of the normal and abnormal physiology of the heart have altered profoundly our conception of cardiac diseases and have greatly increased our faculties for recognizing the various types. Pericardiology has enjoyed no such renaissance, in fact one of the chief objects of more recent articles dealing with the subject has been to point out our frequent inability to recognize the same.

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I have found some 60 references in the literature bearing on the subject but only those referred to in the paper are listed.

TRACHEO-BRONCHIAL DIPHTHERIA*

M. P. BOEBINGER, M. D.

NEW ORLEANS.

The literature and text books, with the exception of Lynah and Dupuy, contribute very little to this very important subject, and the author makes a plea for a closer co-operation between the attending Physician and the Laryngologist in all cases of diphtheria, even in suspected and obscure cases.

The experience of the few Laryngologists to report and contribute cases to the literature certainly suggests that this disease is not so rare as some of us might think; the writer has seen and treated three cases.

In tracheo-bronchial diphtheria the membrane forms first in the smaller bronchi and extends upward in the trachea. In another group of cases we have the membrane formation localized first in the trachea and then spreading downward. In either group of cases the larynx and oropharynx are not involved. This condition starting primarily in the bronchi, is, I feel, overlooked in many instances and diagnosed Broncho-pneumonia. I wish to make myself perfectly clear on this point and not lead anyone to believe that I consider all of the secondary and latent pneumonia cases tracheo-bronchial diphtheria. I am speaking of the primary involvement of the lung, accompanied by marked cyanosis early in the disease, asthmatic dyspnea and peculiar but constant physical signs distinctive of bronchial obstruction. Nasal, faucial and pharyngeal exudates are absent in many cases when the disease has been recognized earlier than the third to fifth day.

Culture returns taken from cases without visible exudate on the tonsils or pharynx are invariably negative, for it is impossible by the ordinary method of taking cultures to reach the site of the lesion. The writer warns against too much confidence being placed in negative cultures, but sincerely urges the attending physician to immediately consult a laryngologist. Often too much time is lost as well as the life of the patient, when we delay from day to day taking cultures, rather than admitting the element of doubt and give a large dose of antitoxin.

The clinical picture of a case of tracheo-bronchial diphtheria is quite distinctive of this disease. The onset is seldom sudden and the voice is never lost;

*Read before the Louisiana State Medical Society, New Orleans, April 21st, 22nd, and 23rd, 1925.

aside from an occasional cough and slight stridor the condition may be readily overlooked and treated as an ordinary cold. The rise of temperature 100-104, stenotic symptoms, marked restlessness, cyanosis and irregular pulse, marked sinking in the supra-clavicular and sternal notches, dipping in of the epigastrium, are symptoms the experienced eye will never overlook.

Always be suspicious of laryngeal "croup". When one is called to see one of these low membranous types of diphtheria he will readily note the ballooning of the chest, for in these cases there is a marked emphysema of the lung in which the bronchus is obstructed. The type of respiration is decidedly asthmatic, accompanied by early cyanosis and a cough which is seldom of the croupy type unless the larynx has become involved. The respiratory murmur is diminished or absent on the affected side, while over the healthy lung the respiratory murmur may be so harsh that it is mistaken for pure bronchial breathing. Subcrepitant rales are always found, but may also have sibilant and sonorous rales.

One of the most important signs is brought out by placing stethoscope over trachea in the sternal notch, with head well retracted, here there are no transmitted rales and one can often hear the foreign body "flip flop" sound due to a loosened piece of membrane which is interfering with respiration. These physical signs which are fairly constant, accompanied by a peculiar inspiratory-expiratory asthmatic dyspnea, I think, are the chief indications for bronchoscopic measures. Dullness is seldom present and a hyper-resonant note is the rule, due to the enormous amount of emphysematous lung tissue. Any slowly progressive dyspnea should be looked upon with a considerable degree of apprehension, and when we are unable to account for the cause, a bronchoscopic examination should be made. Little or no shock accompanies the use of the bronchoscope.

If the heart action is supported in these cases until the mechanical obstruction is removed, the outcome of the case is usually favorable. The only supportive treatment given are small doses of morphia, atropine and adrenalin. All instrumentation is done without any anesthetic. Failure to relieve the stenosis by intubation tube and the peculiar constricted or rather blocked expiratory cough with the tube in place, is indicative of membrane below the tube.

Mechanical removal of the obstructing membrane through the direct laryngeal speculum and bronchoscope is not at all difficult or painful. Jackson's 4 m.m bronchoscope was used. A small instrument causes less traumatism.

Suction, also, was used in the author's case. The latter is preferable as a time saver. A large metal ear syringe to which a small male catheter was attached was used on six different occasions to remove membrane and secretions. The suction apparatus when convenient is recommended.

It is sometimes necessary to re-intubate on account of infiltration of the arytenoid cartilages. When these cartilages are infiltrated the cords fail to abduct and intubation is always necessary to separate the cords which cannot pull apart and give free passage of air. Failure of the patient to remain without the tube during the first two weeks in acute diphtheretic lesion of the larynx, has always been said to be due to adductor spasm and subglottic edema, but one of the real causes is a pseudo-spasm of the adductors from failure of the markedly infiltrated arytenoid cartilages to separate in abduction.

Hemorrhage—After removal of the casts one should carefully inspect the parts and guard against hemorrhage, as well organized blood clot will asphyxiate the patient in a few minutes.

Report of case—Baby M. white male aged 3 years, well developed and nourished, was seen by family physician Dr. Jos. Hountha for croup. Examination of throat revealed nothing unusual. Temperature 102F. pulse 120, respiration 40.

Twenty-four hours later dyspnea and tracheal tugging were noticed. Diphtheria was immediately thought of and the author was called in. Twenty thousand units of antitoxin had been given and author advised 10,000 units by vein. Patient did not improve.

Intubation advised which failed to give relief. Tracheotomy was done, which gave relief for only a short time. The Jackson bronchoscope and suction was used to remove membrane and secretions, this was repeated several times. Tracheotomy tube was replaced after each treatment and child placed under tent. Croup kettle and steam inhalations ordered. Lime water on cloth placed over tube. The care of the tube, especially changing of inner tube and dressings every three hours is necessary for the first few days.

Total amount of antitoxin used was 150,000 units. This was given at intervals of 6, 12, 18 and 24 hours. Intravenous and intramuscular route used. Intravenous injection is contraindicated when the heart action is failing and fatal results rapidly follow flooding the circulation.

Tracheotomy tube was removed after the tenth day, wound granulated from bottom by means of gauze pack. Patient discharged cured.

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DISCUSSION

Dr. Homer Dupuy (New Orleans): I quite agree with Doctor Boebinger that ascending diphtheria, tracheobronchial diphtheria, is more frequent than we suspect. It is right with us, but we often fail to make a diagnosis. The Doctor has already emphasized that it does require some refinement in differential diagnosis to come to an absolute conclusion that you are dealing with a case of ascending diphtheria.

First, let me emphasize the pathology. Remember the trouble begins below and ascends. In my observation I have never seen a larynx involved in tracheobronchial diphtheria. You can see,

therefore, how you can mistake it for bronchial pneumonia, for capillary bronchitis, for acute bronchial asthma, or even for a foreign body. But there is one important point about this disease. The voice is never affected. Although there is marked dyspnea, and in some cases I have heard a croupy cough, the voice is clear as a bell, and that is the thing which misleads you. You are told, and rightfully, that in diphtheria which involves the larynx you are bound to have disturbance of the voice, therefore, with a clear voice, and marked dyspnea, and cyanosis, you certainly have to do some thinking, and come to a conclusion quickly, because unless you do so, you will have a life sacrificed.

Again, I am impressed with the picture of marked dyspnea, expiratory sounds resembling asthma, a clear voice, the throat free from any lesions that suggest diphtheria, especially if in this picture you can eliminate bronchial pneumonia and foreign body, because the picture does not correspond to your common experience with these affections. If you attempt to intubate it is perfectly futile. There is no trouble in the larynx, and unless you have a very long tube, much longer than those now on the market, you could never hope to pass through the larynx and through the trachea to reach the obstructing membrane. Therefore, intubation is contraindicated. In such cases I would advise a tracheotomy, and then if you are an expert, or if you call in an expert to help you, might hope by tracheoscopy to remove the accumulating membrane until the antitoxin has done its work.

Dr. Arthur I. Weil (New Orleans): I have seen two cases. Other laryngologists have not seen very many. There are plenty of them, but we do not see them because diagnosis was not made. In the cases I have seen I was struck by the fact of the insidiousness of the onset. Your patient gradually becomes cyanotic, there is some obstruction to breathing, but as Doctor Dupuy has said, there is no change in the voice, nor that croupy cough that we ordinarily associate with laryngeal diphtheria. In the two cases I had and in the majority of cases reported, I was struck with the absence of a positive culture. We cannot rely on cultures in these cases of tracheo-bronchial diphtheria. And in the third place, I was struck with the fact that large doses of antitoxin do not have effect in these cases as they do in the ordinary cases of diphtheria of the throat.

As to the treatment, of course it is antitoxin first, last and all the time, but when we have a patient that is slowly suffocating, the introduction of a bronchoscope through a tracheotomy opening, can be done with little shock to the patient and it seems to me it is the logical thing to do. It makes simpler the treatment by suction.

One can introduce suction through the tracheotomy opening, pass the catheter into the bronchi and suck out this mass and that is the only hope of curing these cases. Get rid of the material that is preventing the patient from breathing, then give large doses of antitoxin and the patient will very often fight off the disease.

Dr. W. H. Seeman (New Orleans): I take pleasure in discussing this paper for two reasons—first of all, because I believe our good friend, Doctor Dupuy, was one of the first men to call our attention in this society to the presence of this condition, and there was one suggestion that came to mind just now while he was talking. He has emphasized the fact that this condition begins low down and ascends, and instead of calling it tracheobronchial diphtheria, I wonder if it would not be more appropriate to call it broncho-tracheal diphtheria.

Doctor Boebinger calls attention to one very important point that is useful not only in this condition but in all cases of diphtheria which require taking of cultures. Very frequently, men criticize the laboratory because the report comes back negative, when they feel morally sure that diphtheria is present. You must all remember this: that the diphtheria bacillus is not hard to recognize, and in the presence of a preliminary diagnosis of diphtheria, clinically, the suggestion would be to find diphtheria, rather than not to find it. More frequently the cause of the trouble, in an ordinary case of diphtheria, is in taking the culture. The so-called membrane of diphtheria is simply a mass of inflammatory exudate that has collected and has the appearance of a membrane. It consists largely of fibrin and dead leucocytes, and a mass of saprophytic bacteria grows on this material. The diphtheria bacillus is a true parasite and rather tends to grow on active living tissues, and therefore will not be on the surface of this membrane and if you expect to get a growth of diphtheria bacilli, you must get some material from where active tissue exists.

There is another thing that has come up in regard to enormous doses of diphtheria antitoxin. I say this, not in the spirit of criticism, because I think the proper procedure is to give large doses and early doses. I have always recommended it, and even if the diphtheria is diagnosed only clinically, I think no man is justified in waiting for the laboratory report and withholding the sovereign remedy—antitoxin. However, all the work of Shick and others shows that even with so small a quantity as 1/30 of a unit of antitoxin per c mm. is sufficient protection against clinical diphtheria, and when we take a little arithmetic and multiply that amount by the amount found in 50,000 units of antitoxin, we will see that even if a full-sized adult receives

50,000 units of antitoxin, he will have almost a unit per centimeter of circulating blood, and since on account of lack of circulatory approach this antitoxin cannot reach the material, you have a time when your patient is fighting for life and every possible resource of the body is being brought forth to tide over the crisis. If it is administered subcutaneously the effect of the antitoxin is not felt until 48 hours afterwards. Given intravenously, you feel the effects in three quarters of an hour, but the maximum effect is not until 12 to 24 hours afterwards. Intramuscularly the condition would be between the two. Therefore, while I do not want to deprecate the administration of large doses of antitoxin, I certainly wish to caution against the administration of tremendous doses in our attempt to remedy a condition for which you are not responsible and which you will not help by such administration.

Dr. Joseph A. Danna (New Orleans): When we see these cases we are not always thinking about the pathology and what is behind it and how it started, but we are impressed with the clinical pictures as we see it. When I first saw a case of this kind I thought it was case of ordinary laryngeal diphtheria. I had just begun to do intubation at that time and I was highly pleased with the ease with which I could do an intubation. This first patient did not do so well after intubation; I did not seem to help her. I thought I had better go ahead and do a tracheotomy. I did so and found a lot of membrane in the trachea which I thought I had pushed down from above and of course that made me less conceited. But the dyspnea continued and the patient finally died. I was not quite sure whether I had not pushed some of that stuff down there, and was still uncertain until shortly afterwards when I treated a child with the same condition. Intubation, and later, tracheotomy, gave no relief, and finally the child died. After the second case I insisted on autopsy. I found membrane as far into the bronchi on one side of the chest as you could macroscopically see the division of the bronchi. The whole of one side and a good portion of the other side was just like that. After that, of course, I began looking for the same thing, but have not seen another case since.

Dr. M. P. Boebinger (closing): My patient was treated at home and therefore that answers Doctor Weil. The bronchoscope used was a Jackson, 4 millimeter. The suction apparatus I used was a large metal ear syringe with a small male catheter attached. The tracheotomy tube was removed and the catheter gently passed until the point of obstruction and then with a strong pull I was able to remove the membrane and secretion.

I did not bring out the different techniques because I was limited in my time. Intubation

does not do very much in these cases. In fact, it is an absolute failure when you are dealing with bronchio-tracheal diphtheria. Even a tracheotomy tube does not help because it is lower down. It is a question of mechanics, plus immunizing the patient and supportive treatment. The membrane is usually in the small bronchi or the bifurcation, and unless you remove the mechanical obstruction you will lose the patient.

In regard to Doctor Danna's case, I agree with him that it was not a question of pathology with him, it was a question of getting the patient well. Whether 150,000 units are necessary or not, we should be guided by the principles as to the mechanical problem, and we should support the patient and immunize the patient and watch the clinical picture. Our first patient received 20,000 units and she seemed to improve. I ordered 10,000 more by the veins. I am glad Dr. Danna brought out the fact of these membranes developing so far down.

In closing permit me to thank Drs. Dupuy, Weil, Danna and Seeman for discussing my paper. I especially wish to thank Dr. Joseph Hountha for referring case and his able assistance.

RATIONAL OPERATIVE PROCEDURES IN OBSTETRICS*

HILLIARD E. MILLER, M. D.
NEW ORLEANS.

There is food for serious thought in the recently published report of the Committee on Maternal Welfare of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons—which lists as one of the causes of maternal death in pregnancy and parturition "too much interference with the normal processes of labor by men who do not know how." "Viewing with alarm" has become rather habitual with certain people but the era of obstetric surgery now abroad in the land certainly warrants such a state of mind.

I need not remind you that every sort of radical procedure is now being advocated to terminate the normal processes of labor by men whose name and position unfortunately make their views apparently worthy of full acceptance. One would induce labor by medical or operative means as soon as term is reached. Another be-

lieves that the moment labor begins the cervix is to be manually dilated and the child turned and extracted feet first; and that he is thoroughly consistent in his method is proved by a recent report wherein it appears that in some 1100 deliveries only those women were saved from his operative enthusiasm who managed to achieve a spontaneous delivery before he arrived. Another obstetrician of decided prominence believes in the routine application of forceps as soon as the head separates the vulva and then, after a very brief wait, the immediate application of Credé's maneuver, together with a so-called "shoehorn maneuver" of his own, which consists essentially in the insertion of the hand—though he makes the concession of changing his gloves!—into the vagina, the cervix or even the uterus to end the third stage. This same authority goes so far as to state that if women were given a little encouragement their demand for Cesarean section would be overwhelming, and the inference is unfortunately clear that he believes their demand should be gratified.

Such procedures may be safe for the specialist but that does not make them good obstetrics. Labor has unfortunately become very frequently a pathological affair but that does not alter the fact that, other things being equal, the mechanism of a normal labor is still very much better than most of the improvements we have found for it and that procedures based upon flimsy indications or none at all will sometimes terminate in disaster, even for the specialist. Moreover, operative interference very often increases the hazard of the original condition; I think it is Polak who points out the double risk of eclampsia, from the disease itself and from the radical measures, notably Cesarean section, so often instituted to cure it.

The real root of the trouble lies in the nature of our obstetric teaching, with its tendency to emphasize abnormal obstetrics. The brilliant Cesarean, the deftly done

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

version, the dexterous application of forceps are in the nature of pyrotechnic exhibitions and are much more interesting for all concerned than a labor which progresses slowly albeit normally. Human nature is human nature, and although the demonstrator salves his conscience by explaining to his students that what he is doing is not for them, the fact remains that they are going to do it. It looks easy, it seems an excellent way to end a difficult or even a slow labor, they do it in the home with no assistance and no asepsis, and the disastrous results are only too well known.

I have no wish to be so radical in my conservatism that I seem to decry all obstetric surgery, but I do wish to emphasize the fact that unless all of it is done on strict indications the results are frequently worse than anything nature could achieve unaided. Induction of labor, for instance, is a procedure which to my mind is indicated in but few conditions; placenta previa or a progressively increasing toxemia, no matter what the stage of pregnancy, and a definitely post-mature child form the larger group. I use the words definitely post-mature advisedly. The actual date of intercourse, which is the only fact which can settle the duration of a pregnancy, is seldom known, so that in the average case we have a leeway of some two weeks in each direction. When that leeway is passed, particularly if the baby is large, induction of labor is not only indicated but demanded, but I have little sympathy with the school which believes in promiscuous induction at the so-called term, with too often the real indication a vacation or a fishing trip.

Premature induction of labor for a contracted pelvis is illogical. Some 80 per cent of the borderline cases deliver spontaneously at term if properly managed, and in the absolute cases Cesarean section at an elective time gives better results. Kleinwachter's investigations show that of 78 per cent of babies born alive after premature induction of labor, only 60 per cent

leave the hospital alive, and it is obvious that the number would be still further reduced during the first year. Williams' comment is justified, that better results would be obtained by allowing all cases to fall into labor and doing craniotomy in the small percentage in which it would be demanded, an obvious *reductio ad absurdum*. In this connection, too, I might point out that the introduction of any foreign body into the uterus carries with it a potential risk of infection, and that the safest way to deliver a woman is to treat the cavity of the uterus as forbidden territory.

For the so-called prophylactic forceps of DeLee there is much to be said. I have been using this method in some 85 per cent of my primiparous labors during the last three years, and I know of obstetricians who are using it in 100 per cent of their cases. There is little doubt in my mind that if it is properly done it saves many emergency forceps operations on exhausted mothers and embarrassed babies, that it eliminates the chances of sepsis resulting from contusions, bruises, irregular lacerations and lessened tissue resistance from long continued pressure, and that it gives excellent end results. But certain things are essential for its successful performance: an episiotomy must be done in practically all primiparae and in those multiparae who have previously been delivered in this manner; a skilled anesthetist must be at hand to maintain a uniform light narcosis, so that the patient's pains may be utilized as traction is made; the head must be below the spines and in contact with the perineum as the patient bears down; and, most important of all, this is emphatically a hospital procedure, to be done under the strictest aseptic precautions. It should never be done promiscuously in the home by men who are not properly versed in the physiology of labor, the anatomy of the pelvic structures, and the mechanics of a forceps delivery. As a witty English writer puts it, statistics would lead us to believe that the average accoucheur

thought that the prayer of his patient was, "With obstetric forceps, good Lord, deliver us," whereas if she only knew what was good for her it would certainly run, "From obstetric forceps, good Lord, deliver us."

Routine or elective version is a procedure which cannot be too severely condemned. Potter has unquestionably improved its technique and demonstrated its value, but it seems audacity on his part to continue to advocate it in the face of a fetal mortality which, as Williams puts it, is many times higher than that obtained by the young and inexperienced men who handle the out-patient services of his own clinics. And Potter, in this particular field, is perhaps the most dexterous obstetric operator in the world. Gently and deliberately done, on strict indications, under proper aseptic precautions, with deep surgical anesthesia, with skilled assistance, version has no equal in the checking of hemorrhage in placenta previa and selected cases of accidental hemorrhage, in the handling of malpresentations, particularly transverse, face, brow and occipitoposterior, and in the management of slight pelvic contractions when the presentation is normal but the head remains high after full dilatation has occurred. Even on these strict indications it still is not a procedure for general performance by unskilled men, and teaching it to our students or internes as a routine or even a frequent maneuver can only be considered a most unjustifiable radicalism.

Cesarean section is probably the most abused operation in obstetrics and it is certainly one of the most dangerous. Polak's study of 2,000 cases done by leading surgeons all over the country shows a mortality, even in the elective group, of 2 per cent and a gross mortality of 10 per cent. Recent figures from Touro Infirmary show a gross mortality of 13 per cent for the last 4 years, and during a similar period at Charity Hospital the mortality was 40 per cent, a maternal sacrifice which can hardly be justified, even by those who preach the

exaltation of the child's life over the mother's, by a fetal mortality of 34 per cent in hospital. The more obstetrics I do the more am I convinced that this is a procedure to be avoided whenever it is humanly possible. In my last 264 deliveries I have done but 4 Cesareans, and 3 of these were for absolutely contracted pelves.

Absolute contraction is of course a definite indication but even here I would remind you that unavoidable surgical complications contribute a minimum mortality. Some 80 per cent of borderline contractions will deliver spontaneously if properly managed, and if the test of labor has been thoroughly aseptic late Cesarean section carries with it only a slightly higher mortality than the elective operation. Unfortunately the indications for this procedure have been widened until now it is done at every stage of labor for every possible obstetric indication or none at all, a labor of a few hours duration or the patient's desire for this mode of delivery being considered an ample reason for doing it.

It once was routine in both placenta previa and eclampsia but the tendency now seems to be towards a more conservative handling. Certainly the results are better. On our service at Charity Hospital where we have handled placenta previa conservatively for the last 5 years, our mortality has been zero, and our recent strict adherence to conservative treatment in the management of eclampsia has resulted in a most gratifying decrease in the maternal mortality.

Unless the first Cesarean was for absolute contraction I do not believe in a strict adherence to the old dictum, "Once a Cesarean always a Cesarean." Within the last year I have successfully delivered by mid forceps 5 patients who had previously been delivered by Cesarean for other than the absolute indication, and I believe this is a perfectly safe procedure if the previous convalescence has been afebrile and if the proper precautions of hospitalization and early forceps delivery are observed.

Lastly, this is an operation which should never be done by the occasional operator or by the obstetrician who is not also an abdominal surgeon. Familiarity with the abdominal cavity may breed a certain amount of contempt but it also gives one a manual dexterity absolutely essential when Cesarean section is being done.

I can see no justification for DeLee's casual pronouncement that after 10 minutes of waiting in the third stage of labor Credé's maneuver should be employed and what amounts to a manual extraction done from below. As DeNormandie well says, usually the only indication for such a procedure is the doctor's desire to go home. DeLee may, as he says, not be afraid to put his hand into the uterus, but I am, and I would rather spend a little longer with my patient than take the chance of inversion of the uterus, infection, or hemorrhage from a partially separated placenta.

I have outlined, necessarily with brevity, the advantages and disadvantages of the major operative procedures in obstetrics, and I trust I have made my meaning clear, that surgery has a definite place in obstetrics and that every procedure is valuable in its place, but that unfortunately the tendency of the present day is to cast aside well grounded obstetric principles and resort to radical action merely for the sake of action. I admit that this is frequently the easier course, the line of least resistance; a tired, nervous patient, an anxious family, your own apparent inactivity all combine to vindicate your course to your own conscience, and to make what really is pernicious meddling seem justifiable interference.

Just here, however, lies the conclusion of the whole matter, the development of an obstetric conscience. We are none of us, I think, wilfully dishonest with our patients but I am not so sure that we are always perfectly honest with ourselves. Quick decision is frequently necessary if one does much obstetrics, but I have seldom been confronted with a situation where I had

not time to consider carefully what was best for that particular patient provided I chose to take the time. Headlong action may occasionally save the day but its results are seldom comparable to those achieved by careful consideration of the individual case, and "aseptic expectancy," in Polak's fine phrase, will save many more lives than promiscuous obstetric surgery can ever hope to.

DISCUSSION.

Dr. P. B. Salatieh (New Orleans): I want to emphasize first the matter of version. I cannot see how one man can write a whole volume on something that most of us condemn. Why, if the patient is going on normally, if the presentation is normal in every way, why substitute a perfectly normal for a pseudo abnormal?

I think low forceps is indicated sometimes. Your patient may be going on and exerting all of her strength to bring the head down on the perineum, you see the head, but yet after an hour and a half or two hours the head has not moved more than a half inch or an inch at most. It seems that the perineum in that case is stronger than the strength of the woman, and I think there is a case where low forceps is a benefit, not to deliver the child, but simply to assist the patient. Give the patient a little anesthetic and apply the low forceps—do not pull hard, but let the patient wake up, and as she has a pain ease up a little; when the pain stops you stop; another pain, begin again. You will find there is a yielding, then it is easy. You have overcome or ruptured the ligaments and one pull will pull it out. At that point pull the head a little lower and then you can take them off and let the patient deliver normally.

Episiotomy is a very valuable procedure in obstetrics. You have a very small opening there, about one inch, and it must stretch to five or six, and something must happen. You may have either a submucous laceration, or such a stretching of the mucous membrane that you will find the perineum will not regain its tone. By doing an episiotomy and suture, there is no paralysis and no laceration. So I think every primipara should have an episiotomy, and the more you do it the easier it becomes.

As to Cesarean section, I think our country doctors teach us something about this. It is refreshing to talk to some of these doctors—they will tell you about a hard case, how bad it was, and when you ask them how the case came out they say, "Oh, all right." Probably in the city it would have been a Cesarean section. The

country doctors can deliver the hard cases without a Cesarean, why not the city doctor?

Placenta previa. How many cases have you seen of complete placenta previa? I do not believe any woman goes to term with complete placenta previa. Around the seventh month and probably between the seventh and eighth she will begin to bleed. Most of the cases will be a partial placenta previa. It is surprising sometimes when labor starts, you make an examination and feel a boggy mass on one side or the other, but as labor goes you can often get a finger in the cervix before severe bleeding occurs and by use of a Vorhees bag or by packing you can deliver most cases without Cesarean section.

Dr. L. A. LeDoux (New Orleans): The attitude expressed in Dr. Miller's paper, I believe is fully representative of the best thought of the men who are keeping in contact and who follow up closely not only the progress in obstetrics, but the end results. Many factors contribute to much of the unsatisfactory obstetrical work. We have listed as one that obstetrics is looked upon as everybody's and anybody's field. It is true that in many instances we are all called upon to do obstetrics to a greater or less extent, but there still prevails the attitude that an obstetrical case will probably give a good fee and possibly lead to an enlarged practice. This often results in more or less attention being paid to the case at the time of delivery and very little done towards providing the case with the best that obstetrical knowledge affords.

Another factor is that probably in no other field is there as little consultation done. The average doctor in too many cases will undertake to deal with an obstetrical emergency or an abnormality without seeking the advice of some other man—someone who has had as long or longer obstetrical experience than himself.

Finally, it is difficult in many of the rural communities situated some distance from hospitals and lacking proper trained help, and instruments and anesthetics to do the type of work that the doctor has mentioned, and it will be quite some time before we reach the obstetrical efficiency in all cases that Dr. Miller has put before us today.

Dr. J. W. Newman (New Orleans): To me there is no more interesting chapter in the entire field of medicine than that of Meddlesome Midwifery, so splendidly outlined in Dr. Miller's paper. Entire volumes could be written on any one of the many subjects touched upon in his paper. The time allowed me for discussion is so limited, that I must necessarily confine myself to a few remarks only.

I cannot agree with Dr. Miller regarding the induction of labor in cases of contracted pelvises.

The statistics in my department show that the mortality where labor has been induced prematurely, is not as high as in absolutely normal deliveries. This is no doubt due to the fact that we are not guided by the stage of gestation, but by the relation that exists between the size of the fetus and the woman's pelvis. Through the procedure of inducing labor prematurely, we have in the last two years alone avoided fifteen Cesarean sections. Our mode of procedure is as follows: Every case of contracted pelvis after seven months of pregnancy is subjected to weekly examinations. As soon as that stage has been reached where the presenting part of the fetus can still just be pushed into the maternal pelvis, then the patient is ordered into the hospital where labor is induced by medical treatment alone. I stress this last point, because infection and trauma would necessarily increase the mortality enormously were we inclined to undertake any treatment from below. We find, however, that the Castor Oil, Quinine treatment with the addition of two minimum doses of pituitrin hourly is sufficient to bring about the desired results.

Regarding Cesarean Section, a study of my last 2,000 cases at the Touro Infirmary shows that we have only been compelled to resort to C. S. in three cases, with three living mothers and three living babies. In our last 5,000 cases, we have had only fifteen cases Cesarean Section, with a mortality not quite as low, but nearly as low as above stated.

Conservatism in Cesarean Sections would count for naught unless the maternal and fetal mortality is thereby reduced and I assure you that such is the case in my services. It has often been said that pregnancy should be treated as a Pathological condition. I quite agree with the author of this statement from the medical standpoint, but I plead with you now to practice conservatism and not to convert normal obstetrical cases into pathological surgical ones.

Dr. A. O. Willis (Leesville): I class myself as strictly a country doctor. I live in a little town of some 3,500 people, but I do most all my work in the country. I like it better. The people, especially the doctors, cannot catch up my mistakes quite so easily in the country. I am strictly on the side of conservatism in the question of meddlesome obstetrics. I meddle mighty little. I do not want to brag at all, but I never hear a man discussing the question of obstetrics who reaches my statistics on the question of non-fatalities both to the mother and the child. I have been practicing medicine at the same place for 21 years and I have only had to record the death of two mothers in my own cases—cases which I handled myself. And the death rate

for infants has been very low. I have never done a Cesarean section. I have had very few induced labors and I have had very few dead babies.

Dr. Hilliard E. Miller (Closing): I have little to add except to comment on one or two subjects which lack of time prevented my emphasizing in the body of my paper. I believe that a large percentage of our fetal mortality can be eliminated by the more frequent employment of episiotomy followed by low forceps delivery. As Dr. Salatich said, the patient should be lightly anesthetized, so that traction may be made as her pains occur. Deep surgical anesthesia is very undesirable in this type of forceps delivery.

I believe it is bad obstetrical judgment to attempt to carry any case of suspected placenta previa to term. When hemorrhage occurs during the course of pregnancy, every endeavor should be made to arrive at a definite diagnosis, and if the case is one of placenta previa, as a usual thing immediate termination of the pregnancy is the only safe course. A serious hemorrhage at the time of delivery, if this is not done, may result in a fatal outcome.

Dr. Newman's policy of the application of forceps in the case of premature babies is directly opposite to my own. I think more premature babies will be delivered safely by an early application of forceps than can possibly be saved if the child's head, with the bones not yet firm, is subjected to continuous pounding pains. Certainly brain injuries are more likely to occur under these circumstances than would be the case if episiotomy were done, followed by a cautious forceps extraction.

THE MUSCULAR MECHANISM OF THE STOMACH WITH DEMON- STRATION BY MOVING PICTURES*

SIDNEY K. SIMON, M. D.

AND

ERNEST C. SAMUEL, M. D.

NEW ORLEANS.

The muscular activity of the stomach, as understood today, comprises quite a complex mechanism as distinguished from many of our former conceptions of the subject. The newer knowledge gained in this field has convinced us that the food upon entrance into the stomach is not simply mixed and churned without definite

control or direction, and then propelled promiscuously through the pyloric splinter into the duodenum. Instead, experimental observations, made particularly through the agency of the X-ray, have shown that the muscular movements of the stomach follow certain definite pathways, and are under constant regulation and control.

A moving picture demonstration of the many interesting features connected with the muscular mechanism of the normal stomach we have planned to exhibit this evening through the courtesy of Dr. L. G. Cole of New York City. These pictures were taken under the direction of Dr. Cole and are made from actual photographs of the various gastric movements as determined by means of the X-ray. The conception and execution of this interesting moving picture panorama was undertaken by Dr. Cole purely for educational purposes. The subtitles in the picture will supply a complete description, covering the various stages in the unfolding of the story. However, for the purpose of attaining a somewhat clearer conception of the subject matter, we have thought it appropriate to offer a few preliminary explanatory remarks.

In order to comprehend better the mechanism with which the stomach functions muscularly it is necessary to describe briefly certain anatomical subdivisions of the organ. A deep notch on the lesser curvature, called the incisura angularis, divides the stomach in effect into two parts, the upper and larger division being known as the cardiac portion and the lower, forming the junction with the duodenum, as the pyloric portion. The point of entrance of the esophagus further divides the cardiac section into the fundus and the pars media or central body of the stomach. That portion to the right of the incisura angularis is known as the pars pylorica or the pyloric antrum. The entire cardiac segment is in reality a reservoir for the storage of the swallowed food and possesses little muscular activity. The antrum, on the other hand, as the food substances reach it from the

*Read before the Orleans Parish Medical Society, May 11th, 1925.

pars media, functions quite actively in macerating and mixing the food mass and propelling it by regular rhythmic waves towards the pylorus.

Shortly after food is swallowed, peristaltic waves begin to appear about the middle of the body of the stomach and travel towards the pylorus. No waves appear in the fundus but the circular muscular fibres contract steadily upon the mass of food and force it gradually onward. In addition to the peristaltic waves traversing it, the antral portion also exhibits tonus contractions so that the entire stomach during digestion assumes a more tubular shape than when at rest.

The peristaltic waves traveling pylorusward consume more time for their full completion than the interval between them so that several waves are found to overlap one another at one particular time. These waves always stop at the pylorus and are never observed to travel over into the duodenum.

The gastric movements vary with the type of food taken, the greater depth and frequency being produced by carbohydrates and the lesser by fatty foods. The opening and closure of the pylorus is not affected by the strength of the muscular contractions in the stomach, but is controlled entirely by the reflex action of the acid chyme upon the duodenal mucosa. The food substances though propelled rhythmically to the pylorus are stayed and repelled backward when this sphincter remains closed. The food movement, in this respect, resembles somewhat that of a cork floating on a body of water near shore. With each onward wave there is progression forward followed by a backward recession of lesser extent, however, each time than the forward push.

Since the lesser curvature has relatively less linear dimension than the greater curvature, the course of the gastric waves in action are seen to assume a fan like form; the frequency of rate being greater on the lesser curvature than on the greater.

According to Cole, the stomach in its muscular activity possesses a regular systole and diastole comprising a so-called gastric cycle simulating closely the function of the heart muscle in this respect. He speaks of these gastric cycles as muscular contractions, independent of and apart from the peristaltic waves passing to the pylorus. The motor power of the stomach differs in various individuals in the frequency and strength of these cycles; the number ranging from one to four. This conception of Cole has been questioned in some quarters. Carmen, for example, claims that in the stomach there is no general systole as in the heart, but a localized moving peristaltic contraction, nor is there a general diastole, the gastric contents merely following up the advancing wave.

The general muscular tone of the stomach also varies in individuals within normal limits, depending upon the physical make up or body habitus. In the stocky built or sthenic individual, the normal stomach, for example, is of elongated form situated high up under the diaphragm, with the pyloric portion well to the right of the median line. This is known commonly as the steer horn type of stomach, from its gross resemblance to the horn of the steer. In the asthenic type of individual, on the other hand, possessing narrowed chest wall and elongated abdomen, the stomach assumes a fish hook or letter J form, the greater curvature often reaching far into the pelvis.

A knowledge of the contour, tone and muscular movements of the normal stomach is of great importance in estimating the extent and degree of pathological deviations as shown by the X-ray. No attempt will be made, however, to enter into a discussion of the abnormal motor phenomena such as are found in various morbid gastro-intestinal conditions.

The subject at present is the muscular mechanism of the normal stomach, which will be unfolded before you now, upon the screen, as one of the triumphs of modern medical educational method.

REPORT OF A CASE OF HEMATOMETRA.

WALTER CLINTON JONES, M. D.

BIRMINGHAM, ALA.

History.—Patient, Mrs. F. H.; age, 47 years. She has usually been in good health all her life. Menstruation began at fourteen, was always profuse and lasted from four to six days. There has been an increase in duration and especially in the quantity of the flow during the last two or three years and more particularly in the last year. About three and a half years ago the patient began to notice a suprapubic enlargement but she never consulted a physician concerning it. It was discovered accidentally by her family physician, Dr. E. C. Hamilton, while examining her for other illness. For many months she had noticed that the tumor was larger during menstruation. She had no bladder nor rectal symptoms. No pregnancy had ever occurred although she had been married thirty-two years.

Examination.—The general appearance of the patient was excellent. An abdominopelvic tumor extended upward about half way from the symphysis to the umbilicus

in the median line, and four or five centimeters higher than this point on the right side. Its average diameter was estimated to be about twenty centimeters. It was nodular in outline, the various elevations being rounded and rising from two to three centimeters above the general surface of the mass. It filled the pelvis in which it was wedged so tightly that it was almost immovable. Its consistency was very firm. Vaginal examination yielded no further information except that the cervix was approximately normal for a nulliparous woman.

Preoperative Diagnosis.—Multiple fibroids of the uterus.

Operation.—This was performed by the writer seven days after the cessation of her last menstrual period. The tumor was delivered easily through a median abdominal incision and was excised without great difficulty. The patient was slow in reacting during the first few days after operation but ultimately she made a complete recovery.

Pathology.—There was no involvement of any of the tissues or organs except the uterus directly and the ovaries and tubes indirectly. No adhesions at all were found.

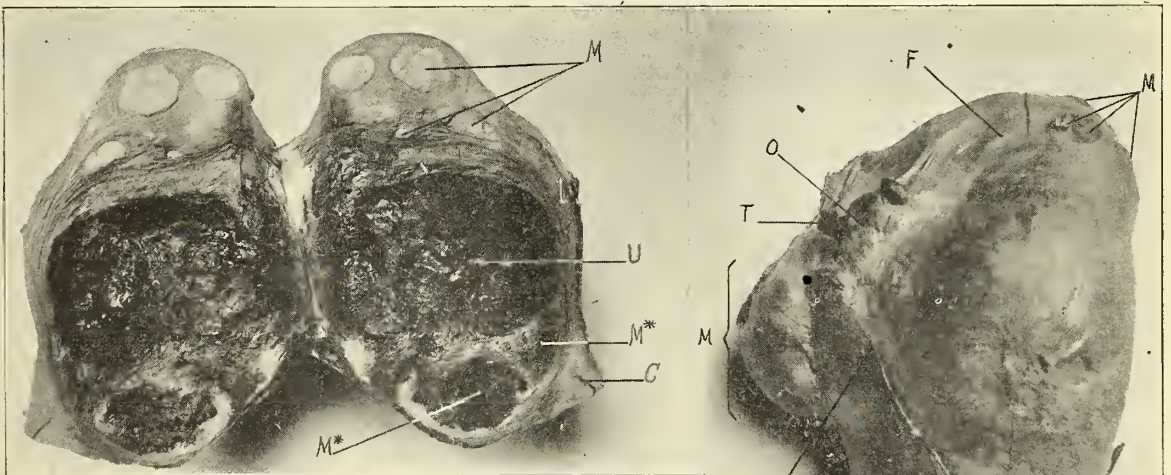


Fig. 2. Interior of specimen shown in Fig. 1, opened by a longitudinal incision along the anterior side. C, cervix. U, uterine cavity, filled with blood partly fluid and partly coagulated. M, myomata in the fundus of the uterus. M* degenerated myomata which probably caused obstruction of the lower uterine canal.

Fig. 1. External view of posterior surface of hematometrous uterus. F, fundus. M, myomata. L, posterior line of attachment of left broad ligament. O, ovary. T, fallopian tube.

The tumor mass includes the entire corpus uteri and the solid portion is composed largely of firm, spherical encapsulated tumors from about one to five centimeters in diameter. (See Figures 1 and 2.) The interior contains a cavity equal in size to about one half the volume of the entire specimen; this space is almost completely filled with considerable reddish black fluid and much semisolid material of the same color. No opening can be found leading from this cavity to the cervical canal, though it must be presumed that one was present, for it surely was not possible for

menstruation to have been so profuse from the cervix alone. No epithelium was found in any location except in the cervix. The long, broad, flat uterine cavity usually found with fibroids was entirely absent as such in this specimen.

Pathologic diagnosis.—Hematometra in a multiple myomatous uterus. It seems that the large space in the interior filled with old blood represents an enormously distended uterine cavity with degenerated walls. The apparent opening between this space and the uterine canal is not satisfactorily explained.

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APPROVED HOSPITALS.

The American Medical Association, through its Council on Medical Education and Hospitals, which handles the hospital work for the Association, has issued its 1925 revised list of Hospitals Approved for Internships. The list is published in The Journal of the American Medical Association for March 28. It will also appear in the Ninth Edition of the American Medical Directory, besides being in

separate pamphlet form. The list names 524 hospitals that are in position to furnish general internships, such as satisfy the medical colleges and state boards as well as meet the almost universal demand of medical graduates for at least a year's general hospital experience, practice or specialization.

There were reported 5,059 interns, of whom 3,825 are in the 524 approved hospitals, and 1,234 interns in 2,696 non-approved hospitals. This total of 5,059 interns compares favorably with the 3,669 interns reported in the census of one year ago, the increase being 1,390 or 37.9 per cent. In fact, there are 156 more interns now in approved hospitals than there were in all hospitals two years ago.

When the hospitals began to feel the shortage of interns about a decade ago, they quite naturally resorted to pecuniary appeals and offered salaries, usually ranging from \$25 to \$100 per month and maintenance: Now the appeal must be made on the basis of educational opportunities offered, rather than financial remuneration. There are still a number of hospitals that pay their interns, and there can be no objection to giving interns some financial help, but hospitals which secure the best interns and most easily, are those whose staffs are known to furnish the best educational opportunities, salary or no salary. The Council on Medical Education and Hospitals also publishes a list of the hospitals that provide approved residences in specialties for those who have already had a general internship or experience.

By furnishing these lists the Council serves not only those who are seeking an internship or residency, it also contributes much to the good of the profession and the public by encouraging a broad general foundation, both for general practice and for specialization.

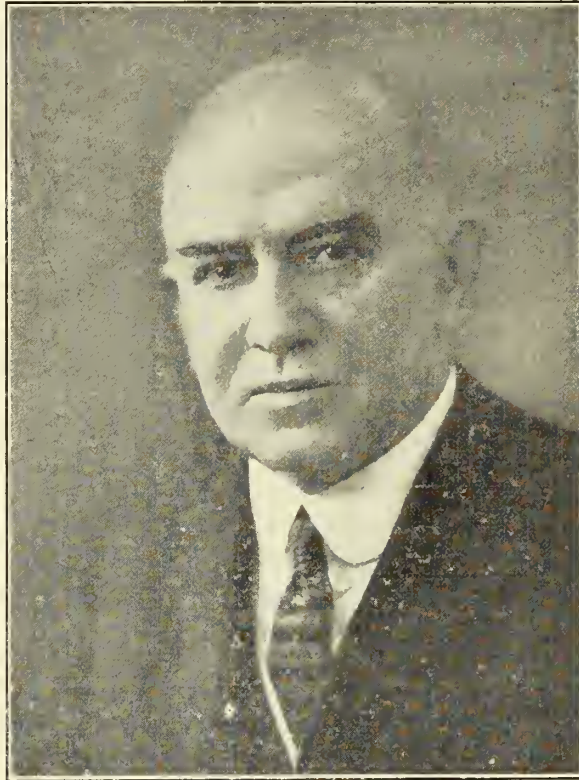
WARREN STONE BICKHAM.

In conferring the honorary LL.D. degree upon Dr. W. S. Bickham at the recent commencement exercises of Tulane, the faculty unquestionably had in mind the great distinction attained by him in the field of medical authorship. Truly his contributions to medical literature reflect great credit upon the University.

Dr. Bickham has just completed an encyclopedic treatise on operative surgery which marks the culminating point in his extremely active career as a surgeon and as a writer of medical text books. This great work, of which he is sole author, is the fruit of ten years of unremitting labor. In the thoroughness and completeness with which it covers a vast field of knowledge in the principals and technique in operative surgery, it is the greatest work of its kind that has appeared in any language. "Bickham's Operative Surgery," contained in six portly octavo volumes, exclusive of an index volume, approximates six thousand pages with more than two million words of text, six thousand and seventy-eight original illustrations drawn by forty-six artists under the author's personal direction, and published by Saunders of Philadelphia. The system is more profusely illustrated than any work in any branch of medicine. The sale of 18,312 volumes in ten months after its appearance is sufficient proof of the value attached to its publica-

tion in the eyes of the medical profession.

In addition to his eminence as a medical author, Dr. Bickham has also special claims upon Tulane for honorary distinction. Warren Stone Bickham is a Louisianian. He was born in Shreveport, August 23, 1861, and is approaching his 64th birthday. A student at the University of the South, Sewanee (1873 - 1875), at Yale (1881 - 1885), where he just missed his A. B. degree on account of ill health, he entered the academic department of Tulane in 1882, completing special courses in chemistry and physics at the end of 1883. He was graduated from the medical school of Tulane in 1887, and also received the degree of M. D. from Columbia (College of Physicians and Surgeons). He was an interne of the Charity Hospital of New Orleans while still an undergraduate at Tulane. After his graduation he engaged in practice in New Orleans, being associated with his father, Dr. C. J. Bickham, one of the best loved men of the medical profession in New Orleans. In 1893 he was chosen to organize and direct the laboratory of operative surgery in the medical school of Tulane—a laboratory which had just been founded through the munificence of Professor A. B. Miles—and he served with remarkable efficiency and distinction as demonstrator in chief of this department



DR. WARREN STONE BICKHAM.

during five years (1893-1898). After his father's death, he traveled abroad for two years, visiting the leading surgical clinics of England, France and Germany, after which he established himself in New York City, where he has resided and practiced, with interruptions, during the last twenty years.

It seems fitting and most appropriate that his Alma Mater should have taken cognizance of Dr. Bickham's merits at a time when he has just completed a great literary enterprise which represents the achievement of a life of labor crowned with honor and glory to himself, to his profession and to the Institution that gave him his intellectual and professional training. Apart from his purely literary and scholarly attainments, the personality of the man, his fine character, his integrity and representative quality as a gentleman by birth, breeding and conduct, are not the least of his qualifications which entitle him to this honorary degree.

PREVENTION OF BLINDNESS.

A nation-wide effort to eliminate from the schoolroom the conditions which are having a harmful effect on the eyes of children is being initiated today. The superintendent of schools in every state, county and city having a school population of 25,000 or more will receive from the National Committee for the Prevention of Blindness for distribution among public school teachers a communication based on the code of lighting school buildings which was prepared under the joint sponsorship of the Illuminating Engineering Society and the American Institute of Architects. This code was recently approved as the American Standard.

In announcing the plan to place a copy of a non-technical summary of this code in the hands of every public and private school teacher in America, Mrs. Winifred Hathaway, Secretary of the National Committee for the Prevention of Blind-

ness, declared that a recent study of the condition of the eyes of more than 4,000,000 public school children indicates that approximately 12 per cent of all school children in America have such seriously defective vision as to be handicapped in their work.

The communication from the National Committee will not only acquaint the teacher with the principles of correct lighting, but will deal with the arrangement of seats and desks, coloring of walls, the use of window shades, construction and location of blackboards and the position of the teacher herself in the class room, all of which have important bearings on the lighting condition within the room and on the use or abuse of the children's eyes. The Committee emphasizes the fact that the eyestrain resulting from incorrect lighting of school rooms frequently results in functional disorders, nearsightedness or other serious eye defects. It declares that two of the chief causes of eyestrain are insufficient illumination and glare, and then describes the methods of eliminating these causes.

The non-technical summary of the code was prepared by a special committee of nationally known lighting experts under the chairmanship of Mrs. Winifred Hathaway, Secretary of the National Committee for the Prevention of Blindness. The other members of this special committee were: Professor S. K. Barrett, Professor of Electrical Engineering, New York University, New York; Mr. Walter S. Deffenbaugh, Chief of Division of City Schools, U. S. Bureau of Education, Washington, D. C.; Mr. J. E. Hannum, Research Engineer, Eyesight Conservation Council of America, New York; Mr. M. G. Lloyd, Chief of Safety Division, U. S. Bureau of Standards, Washington, D. C.; Mr. M. Luckiesh, Laboratory of Applied Science, Nela Park, Cleveland, Ohio, and Mr. W. J. Serrill, Philadelphia.

An initial edition of 112,000 copies of this summary has been published by the

National Committee for the Prevention of Blindness for free distribution and additional quantities will be available soon.

A DOCTOR'S PLACE IN INDUSTRIAL ENTERPRISES.

Industrial hygiene is becoming more and more appreciated in the commercial world. There are physicians in the U. S. Public Health Service, in the Bureau of Mines and in various other Departments of the Federal Government who make exhaustive studies of the working conditions in the industries.

We have, too, the industrial physician maintained at the expense of large manufacturing establishments who makes intensive studies of the employees' living conditions. We have also the influence of these physicians on the legislators in the promulgation of statutes for the protection of the employee against individual hazards. These may be of a physical nature, or simply health depleting; for instance, the dangers encountered in exposed machinery, in the dust contained in the air in the process of manufacturing white lead, or of a gaseous nature such as carbon bisulphide and carbon tetrachloride in the rubber industry. What the doctor's duty entails, is how and in what manner the employees can be guarded against noxious fumes, against insanitary surroundings in the factories, improper postures on the work benches, against conditions which endanger life and limb, against the insidious influences of community life, as very frequently occurs in the crowded manufacturing districts.

The industrial physician can do much to protect and assist expectant mothers and their children. He can use his influence in preventing the exploitation of children below the legal employment age.

His opinions will be of great value if his employer is intelligent enough to accept them in matters of ventilation, temperature, moisture and dust conditions of the air and in the physical examinations for incipient tuberculosis and venereal disease.

The greatest influence will undoubtedly be on the employees themselves. If the company will allow him to properly use his knowledge he can bring about conditions which will be more conducive to harmony and efficiency by meeting the desires of the employees for needed recreation, thus indirectly preventing strikes and other industrial discords so highly destructive to both financial stability and to the welfare of the workers themselves.

In short, the Industrial physician can play an enormously important role in any large organization, if he cares to do so. His part will be one which will appeal to the human interests and he will find his sphere of influence for good, either large or small, depending on the amount of tact, insight into human nature, professional ability and spirit of co-operation and understanding which he brings to bear.

CORRESPONDENCE.

July 9, 1925.

To the Editors:

I was very much astonished at the very flattering notice of myself appearing in the last number of the *Journal*. You have been very kind to me and I want you to know that I most heartily appreciate what you have done, although I am quite conscious of the fact that you have done me greater honor than I deserve.

I have noted with much interest and pleasure the recently improved make up of the *Journal* and trust you shall be able to maintain the high standard you have set.

Cordially yours,

F. W. PARHAM.

PRACTICAL MEDICAL ECONOMICS

Chas. A. Bahn, M. D., Department Editor.

MEDICAL MANAGEMENT.

(Continued)

Part 12.

Charles A. Bahn, M. D.

The medical or diagnostic group is a more or less a recent evolution of the partnership idea, designed to render co-ordinated medical skill and service at a minimum expense of time and money. In the central, north-western, and southwestern, parts of this country, these groups have become more numerous and successful, because the medical profession and public adapt themselves more easily to co-operative effort and because more persons seek medical service primarily to get well rather than to consult a particular doctor.

The permanent success of any group of course depends primarily, on the completeness and competence of the professional services rendered. As the efforts of several persons are usually involved in the examination and treatment of the patients there must be a central responsibility to each patient, that is a directing head which prevents the patient from becoming lost, avoids delays and useless examinations and treatments and supervises what has to be done to facilitate the patient's prompt and economical recovery. It is therefore necessary that physicians in this field not only have the necessary technical knowledge to serve those who require only their individual services, but also have the ability to a greater degree than is necessary in private practice to use their technical knowledge to help those requiring the services of several doctors either to determine the cause of illness or remedy it. The necessary exchange of medical ideas if properly used should be productive of broader understanding and judgment. Records have to be more complete and legible because they are no longer individual property but must be used by at least several

different persons. It is important that the doctor who enters group practice has a broad practical knowledge of his subject, is capable of team work, and above all, is human, from the standpoint of both patients and fellow workers.

Although several persons may render service to a patient there must be a single responsibility and supervision. In some instances this service is rendered for all patients by one member of the group, while in others, the physician who renders the maximum service assumes entire supervision of the patient. Where the former plan is adopted, this central physician who understands and distributes the patients to the various doctors and supervises the effort necessary to determine the correct diagnosis and establish the best treatment becomes a most important factor because he must not only have a thorough and practical knowledge of medicine in most of its branches but above all he must understand human beings and be able to influence practically human nature not only pertaining to patients but especially to those who are associated with him.

Most of us need supervision to do our best work, but few of us like it. As the success of team work largely depends on each person carrying his share of the load it is obviously important that one or more persons in a group thoroughly understand the quantity and quality of each persons production, and know what is at all times being accomplished. It is no reflection that you resent supervision or that you do not travel well in double harness, providing that you and those necessarily involved understand these facts. The individuality of each doctor associated with a group is sooner or later displaced by the group individuality which involves the inadvisability of members exploiting themselves at the expense of others members or the whole organization. In other words every one must give and take when the best interest

of the group is concerned. Honest difference of opinion is the greatest asset of any group, medical or non-medical, but should be used constructively and not destructively.

Diagnosis must not be made a means of profit which primarily should come from getting patients well and not from the determination of their ailments. If this is not observed the various departments will sooner or later make unnecessary examinations for which patients must pay and get no practical good. Diagnosis cannot of course be successfully carried on at a loss but it should pay the expenses incurred and practically no more.

In formation of a diagnostic group it is financially important that those who participate have sufficient practice to operate under altered conditions without financial loss. Naturally other physicians in the community often look upon a medical group as direct competition and not only do not refer patients to its members, but even go farther. In an instance told me, a well known surgeon became enthusiastic over the group idea, and secured the services of several younger men and greatly enlarged existing facilities and increased expenses. The younger men, although competent, did not contribute many patients to the organization. Surrounding physicians did not send the surgeon as many patients hence the income decreased and the expense increased to the extent that the venture has thus far been an expensive experiment.

Generally speaking, the more a doctor knows about medical science, the less he knows about everything else, specially practical fields of effort. It is hence desirable that management of medical groups be separated from purely professional medical services. The latter has for its objective the understanding of patients' ailments and getting them well, while the former is primarily interested in receiving a reasonable recompense for services and distributing the moneys received in a profitable manner. Many medical organizations employ a non-medical manager. The manager,

whether medical or non-medical, is of course under the supervision of a directing board, to whom he is responsible and whose policies he carries out. Management here includes the verification and collection of accounts receivable, the disbursement of moneys received; the purchasing of equipment, supplies and assistance, the assignment and supervision of non-medical and some medical work, and the adjustment of minor differences.

Anybody can conduct an enterprise at a financial loss, but not everybody, at a profit. The person or institution that can not be self-sustaining, generally speaking, sooner or later passes into oblivion unless fed by the ravens or their prototype, endowment. Most of us have no resources aside from our production.

Generally speaking, rent should not exceed six per cent. of the gross income; equipment, five per cent. Salaries are variable, depending upon the amount and type of assistance required, but whatever that amount is, each person should productively earn their salary plus its overhead cost. In other words, every dollar paid out should as far as possible represent a profitable investment. In practical management sentiment must assume a minor role.

Physicians who are successful financially and professionally seldom discuss the former phase of their efforts. The inference is that they have succeeded financially solely through their medical attainments which is not usually the whole truth. It is unfortunately much more profitable to write and talk about ones wonderful cures or abstruse scientific discoveries than how one's business is conducted. Each of us has his own method of defense against loss and avoiding practical financial medical discussions is one usually adopted by successful physicians.

The writer being interested in medical administration, has visited most of the large medical groups and has discussed the subject with many of their members. I believe that those who are thus engaged

are usually enthusiastic about the present and future possibilities of group medicine and that under average conditions this plan relieves one from the small administrative problems necessarily associated with individual practice; facilitates the more thorough study of a greater proportion of medical problems to a definite conclusion; brings doctors in closer contact with each other and the different branches of medicine; facilitates vacations; and offers the young physician more favorable working conditions. These benefits are obtained, however, at an increased overhead expense; more supervision; the merging of one's individuality into that of the group; greater difficulty in re-establishing one's self if the group does not succeed or in case of withdrawal. Under favorable conditions, that is when the practice involved is sufficient to justify the expense incurred, when the public understands the group

idea, when the members are fitted temperamentally and professionally; and when the management is just and economical: the group plan can be made successful, professionally and financially.

This concludes the twelfth and probably last installment of these articles, at least for the time being. We believe today as we did a year ago that physicians would render greater and more profitable service to themselves and the public if more of their efforts were devoted to maintaining public health in a more simple, practical, and economical manner. We hoped that an experiment to encourage this service would receive sufficient interest in the form of inquires and comment to justify its indefinite continuance. We trust that our efforts have been productive of pleasure and profit to those who followed them and we will gladly resume the subject when interest justifies.

NEWS AND COMMENTS

DEPARTMENT EDITORS.

Lucien A. Ledoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA

"Every man owes some of his time to the up-building of the profession to which he belongs."

—Theodore Roosevelt.

SEVENTH DISTRICT MEDICAL SOCIETY.

The regular quarterly meeting of the Seventh District Medical Society was held at Opelousas, La., on June 24th, as guest of the St. Landry Medical Society.

The Scientific portion of the program was held at the Elk's Home and the following papers presented:

Dr. T. B. Sellers—New Orleans, "Treatment of Vomiting of Pregnancy with the Insulin and Glucose Method."

Dr. C. A. Gardner—Sunset, "A State Tubercular Hospital."

Dr. S. B. Wolff—Opelousas, "Experiences with Wasserman Negative Syphilis."

At the conclusion of this program the members were driven to the Suburban Garden where an elaborate banquet was served, and a general discussion held.

The Seventh District Society unanimously decided to go on record as commending the Rapides Parish Medical Society for their recent action against the Rapides Parish Police Jury for their interference with a physician's rights to prescribe alcoholic beverages to his patients when deemed necessary; and the society condemns any Parish Police Jury that takes a similar action. This Society wishes to foster a move requiring the State of Louisiana to build an adequate hospital to care for her tubercular citizens.

An invitation was extended by the Calcasieu Parish Medical Society to hold the next meeting in Lake Charles in the month of September.

After a short talk by the President, Dr. C. A. Martin, in which he accepted the Calcasieu Parish invitation and urged every one present to attend and bring another member, the Society adjourned.

REGULAR MEETING OF THE LOUISIANA STATE BOARD OF HEALTH.

Thursday, June 18, 1925.

Resolution adopted:

Whereas, For several months requests have been coming to the State Board of Health with regard to the re-establishment of free clinics, with special reference to the treatment of venereal diseases, and

Whereas, The State Board of Health takes the position these Venereal Disease Clinics were emergency activities as a war measure, and

Whereas, The State Board of Health takes the further position that the functions of the Board are preventive and not curative;

Therefore be it Resolved, That in view of the unpleasant publicity and failure to get result desired, as a consequence of the operation of the three narcotic dispensaries and venereal disease clinics conducted jointly at the several points of the State, and individually at Alexandria, the Board in regular session look with disfavor on the re-establishment of clinics or dispensaries of any kind whatever, and

Be it further Resolved, That the best the State Board of Health can do is to continue to the best of its ability, to furnish free arsphenamine for the indigent sick with the definite understanding where furnished free the physician will not charge for administering same, and

Be it further Resolved, That copy of this Resolution be sent to the State, Parish, District, and City Medical Societies throughout the State and published in the Quarterly Bulletin of the State Board of Health.

OSCAR DOWLING, M. D., President.

Fifty-six physicians passed their examinations before the Louisiana State Board of Medical Examiners and only one failed in the tests conducted June 11, 12 and 13. Applications of four physicians for reciprocity certificates were approved. Fifteen applicants for midwifery certificates were examined and all but four were successful. Members of the board present were Drs. Leon J. Menville, president; E. L. Leckert, R. W. O'Donnell and Roy B. Harrison, secretary-treasurer.

Successful physicians were:

George Lamar Arrington, Frank Joseph Beyt, Robert Edward Bratton, Hamilton K. Carrington, Herndon H. Clarke, John Earle Clayton, William Jesse Craig, Herman Perry D. Curtis, Leonhard Ernest Devron, Joseph Marion Donald, John Fredericks Drew, Morris James Duffy, Dean Hume Duncan, Frederick Y. Durrance, Oscar Jarrell Emery, George D. Feldner, Vance Wells Fletcher, Seth Jordan Floyd, William Victor Garnier, Ben Goldsmith, Julian Graubarth, Henry Edwards Guerriero, Mye Haddox, Daniel LaSalle Hagood, Joseph Jacob Hanus, Jr., Lindley O. Hayes, Gaston Arthur Hebert, Robert Carl Hill, Durward Allison Huckaby, Melville Wallace Hunter, William Ambrose Hutchinson, William Kernan Irwin, Norman Kelly, Saul Francis Landry, Henry Nathan Leopold, James Otis Lisenby, John Fair Lucas, Spencer Butterfield McNair, Morell Waldo Miller, Thomas Hillman Oliphant, Bennet G. Owens, Florence Gates Rich, Reuben Sanford

Roy, Thomas Morrow Sayre, Wallace Polk Sheely, John Frank Smith, Edmond Souchon, Ambrose Howell Storck, Vincent Joseph Thacker, Clifford Joseph Vedrenne, Benjamin Walter Ward, Daniel Davis Warren, Clarence H. Webb, Herman Aubrey White, Seward Haff Wills, Dwight Moody Young.

Midwives:

Miss Angelina Bagneris, Mrs. F. O. Belperain, Mrs. Maud Donnels, Miss Beatrice Honore, Mrs. Jules Pollet, Mrs. Bernadine Scott, Mrs. Annie Smith, Mrs. Louis Spahn, Mrs. Oliviar Stewart, Mrs. John W. Trauth.

Certificate on reciprocity:

Thomas J. Fenton, George R. Herrinman, Percy Bradford Lusk, J. H. Musser.

NATCHEZ HOSPITAL TO BE STANDARDIZED

On invitation of the visiting staff and Board of Trustees of the Natchez Hospital, Dr. John Spellman, superintendent of the Touro Infirmary of New Orleans and representative of the American College of Surgeons, has just made a survey of the hospital here with a view to making recommendations whereby the hospital may be standardized and placed on a class A footing. Notwithstanding the fact that the appropriation of the hospital was cut \$10,000 per annum by the last legislature, it has shown a remarkable record of efficiency under the superintendency of Dr. J. C. McNair and has remained within its budget.

Dr. Samuel Elder was promoted last night to senior house surgeon of Charity Hospital, New Orleans, and Dr. R. O. Russell was named senior house physician. They succeeded Dr. E. L. Irwin and Dr. I. L. Robbins, who will go into private practice.

Other promotions resulting from the resignation of the two department heads are: Dr. Martin Miller, junior house surgeon; Dr. W. H. Cook, assistant house surgeon; Dr. B. D. Corrington, junior house physician.

A resolution was adopted by unanimous vote of the board of administrators of the State Colony and Training School, which met at the institution at Camp Beauregard tendering the vacant superintendency of the institution to Dr. C. J. Willis of Shreveport. Dr. Willis accordingly was elected and took under consideration the question as to whether he would accept.

The board decided on building another home for employes, which will probably be occupied by Dr. E. M. Levy, assistant physician. It was also decided to get plans for another dormitory to accommodate 100 inmates to be devoted to the use of young white women above school age.

DIBERT MEMORIAL CONTRACT IS LET.

Contract for the long talked of John Dibert Memorial Tubercular hospital to be an addition to Charity hospital through the philanthropy of Mrs. John Dibert, has been awarded to George J. Glover and actual work will begin in the next few days. The contract price is \$358,688.

Mrs. Dibert donated the money for the hospital several years ago and plans were prepared three years ago by Sam E. Stone, Jr., architect and former city commissioner. Difficulties were encountered when different sites were tentatively agreed upon, and the board of administrators of Charity hospital finally decided to build it adjacent to the Charity hospital. The building will be constructed at Tulane and Claiborne avenues, facing Claiborne avenue. It will be three hundred feet long and fifty feet wide, three stories high, with a basement. It will be constructed of concrete and stone, and will accommodate 180 patients.

DIED: Dr. Louis Theophile Donaldson, Sr., at Reserve, St. John the Baptist Parish, Louisiana, on Wednesday, July 15th, 1925.

Dr. Donaldson was born in St. James Parish in 1854 and was 71 years and 4 months of age at the time of his death. He was graduated A. B. from Jefferson College, St. James Parish, in 1876. He was an under-graduate intern of the Charity hospital, New Orleans, 1877-8 and was graduated M. D. from the Medical Department of the University of Louisiana (Tulane) in 1879. He practiced at Vacherie, his native town in St. James Parish, the first year after his graduation and thenceforth removed to Reserve, where he remained in continuous practice until his death, a little over 44 years.

Dr. Donaldson married Miss Antoinette Vigne, of the same parish. His widow and a family—five sons and three daughters—survive him. Two sons are physicians and one a pharmacist, all Tulane graduates: Dr. L. T., Jr. (Class 1907), residing at Hahnville, La., St. Charles Parish, and Dr. Armand (Class 1925), at Reserve, and Mr. Henry Donaldson, for many years a pharmacist at Reserve.

Dr. L. T. Donaldson, Sr., was a member of the St. John-St. Charles Parish Medical Associations, State Medical Society, Southern Medical Association and the American Medical Association; the leading physician and one of the most representative and esteemed citizens of his section of the State. The love and respect in which he was held by all elements of the community was well attested by the great concourse of people who attended the funeral obsequies which took place at Reserve, on Thursday morning, July 16th. Dr. Donaldson was an unusually well educated physician who loved his profession and understood its

mission in a broad and generous spirit. Gentle and kind by nature, modest and unpretentious, he lived happily among his people who honored him for his skill and learning, and loved him for the unstinted service he had given them during the 44 laborious years that he had lived among them. He was a country practitioner of the finest type. He would have flourished through his professional merit in the most pretentious surroundings, but from the beginning he chose to cast his lot in the comparative obscurity of a small country parish with no other ambition than to cultivate and apply a knowledge of his profession in the service of his people. This he did faithfully, continuously and with all the enlightenment that a mind keenly alert to all professional and social progress could give him. He leaves an honorable name based upon a long record of altruistic service that will remain a conspicuous example of the best citizenship in the history of the Parish. His example was a fine asset to the reputation of the medical profession of the State and his death will leave a void difficult to fill.

The Journal extends its heartiest sympathy to his bereaved family.

DIED: Dr. August J. Pareti, age 35, July 2nd, 1925, at New Orleans. Dr. R. J. Mainegra, Sr., age 83, at New Orleans.

According to newspaper reports, we have another new "cancer cure." This time the story originates in Atlanta, Georgia. The ionization of the molecules in drugs forms the basis of the "cure."

DALLAS WILL ENTERTAIN THE SOUTHERN MEDICAL ASSOCIATION IN NOVEMBER.

A warm invitation is being extended to the doctors of the South to attend the annual meeting this fall, and preparations are being made to entertain between four and five thousand. Already, 1500 rooms in the best hotels have been set aside for this purpose, and it is estimated that more will be available.

Dallas has all the chief requirements for a successful convention city; ample hotels and auditoriums, easy accessibility, facilities for entertainment and diversion, coupled with whole-hearted hospitality on the part of the citizenship. It is not only a medical center of importance, but a city of interest and opportunity.

Easily Accessible.

Ten trunk line steam railroads serve Dallas, with 100 passenger trains daily in and out of the \$6,500,000 Union Terminal Station. Two hundred and fifty-eight interurban trains leave the \$1,000,000 electric interurban station daily. Dallas

is 16 hours by rail from Kansas City, 18 hours from St. Louis, 27 hours from Chicago or Cincinnati, and 43 hours to New York.

For those who wish to use the automobile in attending the S. M. A. convention, Dallas is located on five transcontinental highways, Bankhead, Meridian, King of Trails, Dallas-Canadian-Denver, and the Dixie Overland. These highway organizations assure the tourist of well kept roads. In Dallas County alone are 100 miles of surfaced highways, and a tourist camp and centers of highway information are available also.

Clubs, Restaurants, Theatrical Facilities

Dallas has a number of strong clubs, splendidly housed, such as Dallas Athletic Club, University Club, City Club, a number of fine golf clubs, and all the leading national service organizations, such as Rotary, Lions, Kiwanis are represented here—all are most hospitable in the entertainment of visitors.

Restaurants, either connected with hotels or independent, are numerous and of a generally high standard. Some of the highest priced chefs in the nation are here. You can get meals with a Western flavor, Mexican dishes, Chinese dishes or old fashioned Southern cooking. All the year truck gardens and farms are producing in some parts of Texas, and this coupled with proximity to packing houses, poultry farms and orchards, tends to keep food prices reasonable.

Dallas has 37 theatres, with a combined seating capacity of 28,000. These include summer and winter stock companies, many good road shows during the season, high class vaudeville and motion picture houses, and the Little Theatre was twice awarded the Belasco Prize. There are theatres costing as much as \$2,000,000 and seating as many as 3,000 persons.

Climatic Conditions.

Dallas' climate as a whole is pleasant and invigorating, without severe extremes and November in Texas as a rule is crisp and clear, ideal for travel for out door sports.

Through the medium of this Journal, in later issues, data on the Hospital and clinical facilities of the Convention City will be given, meanwhile, the medical profession of Dallas and of Texas, invites you to plan to attend the Southern Medical Association Convention this fall.

AMERICAN BOARD OF OTOLARYNGOLOGY.

An examination was held by the American Board of Otolaryngology on May 26, 1925 at the Medico-Chirurgical Hospital, Philadelphia, with the following result:

Passed, 137; failed, 20; total examined, 157.

The next examination will be held at the University of Illinois School of Medicine on October

19, 1925. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Brand Boulevard, St. Louis, Missouri.

NEW CHILD WELFARE LEGISLATION.

The Maternity and Infancy Act was accepted for the first time by Rhode Island, Vermont, and Hawaii during 1925; 43 states and Hawaii are now co-operating under the Act.

CHILD HYGIENE.

Measures relating to public health and child hygiene have been considered in a number of States. Bills authorizing the employment of public-health nurses by municipalities and counties were passed in Kansas, Michigan, and Missouri. A Connecticut bill would provide for State aid in establishing a public-health nursing service. Bills relating to medical inspection in schools, school physicians or school nurses, were introduced in Connecticut, New York (passed, Rhode Island and Minnesota. Oregon passed a law requiring physical examination of all school children during the first month of the school year, providing no objection has been made by the parent. Bills improving birth and death registration passed in Michigan and Vermont but failed in Maine. The status of such bills in Oklahoma and Pennsylvania is unknown. South Dakota passed a law requiring physicians and others to employ certain methods for the prevention of blindness and infections of the eyes of new-born infants. West Virginia introduced bills for licensing and registering midwives. Iowa and South Dakota passed new regulations for the control and inspection of maternity hospitals.

MARRIAGE LICENSE REGULATION

Bills relating to marriage license regulations were introduced in a number of States, but according to all available information no important measure was enacted into law.

AMERICAN ELECTROTHERAPEUTIC ASSOCIATION.

The American Electrotherapeutic Association will hold its 35th Annual Session September 15th to 18th at the Hotel Drake, Chicago, Ill. Papers will be read by the leading men in the field of physical therapeutics and by invited guests of national reputations. A demonstration of actual technic of application of the various physical modalities will be given. There will be a complete exhibit of the latest electrotherapeutic apparatus and accessories. All legally licensed physicians are welcome and detailed program can be obtained by addressing Dr. Richard Kovacs, Secretary, 223 East 68th Street, New York.

One child out of every 11 in the public schools of American cities and 1 child out of every 7 in the schools of rural districts in the United States has seriously defective vision as to be handicapped in their school work; this situation though serious is not nearly so bad as the public has been led to believe by newspaper and magazine reports of recent years which have been based largely on casual investigation; conservation of the eyesight of school children is fundamentally a duty of the school system; as a first step toward the fulfillment of this duty, a uniform law for the examination of the eyes of school children should be adopted by all cities and states. These are some of the findings and recommendations contained in an exhaustive report entitled "Conserving the Sight of School Children" presented today (July 1) before the National Education Association by the Joint Committee on Health Problems in Education of that organization and the American Medical Association.

THE POST-GRADUATE MEDICAL JOURNAL.

On September 1st will be published the first number of the Post-Graduate Medical Journal, the Official Organ of the Fellowship of Medicine.

This publication marks an era in medical journalism. It has long been felt that a periodical devoted solely to the interests and requirements of the medical post-graduate was an urgent necessity. Such a periodical should be a medium by which the practitioner can be kept en rapport with all the details of post-graduate teaching; where individual requirements can be expressed; where difficulties can be discussed and grievances ventilated. It will be the aim of the Post-Graduate Medical Journal to provide for such needs.

The Post-Graduate Medical Journal will be published at 6d. net monthly at No. 1, Bedford Street, London, W. C. 2, and all communications should be sent to the Manager at that address.

Our readers no doubt remember the dog-team relay race to Nome, Alaska, with Super-Concentrated Diphtheria Antitoxin last February. The drivers knew that the trip was practically impossible, yet they dared death to save diphtheria-stricken Nome. They plunged through trails that would have been impassable had it not been for the courage and instinct of the dogs and the heroism of the drivers.

That heroism has been recognized and commemorated by H. K. Mulford Company, Philadelphia, makers of the Super-Concentrated Antitoxin. Beautiful gold medals will be presented to each of the nineteen dog drivers by the H. K. Mulford Company through Governor George Alexander Parks, of Alaska.

The new plant of the Abbott Laboratories now near completion, will be when occupied the finest, complete pharmaceutical and research plant in the World.

We wish to call the attention of our subscribers to the announcement of the Graduate School of Medicine which is now being reorganized to meet the requirements of the Council on Medical Education of the A. M. A. The faculty has been strengthened and enlarged by the addition of the best available teachers and enlarged clinics. The review courses will be so constituted as to cover the work in a shorter period and will begin later and end earlier, which we feel certain will meet with the approval of all concerned. From what we can learn we believe Tulane's new school will be second to none.

MISSISSIPPI

To the Members of the Mississippi State Medical Association: When the Mississippi State Medical Association had no other means but its Transactions of acquainting its members with what it was doing, the membership was out of touch with the Association and its activities to a large extent during the entire year. From the personal standpoint, doctors lost touch with their colleagues in the State, except when they attended the conventions. It is the hope of the State Medical Association that through the columns of the New Orleans Medical and Surgical Journal, a means of contact with the State Association and with each other will be furnished to the doctors of the State.

It is hoped that we shall be able to make and keep this column an interesting one. In order to do so, it must have your active support and cooperation. To that end it is requested that each and every member of the Mississippi Medical Association, and of its Women's Auxiliary, will remember to send in items of interest on subjects pertaining to the membership of the State Association, their families, and also pertaining to hospitals, and to Public Health work.

Such communications, as well as any suggestions, or criticisms regarding the policy of this Department should be addressed to J. S. Ullman, M. D., 308 Franklin Street, Natchez, Mississippi. Material for publication should be in his hands on the tenth of the month, if it is to appear in the Journal for the next month.

Dr. G. S. Bryan, President of the Mississippi State Medical Association, announced the following committee appointments:

Policy and Legislation—Drs. Underwood, Cooper and Willis Walley.

Teachers' Association—Drs. W. H. Frizell Henry Boswell and J. F. Underwood.

Publication—Drs. Dye, Dearman and Folkes.

Scientific Work—Drs. Dye, H. L. Scales and D. W. Jones.

Necrology—Drs. J. Rice Williams and John B. Howell, and C. A. Sheely.

Hospitals—J. M. Acker, S. H. Hairston, John Darrington.

Medical Education—W. H. Anderson, J. P. Wall, W. W. Crawford.

The following were appointed as Chairman of Scientific Sections:

Medicine—C. R. Stingily.

Hygiene and Public Health—W. E. Noblin.

Eye, Ear, Nose and Throat—C. A. McWilliams.

Surgery—V. B. Philpot.

Dr. B. B. Martin, of Vicksburg, and his family are making an auto trip to California this summer.

Dr. George Street and wife, of Vicksburg, are members of a party of physicians from the United States, who are doing post-graduate work in the leading clinics of Europe during the summer months.

Dr. D. A. Pettit, of Vicksburg, is taking post-graduate surgical courses in Chicago.

Married: Hall H. Ratcliff to Miss Mary Louise Richardson, both of Natchez, on June 11, 1925.

On June 30th, Dr. John Spellman, Medical Superintendent of Touro Infirmary, New Orleans, made a survey of the Natchez Hospital for the purpose of making recommendations regarding the standardization of the institution. He addressed the Board of Trustees and the Visiting Staff on this subject.

The Homochitto Valley Medical Society held its quarterly meeting on July 9th, with Dr. C. E. Catchings, of Woodville, presiding.

Dr. John F. Chamberlain and Dr. James Rice, of Natchez, have announced that they were starting the erection of a private hospital at an early date. The institution will be known as the Rice-Chamberlain Hospital, and will have a capacity of about sixty-five beds.

Dr. J. S. Ullman, of Natchez, has recently been elected to membership in the American Radium Society.

Dr. A. S. Applewhite, of Jackson, has been put in charge of the Health Unit of LaFlore County.

BOOK REVIEWS.

William Crawford Gorgas: His Life and Work.
By Marie D. Gorgas and Burton J. Hendrick.
Philadelphia and New York, Lea & Febiger.
1924.

This is a fascinating life story of one of our giants of American medicine. The authors have succeeded in giving us in a very charming conversational style, a theme so replete with human interest and romance, as to hold the attention to the last page. Seldom has opportunity for service in the field of medicine been given in greater measure, and a life's possibilities been so completely fulfilled as in the case of William Crawford Gorgas. The sanitation campaign in Havana, following the work of Reed, which freed the city from the scourge of yellow fever; his scheme of sanitation in the Canal Zone, which made possible the construction of the Panama Canal; the work for the British in South Africa and his service as Surgeon-General during the war, are related in detail. The spirit of the man is the dominating feature of the narrative, making it of personal interest to medical man and layman alike.

MARY LOUISE MARSHALL.

Transactions of the American Proctologic Society Twenty-fourth Annual Session Held at Hotel Alexandria, Los Angeles. Paul B. Hoeber, Inc., New York. 1924.

The field of Proctologic Surgery is quite well covered by the papers included in this volume. The Presidential address by Terrell of Richmond is noteworthy because of the beauty of its composition and the soundness of his advice on matters in this field. Joseph M. Mathews so well known as the "Father of Proctology" and past President of the A. M. A., gave "Some Admonitions, suggestions and Criticisms."

Notable among the papers that elicited free discussion was Yeomans' "Circular Amputation for marked First and Second Degree Prolapse of the Rectum;" Murieta's "Sacral Anesthesia;" and Crookall's "Ambulant Treatment of Anorectal Fistula." Pennington's chart illustrating "The Topography of Rectal and Anal Diseases" is the frontispiece of this volume. His paper on the same subject is also included. "A Statistical Review of Carcinoma of the Rectum, Rectosigmoid, and Sigmoid," by Buie, well deserves the favorable comment it received. "An Original Bacteriological Research of Pruritus of the Perineum," by Montague, is quite an elaborate investigation into this subject and evidences painstaking work and much thought.

MAURICE LESCALE.

The Principles of Public Health Engineering:
By Earle B. Phelps, B. S., Professor of Sanitary Science, College of Physicians and Surgeons, Columbia University. Formerly Associate Professor of Chemical Biology, Massachusetts Institute of Technology. New York. The Macmillan Company. 1925.

There is a hackneyed and much abused expression—"It fills a long-felt want"—that can be most appropriately applied to this useful manual that makes readily available to the public health student, with possibly no taste for mathematics, the essential principles of sanitary engineering and to the sanitary engineer a good working knowledge of public health principles.

The work is no mere compilation of authorities; it is for the most part a resumé of the author's experience in the field as a sanitary engineer and in research work at various laboratories. The facts and data come from the fountain-heads of information, more especially the State Board of Health Experiment Station at Lawrence, Massachusetts, the Sanitary Research Laboratory of the Massachusetts Institute of Technology, and the Hygienic Laboratory of the United States Public Health Service at Washington, D. C. The results of the studies of the International Joint Commission investigating the pollution of our northern boundary waters and the New York State Commission on Ventilation are made readily accessible.

The subject matter is dealt with in nine chapters. The introductory chapter discusses the environment and presents the biological aspects of public health in an interesting manner. The sanitary problems of the atmosphere are considered in two chapters entitled "Atmospheric Pollution" and "Ventilation of Buildings." The principles of ventilation are clearly enunciated and very practical information on the ventilation of large auditoriums, factories, and mines is given. In view of the present interest in the infection of oysters by sewerage, the chapter on sewerage is of particular moment to sanitarians of the Gulf and Atlantic States. The latest information and the results of the most advanced research are presented. The chapter on the pasteurization of milk is timely and enlightening. The problem is considered from the standpoint of the sanitary engineer and it appears to be soluble by engineering methods.

The book will be particularly valuable to students taking graduate work in public health, to students of sanitary engineering, and to health officers, especially those in rural districts where

the health officer is frequently called upon for advice in sanitary engineering matters.

FRANCIS M. MUNSON, M. D.

Proceedings of the International Conference on Health Problems in Tropical America: Held at Kingston, Jamaica, B. W. I., July 22 to August 1, 1924. By Invitation of the Medical Department of the United Fruit Company. Published by United Fruit Company, Boston, Massachusetts. 1924.

The report of the proceedings of this conference is, in effect, an up-to-date text-book on tropical medicine and hygiene. It is a symposium of the views and experiences of most of the living authorities on those subjects. Among the participants in the conference were Aristides Agramonte, the surviving member of the United States Army Yellow Fever Commission of 1900; Colonel Bailey K. Ashford, U. S. Army, remembered for his crusade against the hook-worm in Porto Rico; Professor C. C. Bass, of Tulane University, who first cultivated the malaria plasmodium; Doctor Hideyo Noguchi, the discoverer of the yellow fever organism; Doctor William H. Park, of the Health Department of New York City; Professor Milton J. Rosenau and Professor Richard P. Strong, of the Harvard Medical School, and Doctor Aldo Castellani, the distinguished writer and lecturer at the London School of Tropical Medicine. In addition to the sanitarians and laboratory workers a number of American and English physicians, surgeons and statisticians attended the conference. These included Professor Banting, the discoverer of insulin; Sir Thomas Oliver, the authority on industrial medicine; Sir W. Arbuthnot Lane, Consulting Surgeon of Guy's Hospital; Doctor Frederick Hoffman, Consulting Statistician of the Prudential Insurance Company of America, and Sir Arthur Newsholme, formerly Principal Medical Officer of the Local Government Board of England and Wales, Lecturer on Public Health Administration, School of Hygiene and Public Health, John's Hopkins University. The Army and Navy of the United States and the Royal Army Medical Corps of Great Britain were represented by able officers.

The participants presented many valuable papers on the subjects in which they are especially qualified. These, and the discussions which followed their presentation, are reported in full, in a number of cases with illustrations, diagrams and statistical tables. Some of the papers are of general interest, such as one giving a resume of the development of tropical medicine between 1898 and 1924, Professor Rosenau's "The Seasonal Prevalence of Disease," Doctor Vincent's "Tropical Hygiene, an International Adventure," and Sir Arthur Newsholme's "A Note on the Historical Reduction of Leprosy." Other contributions

are of concrete interest to the physicians and sanitarians of the Gulf States, especially a group of nine papers covering the latest phases of the prevention, diagnosis and treatment of malaria, one on "The Economic Value of a Hookworm Campaign" and eight papers on intestinal amebiasis. The book will be useful to physicians and sanitarians living in warm countries.

FRANCIS M. MUNSON, M. D.

A Text-Book on Human Physiology: Including a Section on Physiologic Apparatus. By Albert P. Brubaker, A. M., M. D., LL.D., Professor of Physiology and Medical Jurisprudence in the Jefferson Medical College; formerly Professor of Physiology in the Pennsylvania College of Dental Surgery; formerly Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Eighth Edition. Revised and Enlarged with 367 Illustrations. Philadelphia. P. Blakiston's Son & Co.

This well known text-book needs no introduction to the profession. In the new edition a number of paragraphs have been revised and some new material, including several new paragraphs have been incorporated. Among the subjects that have been revised, enlarged and added may be mentioned the physiologic mechanisms involved in coughing and sneezing; the innervation of the larynx; the metabolism of fat; the relation of the pancreas and its internal secretion, insulin, to the metabolism of the carbohydrates; the electro-cardiogram; the indirect method of determining heat production, etc. The new diagrams, the innervation of the heart, and of the bladder; the acoustic tracts; the facial nerve and its associated nerve tracts will be found useful in the understanding of the text. The large type and convenient division of the text into carefully headed paragraphs and sections remain as in former editions.

FRANCIS M. MUNSON, M. D.

Modern Surgery: General and Operative. By John Chalmers DaCosta, M. D., LL.D., F.A.C.S. Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia; formerly Commander, Medical Corps, U. S. N. R. F., etc., etc. Ninth Edition, Revised and Reset. 1200 Illustrations, Some in Colors. Philadelphia and London. W. B. Saunders Company. 1925.

A friend of our student days reappears for the ninth time, reset, reprinted and recopyrighted. When the reviewer contemplates this octavo of 1527 pages it is hard for him to realize that he lay comfortably on his army bunk and prepared for his examination in surgery from the handy little manual that comprised the edition of 1898.

To do the same with this edition he would need a book-rest. While one may regret the increase in size of Professor DaCosta's book, it is fortunate for the busy practitioner that so much useful and up-to-date professional information can be compressed into one volume.

The art and science of surgery have made such tremendous progress in the past few years that it is almost if not quite physically impossible to treat the whole subject of general surgery in a single volume work, therefore the author found it necessary to eliminate several topics included in former editions. He considers that surgical bacteriology is best studied in treatises written by specialists; that asepsis and antiseptics should be sought in volumes devoted to those subjects and he has relegated bandaging to works on minor surgery.

While it has been entirely reset the general plan has not been changed. The illustrations are unusually good. Most of them are from photographs. The author's presentation of recent developments in plastic surgery, the x-rays in surgery, and treatment with radium are to be especially commended.

FRANCIS M. MUNSON, M. D.

Modern Urology: Edited by Hugh Cabot, M. D., C. M. G., F. A. C. S., Second Edition, thoroughly revised. Philadelphia and New York. Lea & Febiger. 1924.

The second edition of "Modern Urology," edited by Hugh Cabot of Ann Arbor comprises two volumes of original articles written by the foremost authorities of today, and should be a part of the working library of every physician practicing urology either in part or as a specialty. Each article contributed covers the subject thoroughly and efficiently, omitting to a great extent all that does not deal directly with the anatomy, physiology, diagnosis and treatment of the condition under discussion.

Those especially interested in cystoscopy will find Leo Buerger's article concise and quite complete. The diagnosis of diseases in general of the urinary tract, which is so frequently given to the reader in a rambling lengthy manner, has been simmered down to salient facts by Bransford Lewis of St. Louis. George Gilbert Smith, of Boston, and Frank Hinman, of San Francisco, both contribute splendid articles on diseases and tumors of the testicle. Renal and bladder calculi are discussed in two very good chapters by Hugh Cabot.

While there is still considerable controversy regarding ureteral stricture and its importance in the production of symptoms, the article by Guy L. Hunner, of Baltimore, is really a masterpiece and makes extremely interesting reading.

The subject of bladder diverticuli by William E. Lewer, of Cleveland, is especially good. The study of other conditions affecting the bladder are taken up by Kretschmer, Hagner, Caulk and Geraghty.

Kidney infections have been discussed by Edw. L. Keyes and E. L. Young, Jr., while the broad subject of renal tumors is concisely and well summed up by Horace Binny, of Boston. Quinby, Geraghty and Squier also contribute articles on the anatomy, physiology and functional tests as well as injuries of the kidney.

Nothing has been omitted in the diagnosis and treatment of prostatic diseases as outlined in the three chapters by Quinby, Gardner and Young.

Fowler's article on plastic surgery of the urethra covers the subject most completely. Garranger, Osgood and Keyes cover the remainder of the field in urethral diseases.

Studies of syphilis and tuberculosis of the genito urinary tract are written by Corbus and Barney.

There is no doubt that "Modern Urology" still holds its very distinctive place among books published on diseases of the genito urinary tract, this being especially true of the second revised edition.

W. A. REED, M. D.

Clinical Medicine for Nurses: By Paul H. Ringer, A. B., M. D., Chief of Medical Service of the Asheville Mission Hospital, Asheville, N. C.; on Staff of Biltmore Hospital, Biltmore, N. C. Illustrated. Second Revised Edition. Philadelphia. F. A. Davis Company. 1924.

This little manual is intended primarily for student nurses. The author has placed in concrete form a fairly detailed description of the points in the various medical diseases that nurses are expected to observe and interpret, and also to form a basis upon which class-room lessons may be assigned and quizzes held. The main points dwelt upon are symptoms and their meaning, complications and their detection, as far as the nurse is concerned. Physical signs are not described and treatment is dealt with in a very general manner. In the second edition a number of minor changes have been made and some sections wholly or partially rewritten, notably those on the treatment of heart-failure, influenza, and diabetes mellitus. The book has and will fill the purpose for which it is intended.

FRANCIS M. MUNSON, M. D.

Hygiene and Public Health: By George M. Price, M. D., Director, Union Health Center, New York City. Third Edition, Thoroughly Revised. Medical Epitome Series. Lea & Febiger, Philadelphia and New York. 1924.

To prepare an epitome on the subjects of hygiene and public health is a difficult matter, but

the author has done "as well as could be expected under the circumstances." He necessarily had to dispose of some important topics in a few lines or a few pages and some subjects have been entirely omitted, notably personal hygiene. Chapters on hygiene of childhood and on food are new in this edition. The chapter on Federal hygiene has been extended. The book discusses most of the essential parts of the subjects of hygiene and public health, and to the extent that it covers them, it is authoritative. The author is particularly happy in his definitions. This epitome has been found useful in preparing for examinations, especially if the candidate has had a good grounding in the subject at some previous time.

FRANCIS M. MUNSON, M. D.

A Text-Book of Pathology: By W. G. McCallum. Professor of Pathology and Bacteriology the Johns Hopkins University, Baltimore. Third Edition, Thoroughly Revised. Philadelphia and London. W. B. Saunders Company. 1924.

In the four years intervening between the appearance of the second and the third editions of Professor McCallum's valuable book a number of important advances were made in clinical medicine and pathology and he has treated these subjects fully in the last edition. The most important topics upon which fresh light has been shed are rickets, diabetes, epidemic encephalitis and typhus. Some new pictures have replaced those which were considered less satisfactory. The general plan of the work, that of discussing disease as far as possible upon the basis of etiology, has remained unchanged.

FRANCIS M. MUNSON, M. D.

A Manual of Histology: By Henry Erdman Radasch, M. Sc., M. D., Professor of Histology and Embryology in the Jefferson Medical College. Second Edition, with 333 Illustrations. Philadelphia. P. Blakiston's Son & Co. 1924.

In the revision of this manual the author has added new material and rewritten some sections so as to bring the subject matter up to date, but the text has been kept within practical limits and very little in the way of theories and hypotheses has been included. Among the additions are noted twenty new photomicrographs and several new staining methods. The chapter on technique is clear and practical, the illustrations are excellent and the typography all that could be desired. The method of presenting the various topics in carefully headed sections and paragraphs with the abundant employment of bold-faced type for headings makes the book particularly useful to undergraduate students of medicine and biology.

FRANCIS M. MUNSON, M. D.

Infections of the Hand: By Allen B. Kanavel, M. D. Fifth Edition, Thoroughly Revised. Illustrated with 195 Engravings. Philadelphia and New York, Lea & Febiger. 1925.

The fifth edition of this book has been received and as previous editions is a great asset to the medical profession. It treats a subject, which, it seems to me, is one of the commonest met with by the general practitioner, as well as the surgeon. Every medical student should be compelled to read this book and digest it thoroughly. It would be difficult to improve on the method in which the author presents his subject. The manner in which he approaches the subject of infection is based on anatomical facts, co-ordinated clinically and experimentally and should be accepted as standard. As shown in his introductory remarks, the principles of good surgery of the hand are, an early diagnosis, and a properly placed incision to secure the quickest and best restoration of complete function.

He classifies infections under two major headings—simple localized and grave. Grave infections are subdivided into tenosynovitis and fascial space abscesses, acute lymphangitis and allied infections, complications and sequellae of acute infections. One or more of these conditions may be present at the same time, but each will demand a separate and distinct form of treatment. It will be found that lymphatic infection follows a distinct anatomical and clinical course and may produce certain complications that may be prognosticated and anticipated. Tendon sheath infections may pursue a definite line of invasion and the position of the pocket of pus may be prognosticated and a proper incisions made. In regard to fascial spaces, he shows the different spaces—palm, dorsum of hand where pus may accumulate, anatomical channels which infection may follow from a given site, definite channels where it can spread from one to another space, and diverticula or intermediary chambers where infection may persist for a long time. Again, with this anatomical knowledge, the proper incisions may be made. In dealing with infections of the phalanges, he discusses the pathological anatomy and proper surgical procedure in felons, paronychia and subepithelial abscesses. Under the heading of carbuncular infections he shows the formation of the carbuncle describing three areas (necrotic, bluish circumference and inflammatory) and condemns the method of excision but advocates free incision from necrotic to beyond the inflammatory area.

Chapter five deals with tenosynovitis, fascial space abscesses, lymphangitis and allied conditions. Many essentials are emphasized, *i. e.*, (a) location of greatest swelling does not indicate the position of the pus, (b) site of greatest tenderness is of marked importance in the location of pus, etc. In regard to fascial space infections he

mentions the five different spaces, which he in a later chapter experimentally and clinically demonstrates. The five different spaces are, middle palmar, thenar, hypo-thenar, dorsal subcutaneous and dorsal aponeurotic. The chapter which follows deals with the general principles of treatment of which the salient points are rest, passive hypermia (how acquired), prophylactic incision and drainage, baking in dry, hot air, placing the hand in the "position of function," and massage.

In chapters seven and eight, the topographical anatomy of the hand is discussed. This is the most important chapter in the book. Beginning at the web of the fingers and terminating at the wrist, many illustrations of cross sections are minutely explained. The tendon sheaths, as well as the bursae (ulnar, radial and intermediary) are discussed with surgical deductions. The chapter which follows contains experimental data, showing the fascial space, boundaries, etc., and their relation to the radial sheaths. The anatomy of the forearm in relation to the radial and ulnar bursae and the tendon sheaths with reference to extension of infection from palmar space and also the spread of infection from each digit, dorsum of hand, etc., is very well shown.

Tenosynovitis is then investigated most thoroughly in regard to tendon anatomy, spread of infection from origin to complication, etc., and treatment. Treatment of middle palmar space, thenar infections and sub-aponeurotic space abscesses followed by prognosis is taken up more thoroughly.

Section three with its sub-chapters deals with the anatomy of the lymphatic system of the hand and forearm, infection with its pathology, diagnosis, complication, prognosis and treatment.

Chapter twenty-four is devoted to hand infections amongst employes of industrial concerns. This subject is a most important one, as the majority of the states now have compensation or employers' liability laws and the best results are appreciated by employers and employes. The knowledge of preventive as well as curative measures helps one to attain this goal. The statistics as shown in the book substantiate the manner of handling the cases.

The next chapter deals with allied infections, *i. e.*, erysipelas, erysipeloid, gas bacillus, and anthrax. All data is the same as in previous editions, save gas bacillus infections, in which modern literature and better classification brings it to date. Following this is forearm involvement, from infection of hand, with pathology, diagnosis and then sequelae of infections of hand, as chronic processes, osteomyelitis, arthritis, ankylosis, contractures and loss of tissue, are discussed in detail.

The final chapter shows how the after-treatment should be carried out by the use of hydrotherapy,

electrotherapy, massage, use of splints, exercise, occupational therapy, psychotherapy. In conclusion, I would say that the added paragraphs and chapters to this valuable book bring it to date and make it an asset to all libraries.

EMILE BLACH, M. D.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M. D., Professor of Otolaryngology in the Medico-Chirurgical College Graduate School, University of Pennsylvania. Fifth Edition, Thoroughly Revised. 12mo. of 660 pages, 212 illustrations. Philadelphia and London: W. B. Saunders Company. 1924.

The fifth edition of this very excellent work is an improvement on its predecessors. The cuts and illustrations are numerous and clear, and are a valuable aid in following the text. The first part of the book on instrumentation and examination is very good and it is time well spent, for the student or general practitioner that reads these pages.

The chapter on diseases and treatment of Rhinological cases is complete and thorough, from the practitioners' standpoint, without going too deeply into the operative features, which is the specialist's work anyway.

The chapters on the Pharynx and Larynx are complete from every point of view and cover these areas in a clear concise and understandable way.

The chapters on the Ear cover every thing that the student and general practitioner should know and the book is so written that this material can be readily grasped.

The formulas in the rear of the book will give even the specialist some very valuable aid in prescribing for his patients.

All in all, this fifth edition of a very good Manual can be gone over very profitably by any one and the perusal of his pages is time well spent.

VAL H. FUCHS, M. D.

Simplified Nursing. By Florence Dakin, R. N., Inspector of Schools of Nursing, State of New Jersey. Illustrated. Lippincott's Nursing Manuals. Philadelphia, London, Montreal. J. B. Lippincott Company. 1925.

The reviewer believes that the author of this manual has succeeded in her attempt to present the rudiments of nursing in a simple, definite form, technically correct. She explains methods by which the home nurse, the practical nurse or the trained attendant may safely and accurately care for the sick and injured. The book is arranged in a series of lessons, well adapted to class work in high schools or for home reading. By the careful study of these lessons the inexperienced nurse or the attendant will be enabled to understand the object for which the proce-

dures are intended and the principle through which the object is attained. A commendable feature is the mention of simple home equipment that may be substituted for elaborate and often expensive hospital paraphernalia and appliances. Brief discussions of anatomy, physiology and bacteriology are embodied in the lessons. All difficult or technical words are pronounced in the text, thus avoiding a constant reference to glossary and index. The book will serve a useful purpose.

FRANCIS M. MUNSON, M. D.

Diabetes. A Handbook for Physicians and Their Patients. By Philip Horowitz, M. D. With thirty-four text illustrations and two colored plates. Second Edition Revised and Enlarged. Paul B. Hoeber, Inc. New York. 1924.

In view of the increasing prevalence of diabetes and the improved methods now available for combatting its symptoms, it is well that such a book as this should be readily accessible to both physician and patient. The author stated in the first edition that he desired to—"bring about more intelligent co-operation between doctor and patient." With the development of the latest ideas and methods regarding the use of insulin and the calculation of maintenance diets this co-operation assumes still greater importance. It is very difficult for the physician to write out all the dietetic and hygienic instructions required by a diabetic patient in caring for himself. This little book not only gives the patient these instructions but enlightens him as to the limitations of insulin and other therapeutic and dietetic methods of treating diabetes. It also informs him of the importance of adhering to the regime outlined by his physician and of the necessity of avoiding complications if he expects to prolong his life.

Except for the revision of the chapter on mild diabetes, the book has been entirely rewritten. The insulin treatment of severe and juvenile cases has been thoroughly discussed; methods for working out proper maintenance diets have been formulated; seventeen new formulas and recipes have been added; the Van Slyke test for CO² combining power of the plasma has been inserted and the Folin and Wu method of sugar estimation substituted for that of Benedict Lewis. More cases are cited to show how various phases of the diseases are handled and what results can be obtained in cases with complications.

FRANCIS M. MUNSON, M. D.

Medical Education: A Comparative Study. By Abraham Flexner. New York. The Macmillan Co. 1925.

A distinguished layman is again enlightening the medical world with facts that it ought to know

about itself. Many physicians will recall Abraham Flexner's famous reports on medical education in the United States issued by the Carnegie Foundation for the Advancement of Learning that sounded the death knell of many a diploma mill. In the present volume he makes a comparative study of medical education in certain European countries and America against the background afforded by the general educational and social systems of the respective countries. He depicts and discusses general tendencies and principles and describes more in detail, as examples, certain individuals and institutions. He omits post-graduate education because it represents a different problem; and examinations for licensure because they have undergone no substantial modification since they were reported upon in Bulletins No. IV and VI of the Carnegie Foundation.

The book will be found useful to legislators and philanthropists, especially the chapter on costs which contains a great deal of material for thought and reflection. It should be read by all medical educators and by all physicians who take an interest in their profession, further than t. i. d. prescriptions.

FRANCIS M. MUNSON, M. D.

The Practice of Pediatrics. By Charles Gilmore Kerley. Third Edition. Revised and Reset. W. B. Saunders Co. London and Philadelphia. 1924.

For the busy general practitioner as well as the pediatricist Dr. Kerley's book has an immense appeal because of its conciseness and thoroughness. Each disease is discussed under the headings of Definition, Etiology, Pathology, Symptoms, Clinical Course, Diagnosis, Prognosis, Treatment. Of great practical value are the many illustrative cases with which the book abounds and the detailed prescriptions, most of which the author uses in his own practice. At the end of the book is an excellent chapter on the drugs commonly in use in pediatrics with their doses at different ages. The author avoids as much as possible theoretical discussions.

L. VON MEYSENBUG.

The Diagnosis of Children's Diseases. By Prof. E. Feer. Translated by C. A. Scherer. J. B. Lippincott Co. Philadelphia and New York. 1924.

This is the first English translation of a book that has run into its third edition abroad and will undoubtedly soon rank with our best books on diagnosis. Symptoms are analyzed and correlated and the diagnosis established. The book is profusely illustrated. Each chapter deals with the diseases of a particular region of the body. Of

particular value is the chapter on the nutritional disturbances of infants.

L. VON MEYSENBURG.

Feeding, Diet and the General Care of Children.

By Albert J. Bell, M. D. Second Revised Edition. F. A. Davis, Philadelphia. 1924.

This is a book for mothers and trained nurses and besides the usual direction for the management of the baby, there are included chapters on the physiology of growth and development, chapters on the different diseases common in infancy, a table of food values and an appendix in which are described the symptoms and definitions of some of the more serious diseases.

L. VON MEYSENBURG.

Safeguarding Children's Nerves. A Handbook of Mental Hygiene. By James J. Walsh, M. D., Ph.D., Sc. D., Professor of Physiological Psychology, Cathedral College, New York, and John A. Foote, M. D., Professor of Diseases of Children, Georgetown University Medical School, Washington, D. C. With a Foreword by Herbert Hoover. Philadelphia and London. J. B. Lippincott Company. 1924.

The book consists of a series of timely essays on one of the most important phases of preventive medicine and it will enlighten many a harassed parent, nurse, governess and teacher. It will tell them what to do and when to do it, and furthermore it will impress upon them the wisdom of letting their children alone, not to nag and pester them. The essays were written almost entirely with the normal or almost normal child in view.

In this age of speed and jazz knowledge of how to protect the developing nervous system of the infant and the child against both the hardness and the softness of life is important. As the authors state in the preface, there are certain elementary principles which if followed by those who undertake the care of children, must be fruitful of good results, just as there are certain trends of modern life which if allowed to continue cannot help but unfit many children for the storm and stress of the world which lies outside the family circle. This little manual is a practical guide toward the proper application of these elementary principles.

Among the topics discussed are "The Child in the World of Today," "The Nervous Child," "The Spoiled Child," "Rest and Fatigue," "Discipline and the Nervous Child," "Nerves and the Sick Child,"

"Habits, Good and Bad," "Backward Children," and "Medical Paths and By-Paths." Much forgotten medical lore is profitably brought to light and many medical and quasi-medical fads and fancies are handled with un-gloved hands. The illustrations are from publications of the American Child Health Association and are appropriate and in excellent taste.

FRANCIS M. MUNSON, M. D.

Manual of Obstetrics. By John Cooke Hirst, M. D., F.A.C.S. 2d ed. entirely reset with 220 illus. Philadelphia and London, W. B. Saunders, Co. 1924.

The second edition of Dr. J. C. Hirst's manual of obstetrics brings his work completely up to date. It is a valuable book for the general practitioner and a trustworthy guide to the medical student. The touch pictures in the various positions of the head in instrumental deliveries are an innovation and should be carefully studied by all medical students. Dr. Hirst has spared no time or effort in making his book thoroughly modern. He takes up in detail the technique of Potter's Version, the use of Kielland forceps and test for liver function in toxemia of pregnancy. Although he presents his subject in the least possible space, his work is most comprehensive.

JOHN F. DICKS, M. D.

A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood and P. R. Rockwood, Fifth Edition 1924, Philadelphia, F. A. Davis and Co.

This laboratory manual, the first edition of which appeared twenty-five years ago, and which has served many generations of medical students, has now been republished in enlarged and modernized form. The work is as stated by the authors in the preface, essentially a text book for students, and therefore a considerable amount of space is taken up with the descriptions and discussions of a series of experiments designed to illustrate the chemistry of the fats, carbohydrates and proteins, the various tissues, digestion, etc. The remainder of the volume is occupied by a description of modern methods for the qualitative and quantitative analysis of gastric contents, urine, blood and milk. With the exception of the section on milk, which is cast on somewhat antiquated lines, this latter portion of the book is thoroughly up to date and shows an admirable selection of modern methods suitable for use in the clinical laboratory. A discussion of the interpretation of the results obtained by these methods is however almost entirely lacking, an omission which greatly reduces the value of the book to the physician.

W. DENIS, PH. D.

PUBLICATIONS RECEIVED.

F. A. Davis Company, Philadelphia: "Diseases of the Ear, Nose and Throat," by Harold Hays, M. A., M. D., F.A.C.S. "Diabetes, its Treatment by Insulin and Diet," by Orlando H. Petty, M. D., F.A.C.P. and William H. Stoner, A. M., M. D., F.A.C.P.

J. B. Lippincott Company, Philadelphia and New York: "International Clinics", Thirty-fifth series, June 1925.

Government Printing Office: Public Health Bulletins—"Studies in Illumination", "Comparative Tests of Instruments for Determining Atmospheric Dusts", "Biological Investigation of California Rice Fields and Attendant Waters", "Carbon-Monoxide Literature" "Determination of dissolved oxygen by the Winkler Method", "Study of Course in Health Education."

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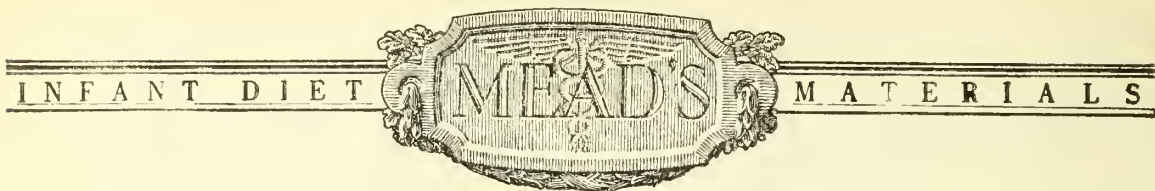
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APPENDICITIS IN THE AGED*

URBAN MAES, M. D.

NEW ORLEANS.

Although appendiceal disease in patients beyond 45 or 50 years of age is rather infrequent it is accompanied by a mortality which cannot fail to impress us profoundly. For this reason I am offering no apology for presenting to you, I trust from a slightly different angle, a subject whose possibilities you may feel have already been thoroughly exhausted.

The physiology of the appendix is still almost entirely unknown but its actual and potential pathology has made it a very important organ. It is often called the "abdominal tonsil" and the comparison is well taken. The similarity in structure is of course obvious, and it is interesting to note that two organs of such similar histology should be placed in locations which have the greatest bacterial flora, against which their lymphoid tissue must be their only defense, an extremely poor one as I need not point out to you. Again, they are both subject to certain traumatism incident to the ingestion and digestion of food, the tonsils lying at the gateway of the gastro-intestinal tract and the appendix at the entrance of the cecum, where the completely digested food passes into the colon. And lastly, acute conditions of both organs begin to diminish after the age of 30, for which a probable explanation may be found in the histological changes

which both undergo about this period. Lymphoid tissue is most abundant during adolescence, and atrophy, which begins about the twentieth year, is always well marked about the thirtieth, at which time the incidence of acute and chronic infections begin to diminish. This naturally suggests that the function of this tissue, which is constantly filled with bacteria, is to furnish a sort of immunity against bacterial invasion, so that acute disease means a lost fight on the part of the local body defense.

Many of the earlier writers have called attention to the diminishing frequency of appendicitis after 50. Kelly, for instance, quotes DeBovis of the French school to the effect that it occurs then in the proportion of 5 or 6 in 100. Maylard comments on the decline in incidence after the third decade and Stoumann, Eddy and others have made the same point, which is borne out by the observations of any surgeon of experience.

Moreover, the mortality after 50 is markedly high. Beekman, Smith and Everingham in the very complete review of the subject state that between the ages of 10 and 50 the average mortality is 4.7 per cent, but that at the extremes of life it reaches 23 per cent. They quote also a mortality of 33 per cent in a series of 24 cases under their own observation. Stoumann considers that the highest mortality occurs between the ages of 10 and 19 in the young, but that a second peak occurs for males in the sixties and for females in the seventies. The Metropolitan Life

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

Insurance Co., during 1923 quotes a mortality of 16.4 per 100,000 during the decade from 45 to 54, of 18.4 from 55 to 64, and of 17.8 from 65 to 74. During the period 1916-1920 inclusive their statistics show a death rate of 11.7 per 100,000 during the decade from 45 to 54, of 11.6 from 55 to 64, and of 9.6 from 65 to 74. The Intercompany Industrial and United States Registration Area figures are approximately the same. I have made no attempt to review the general literature, but you will note from the figures I have quoted how serious the disease is in later life, a point also borne out by the statistics kindly collected for me by Dr. Lockhard from the records of Touro Infirmary in New Orleans. During the period 1919-1924 inclusive 2229 cases of appendicitis were admitted to the hospital, with 44 deaths, or about 2.0 per cent. Of this number 1940 patients, 87 per cent, were under 40 and there were 15 deaths in this group 0.8 per cent, or 34 per cent of the total number of deaths. Two hundred eighty-nine patients, 13 per cent of the total number, were over 40 and the death rate for this group was 29, 10 per cent, or 66 per cent of the total number of deaths. These figures speak for themselves.

All authorities are agreed as to the infectious nature of acute appendicitis but differ as to its origin. Some consider it entirely of hematogenous origin but others, and these are the majority, believe that it is due to local infection plus certain mechanical factors with a break in the mucous membrane. In my opinion both factors are present, local infection in the young, which results in perforation and abscess formation from gangrenous patches, whereas in the older subjects, when the lymphoid follicles have largely disappeared, the process is hematogenous in origin and results in massive gangrene, associated mesenteric thrombosis or pylephlebitis, and often metastatic abscesses of the liver, a condition described by French writers as the appendicular liver.

The manifestations of acute disease of the appendix in the young are almost too well known for repetition but for the sake of comparison let me remind you that the onset is sudden, with no premonitory symptoms, that the pain is of a very acute character and usually localized, that characteristic rigidity is present, and that the general constitutional symptoms are severe, gastric and bowel disturbances, high temperature, rapid pulse and a high white count. The diagnosis, therefore, is usually a simple matter. On the other hand, appendicular disease beyond the thirtieth year, when it is of the chronic variety, evidences its pathology mainly in the form of the so-called extra-gastric dyspepsias, and the symptoms are usually so vague that diagnosis is practically impossible without the aid of the radiologist. An acute attack is nearly always preceded by a story of digestive distress over a long period of time. Then there comes a sudden attack of abdominal pain, usually of a mild character, possibly accompanied by nausea and vomiting, and a uniform soft distention without rigidity. There is a progressive increase in the pulse rate but the temperature elevation is not marked and the average white count is about 14,000, with some 80 per cent of poly-morphonuclear neutrophils. This is Finney's "dangerous stage of calm", so common in children and even more marked in old people because of the early occurrence of gangrene. Later, without operation, the picture becomes one of peritoneal reaction with vomiting, ileus, and a degree of illness out of all proportion to the local manifestations of the disease.

Operation on such a patient is a very trying affair. When the peritoneal cavity is opened there is usually an escape of free fluid and not many adhesions are found, but the vascular picture is one which to my mind amply justifies the theory that the underlying pathology in appendicitis in patients beyond 50 is vascular in character and not a local infection of the mucous membrane as it is in the young.

The adjacent structures show marked inflammation, there are visible tortuous veins, and frequently there is a thrombosis with extension into the mesentery, which, with the pyle-phlebitis so often found at autopsy, emphasizes the dominant pathology of a true thrombo-phlebitis.

As to the appendix itself, complete gangrene is the rule, so much so that microscopic study is generally impossible. Attempts to deliver it in toto are futile and it usually comes away in pieces, the gangrene extending to the meso-appendix and even to the walls of the cecum. Attempts to suture the hole in the bowel after the appendix is removed tax the surgeon's ability to the utmost. The sutures tear out repeatedly and closure is accomplished only after extreme difficulty and much manipulation, which inevitably increases the operative and anesthetic shock.

Convalescence in the young is naturally dependent on the severity of the disease but under ordinary circumstances is uneventful and satisfactory, whereas in the older person it is nearly always stormy and, as we have pointed out, terminates fatally in a large number of cases. The natural body resistance is of course frequently lowered and cardio-vascular and renal disease are frequently grave complications, but the extension of the gangrene and phlebitis with the resulting intestinal pathology is probably responsible for most of the deaths. If the patient survives the fifth day there is frequently a fecal fistula and such patients, probably because of the free drainage thus instituted, usually survive. Some patients succumb almost immediately after operation to shock and pre-existing sepsis. In some patients the signs of ileus persist and the surgeon's efforts are without avail, death occurring on the seventh or eighth day. The accepted procedures are not very satisfactory. The Jutte tube gives some relief to the gastric distress and an enterostomy under local anesthesia gives some relief to the general abdominal distention, but soon the tube

drains only the immediate region of its insertion as the remainder of the intestinal tract has become parietic from thrombosis, and the toxemia, the result of split proteids, finally overwhelms the patient.

The figures from Touro Infirmary bear out the points I have just made. There were 88 cases of acute appendicitis in patients over 40 during the period studied. Nineteen appendices were ruptured and 22 were gangrenous; the death rate of the entire group being 26, over 29 per cent. Fifteen of the 22 gangrenous cases died, a death rate of 68 per cent, and 9 of the 19 ruptured cases, a death rate of over 47 per cent. On the other hand, 10 of the 12 patients who developed fecal fistulae, 83 per cent, recovered, while 8 post-operative enterostomies resulted in 100 per cent mortality. No patient under 40 developed a paralytic ileus but 12 over that age developed such a condition, again with 100 per cent mortality.

It is clear, then, that the treatment of senile appendicitis is a problem still to be solved. It is an extremely treacherous condition not only because of its inherent dangers but also because of the false sense of security provoked by the mildness of the early symptoms, which I have already pointed out as being in no wise indicative of the gravity of the early vascular changes. Prompt diagnosis, therefore, is essential if life is to be preserved, and I know of no condition which so taxes one's acumen. In this connection a history of long-standing digestive trouble gives a very helpful hint, while Thalheimer, who emphasizes phlebitis as a formidable complication of appendiceal disease in old and young alike, has pointed out, with due credit to Gerster, the occurrence of chills as a valuable diagnostic sign. Again, if we subscribe to the theory that the pathology of the disease is vascular in character we must realize the fact that prompt and radical treatment is imperative once the diagnosis is established. Miller in his classical paper on "Ligation or excision of the pelvic veins in puerperal pyemia" has pointed out how

futile surgery is, once the veins have become infected.

It has been my custom recently to take advantage of the fact that patients who develop fecal fistulae usually go on to recovery—it might be stated, too, that fistulae in this portion of the intestinal tract ordinarily close spontaneously—and create an artificial fistula, so to speak, at the time of operation, by securing a mushroom catheter or a Paul tube in the cecum by a pursestring suture a suggestion originally made by Mixtu in 1895. The advantages of the procedure are manifest: time is saved in the operative manipulation and in the duration of the anaesthesia, no small considerations in enfeebled and gravely ill patients, and the drain diminishes the distention and seems to minimize the spread of the thrombophlebitis which originates in this area from the bacterial invasion and the proteid reaction from the lumen of the adjacent gut. Moreover, peristalsis is minimized and this in turn minimizes the absorption and dissemination of the toxic products which are partially responsible for the high mortality. In my hands this procedure has been very much more effective than a late enterostomy done to relieve symptoms which have arisen from a pathology already beyond human control. The intravenous drip originated by Matas is also of occasional assistance in tiding patients over the critical period of a persistent ileus.

CONCLUSIONS.

1. Appendicular disease is relatively infrequent in patients over 50 years of age but is accompanied by a very high mortality.

2. After the thirtieth year the histology of the appendix, as of the tonsil, changes, and to this change may be attributed the early thrombophlebitis and the massive gangrene so frequently found at operation or at autopsy.

3. The objective symptoms give no hint of the gravity of the intra-abdominal pathology, and the naturally lowered resistance

of elderly persons, plus organic disease of the heart or kidneys, makes the prognosis always a serious one.

4. Ileus, pyemia and septicemia are frequent complications.

5. Early diagnosis and prompt treatment, in which free drainage is of prime importance, furnish the only possible means of reducing the mortality.

6. Since patients who develop fecal fistulae usually recover, and since a late enterostomy usually does little good, it is suggested that a Pezzer catheter or a Paul tube be left in the cecum at the time of operation.

Note—I wish to thank my senior resident, Dr. Lockhard of Touro Infirmary, for his help in compiling the figures from that institution, and Miss Mary Louise Marshall of the Orleans Parish Medical Society Library for her aid in collecting the literature.

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DISCUSSION.

Dr. F. W. Parham (New Orleans): The subject of Dr. Maes' paper is of considerable interest to medical men. We know that the extremes of

age manifest less resistance and therefore, as a rule are not good surgical risks, as Dr. Maes has pointed out. It is fortunate as regards appendicitis, that men over sixty are not so subject to attacks, for we know the appendix has a tendency to atrophy and shows a much diminished reaction to the causes responsible for the disease. But old men do have it as shown by the statistics collected by Dr. Maes from Touro Infirmary. Thus in individuals over sixty years of age there were 26 cases out of 2,229 cases studied. Of the 26 cases there were 12 deaths, or 46 per cent., whereas the mortality was 44 out of 2,229, or only 2 per cent. This shows a marked increase of risk as men go over the sixty mark. Yet these old men deserve the consideration of the surgeon. All men over sixty years of age do not die when operated on for appendicitis, and many do die because not operated on. Therefore, they have the right to have operation when the circumstances demand it and justify it. What are these? All cases of ruptured and gangrenous appendicitis, not moribund, demand immediate intervention; indeed, all cases of definitely made out acute appendicitis, whether old or young, call for operation, but many may give a little time for preparation, which they should have when possible. Furthermore, cases of chronic appendicitis, well made out, and causing repeated attacks of suffering, and disability, deserve careful study before they are refused the benefit of operation. In all cases where delay does not endanger the safety of the patients, certain preparatory treatment should be given, to improve the risk. It is, however, in the acute emergency cases in the aged where the surgeon is confronted with great responsibility. Sometimes the risk is so grave that he must temporize and Ochsnerize, but in many cases the only chance is to operate at once, for temporizing increases the risk. What can be done to improve the patient's chances in such a crisis? We may have a man with advanced arteriosclerosis, bad heart and suspicious kidneys, and little time for any preparation. Valvular diseases are not a contraindication, but a bad myocarditis is. The selection of the anaesthetic is most important. Chloroform is the most dangerous, on account of its effect in inducing hepatic degeneration, which has often much to do in bringing about death in these bad risk cases. Ether is less dangerous in these cases, but carries with it a distinct risk. The choice of general anaesthetics lies between nitrous oxide-oxygen and ethylene-oxygen, with the latter to be preferred. There is, I believe, much promise in propylene with which our confrere, Dr. Halsey, has for some time been experimenting. The great advantage of this is the large percentage of oxygen, that may be used without interfering with the induc-

tion of anesthesia. When it has been properly purified and rendered safe there is reason to believe it will be of great use as an anaesthetic.

In many cases, however, a local anesthetic must be used. The ideal will probably be novocain with enough nitrous oxide to prevent psychic shock.

The next most important thing will be to give plenty of fluids, in every way possible, by hypodermoclysis, by Murphy drip, and later by mouth if possible. It will be well to begin the use of these fluids, preferably glucose with bicarbonate of soda before the operation, and during the operation by hypodermoclysis. Postoperatively, they should be kept up in abundance. We must not forget in these cases that there is almost invariably a certain amount of shock which is partly dependent upon the diminished carbohydrate metabolism. For the same reason there may be a condition of ketosis. It has lately been shown that both in shock and in acidosis insulin guarded by glucose will bring about the most surprising results, the carbohydrates being furnished by the glucose and the insulin acting by increasing the metabolism reduced by the shock. Dr. Maes' case, showing an early development of fistula seems to give a much smaller mortality. This would seem to indicate, as he suggests, the early performance of enterostomy, which I believe done early enough will often prove to be a life saving procedure. I would like to emphasize here also the free use of the Jutte tube, for days if necessary in the stomach, through which fluids may be permitted, evacuating the contents of the stomach, and the free use of fluids by the mouth, and also the venous drip, lately so well described by Dr. Matas. I have not time in this discussion to go more fully into all the expedients that might be resorted to, but will merely call attention to some of the high lights in the treatment of these sometimes desperate cases. Above all in dangerous cases of appendicitis only the necessary things should be done because they will not stand much manipulation. Sometimes only drainage will be permitted, but whenever possible a gangrenous appendix must be removed. In closing I would say that these old people are entitled to all the consideration we can give them, and we must not decline to operate on them because they are old, but we must avoid operation where it may be dispensed with. I should like to say a word about the preparation of cases should time permit, but it was of the emergency cases that I was particularly desirous of speaking.

Dr. O. C. Cassegrain (New Orleans): About two years ago in Ward 25 of the Charity Hospital, I was called upon to operate on a man with a ruptured appendix. I was afraid at the

time that on account of the general spread of the infection he might develop an ileus. For that reason I was very much undecided whether to do an enterostomy at the time. The patient's condition was not very good and I finally decided to put in a Pezer catheter into the cecum more as a life saving measure than anything else, but to my great surprise he made a fine recovery. That was my first case, but I am convinced it is a very valuable measure, and that as we see more of these cases and try this method more and more, I am satisfied it will be used more extensively in the future.

Dr. J. C. Willis (Shreveport): I was impressed with what the doctor had to say in regards to the number of ruptured appendices that are coming to operation at the Touro Infirmary. It simply means that in spite of our advanced knowledge of this condition and the importance of the early recognition, we are by no means giving our patients the full benefit of such knowledge. It is the same old story of locking the stable after the horse is gone. You may get him, then again, you may not.

I want to corroborate what Dr. Maes has just said in regard to fecal fistulae. We consider it a good indication when a fecal fistula develops in any severe condition following a ruptured appendix. I have never tried his method of placing a mushroom catheter into the cecum at the time of operation, but it strikes me as being a very good thing to do; heretofore, I have been accustomed in desperate cases of doing an enterostomy with moderate success. I think I shall give his method a trial.

Dr. P. B. Salatich (New Orleans): Why is it that more patients die after forty than under forty? Is it because of the appendix itself? In my experience I do not think it makes much difference whether the patient is under or over forty—it depends upon the way the patient is handled. Over forty, naturally, the machinery is beginning to wear out, the heart is not as good and the kidneys are not as good as before that age. So taking that into consideration, I do as many appendiceal operations, especially after forty, under local anesthetics as I can.

Another bugbear of surgery is distention and resulting ileus. This is true in both old cases and young cases—you operate on a patient and immediately after they come to they crave fluids, and they all seem to want Coca-Cola. You go through the different rooms in a hospital in the evening after you have operated some of these cases and you will find three or four bottles of Coca-Cola on every table, and by night they are suffering from gas pains. By giving them fluids you distend their bowels to such a point

that there is a certain amount of paralysis that takes place, and if the patient is strong enough under forty and has tonicity enough to overcome this, he will get away with it; but if over forty the tonicity is not as good and they are likely to develop paralysis, and then a Jutte tube or doing an enterostomy is of no value because you cannot cure this paralysis that has taken place. The thing is to give your patients no fluids. My abdominal operations receive no fluids by mouth for twenty-four to forty-eight hours, and even to three or four days, depending upon the case. If you do this you will also have no gas pains.

Dr. L. B. Crawford (Patterson): One point was well made by Dr. Maes, a point that I will take home with me, and that is to make your opening before you have to. Up to now we have been closing these cases and then when distention occurred we do an enterostomy in hope of getting relief. Dr. Maes' point, as I see it, is to do it right then and then you will have less trouble.

Dr. Urban Maes (closing): I have nothing to add except to thank the gentlemen for their discussions and to emphasize the points that we regard appendicitis in old people as a different disease from appendicitis in the young; also that by creating a large fecal fistula at the time of operation you are saved the necessity of doing it later, and certainly the end results up to this time have been better by this method.

INTRANASAL SURGERY; WITH RELATION TO THE TURBINATES.*

E. H. JONES, M. D.

VICKSBURG, MISS.

Since the title of this paper is somewhat indefinite, I wish to first clearly define my subject. I wish to discuss all intranasal surgical procedures that involve the turbinates, exclusive of the treatment of neoplasms.

The inferior turbinates do not often demand surgery. There are occasional cases of hyperplasia of the soft tissues which may involve the whole lower border, though more often only the posterior portion. The hyperplastic portion may be removed under direct vision, either by snare or biting forceps.

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More frequently, a bony hyperplasia is found. It is easily differentiated from hyperplasia of the soft parts by shrinking the turbinate, or by pressure with an applicator. This type of turbinate obstructs the air passage and may cause a dull ache across the cheek bone on that side. Spielberg called attention to this condition and stated that correcting it would oftentimes remedy nasal obstruction and prevent the necessity of a submucous resection.

While I have found this condition fairly frequently, I have seen it only once when it was not accompanied by a septum deviated to the other side; that case was bilateral. The operation described by Spielberg is entirely submucous. An incision is made high up on the lateral wall, in line with the anterior turbinal attachment; it is continued down the anterior border until it reaches the base. With a sharp dissector the periosteum is dissected from its bony attachment high up; it is then rather easy to continue the separation over the mesial surface of the turbinate to its lower border. The next step is more difficult. Working with the sharp dissector the mucosa and periosteum is separated backwards on the lateral surface and continued down to the lower border. This leaves the turbinal bone free except at its bony attachment. With scissors or bone cutting forceps the bone is removed and, if the dissection is properly done, the turbinal mucosa will not be torn. It would seem logical that only the bony portion causing the obstruction should be removed. The original incision is closed with a suture and either a glove finger filled with cotton, or a couple of strips of dental paraffine wax may be used for packing, to be left in for one day. Spielberg recommended this as an independent operation; in the few cases I have had, I used it in connection, with a sub-mucous resection, and have found it very satisfactory.

The middle turbinate presents some of the rhinologist's most perplexing problems. There may be a lobulus, or a tur-

binal cell; a hyperplasia of the soft tissues, or the bone, or both. Any of these conditions may, with or without a deviated septum, cause a vacuum frontal or ethmoidal sinusitis. Irritating discharges from the anterior ethmoidal cells or the frontal sinus, with poor drainage, may cause polypoid formation under the turbinal vault; similar discharges from the posterior ethmoidal or sphenoidal cells may cause a like condition of the posterior end of the turbinate, or the so-called "mulberry hyperplasia."

A lobulus is usually unilateral, with the septum deviated to the other side. Of course the operation needed is a submucous resection and only the surgeon's experience and judgment can tell him when also to remove the lobulus. Hyperplastic conditions are seldom relieved except by surgery, but when there has been little headache, no discharge, no evidence of a vacuum sinusitis and sufficient room for ventilation of the sinuses, there is no indication to remove it.

A turbinal cell of any size should be removed, whether cystic or not, because it obstructs, both the air passages and the ventilation of the sinuses. Amputation of the tip of the turbinate (with a snare) will usually open the cell; the lateral wall may then be removed with a curette or biting forceps. Fracturing the turbinal attachment is sometimes of help in this type of case.

The correct way to relieve polyp formation is to relieve the cause. Nasal polyps are caused by an irritating secretion (from a sinusitis) with poor drainage. Relieve the sinusitis, and the polyps will disappear, though the polyps should be removed at the same time.

Hyperplasia of the middle turbinate frequently manifests itself in a vacuum frontal sinusitis—rarely vacuum ethmoiditis. (It is also found with cystic ethmoiditis.) When causing a vacuum sinusitis the usual astringents should be applied, such as 2% silver nitrate. Menthol inhalations

are also useful, though they sometimes irritate the membranes. If this does not bring relief, the tip of the turbinate must be removed, exposing the infundibulum and allowing free drainage and ventilation of the sinuses. In this procedure, the turbinal attachment should be severed as high up as possible.

Frequently one middle turbinate shows a hyperplasia, with the septum deviated to the other side. After the septum is resected, it cannot hang straight because the turbinate is so large as to cause obstruction. In such cases Pratt has recommended anterior ethmoidectomy, to give the turbinate room. Personally, I believe in the old adage "Never trouble trouble, 'till trouble troubles you," and prefer to steer clear of the ethmoids, when possible; but neither do I care to incur the risk of a dry nose by amputating an entire turbinate. My best solution of the problem has been to amputate the tip and allow it to heal. Whether a compensatory atrophy or as a result of scar tissue formation, I do not know, but I have always had good results. However, in two cases the turbinates were so large that I deemed it advisable to follow Pratt's procedure, with very good results; it is worthy of note that, in these two cases, the turbinates decreased in size.

In addition to the foregoing recognized conditions, Davis has described an abnormal type of turbinal, which he believes to be congenital. He believes this type has a latent noxious influence which, when supplemented by a chronic source of infection, most frequently the tonsils, may become a potent etiologic and perpetuating influence upon a group of common diseases. These turbinates are enlarged in their transverse diameter, especially the anterior tip and the middle third, and are rigidly impinged against the medial ethmoidal wall. He cites one instance of finding this condition in three generations of the same family. In my experience I have so far been unable to confirm Davis' observations.

The turbinates are also involved in other intranasal operations. The inferior turbinate should be considered in a radical intranasal antrum operation; the middle turbinate must be considered in intranasal operations on the remaining sinuses.

The operative procedure most frequently employed in maxillary sinusitis is simple puncture and irrigation; this does not disturb the turbinate. But when a radical operation is necessary, the turbinate must be gotten out of the way. This can usually be done simply by picking the anterior attachment and fracturing it upward, but to keep the opening from closing the mesial wall of the antrum must be removed up to the attachment of the turbinate and granulations must be kept down. To get the best results, it is sometimes necessary to remove a small portion of the anterior tip including the attachment.

The remaining sinus operations involve the middle turbinate, and whether to remove any of it or not, is just now a much argued question. Pratt has recently described his operative technique for anterior ethmoidectomy, ethmoid exenteration and sphenoidotomy and frontal sinus operation, without removing any turbinal tissue. Skillern quite bluntly stated that he believed ventilation more important than drainage, and that he couldn't get ventilation without removing at least the anterior portion of the turbinate. Most of us will agree with Skillern, but certainly Pratt's efforts at turbinate conservation are most laudable. Medical history tells us that when good men were on both sides of a question, in the end both were partly right, and I think that observation will hold true in this instance. I have recently operated on three cases that I think will bear out that opinion. The cases were a bilateral sub-acute catarrhal ethmoiditis, a left acute frontal sinusitis and a bilateral chronic purulent ethmoiditis. It was necessary to do a sub-mucous resection in each and I used Pratt's technique in each. The end results of the first two cases were a complete cure; in the puru-

lent ethmoiditis case, all headaches were relieved, but the purulent discharge has not abated one bit. My conclusion is that in simple cases Pratt's technique may safely be followed but that in chronic cystic or purulent sinusitis, turbinectomy must be resorted to.

HYPERTROPHIC PYLORIC STENOSIS IN INFANTS.*

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The first clinical description and necropsy report of hypertrophic pyloric stenosis in infants was given by George Armstrong of London in 1777. Williamson reported a typical case in 1841 and the following year Dowosky reported the first case in German medical literature. In 1888 Hirschsprung of Copenhagen gave a rather complete clinical description and an accurate detail of pathologic findings. Ibrahim's classic monographs appeared in 1905 and 1908.

We know that hypertrophic pyloric stenoses of infants are not rare although only 120 cases had been reported up to 1905. Three years later Ibrahim was able to collect over 400 cases from literature. In 1906 Huebner, who limited his practice to infants, stated that .5 of one per cent of his patients had this condition. Rosenhaupt who also limited his practice to infants, found it one out of fifty, and Herty found 61 cases among the 2,275 infants under one year of age at Copenhagen, an incidence of 2.7 per cent, all of which would indicate that the trouble heretofore has been in faulty diagnoses, for unquestionably until the exhaustive and classic monographs of Ibrahim referred to above were given to the profession in 1905 and 1908 very little attention had been given to the real cause of this condition, even by the men who were giving special attention to diseases of in-

fants. These intractable cases of vomiting in newly born infants were attributed to some other cause or causes and diagnosed as marasmus, inanition, faulty nutrition, etc., and so on down the line, and the more severe cases in spite of all treatment resulted in dehydration and starvation death. Furthermore, even after the complete clinical description and accurate pathological findings of Hirschsprung, which demonstrated clearly the true conditions of the pylorus as existent in this affection, there was no real progress made in the treatment of this condition until Raemstedt in 1911 devised a comparatively simple surgical procedure for its relief. Previous to this the operation of choice was a gastro-enterostomy in which the mortality was necessarily high, in fact, almost prohibitive, and a large majority of the medical men preferred to take their chances of treatment by other means at their disposal, limited as these were.

As to the primary factors entering into this condition there is still a diversity of opinion. Most authorities, however, today agree that in every clinical case there is a certain amount of spasm. Whether this spasm is the cause of the hypertrophy, or vice versa, or whether the one influences the other has been the cause of much controversy. Hirschsprung's congenital hypertrophy theory considers the condition an organic anomaly and that the narrowness of the pyloric lumen is caused by the primary muscular hypertrophy. Its adherents explain the cases which are free from symptoms the first weeks when suddenly the typical vomiting with its chain of symptoms appear, on the grounds that the tumor causes only a slight obstruction in the lumen and that the irritability of the stomach comes on later than those in the cases where the anatomical obstruction is more marked. They attempt to explain the change in the consistency of palpable tumors and the not infrequent sudden cessation of vomiting in spite of a persistent tumor and visible gastric waves on the basis

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of an increase of the musculature of the entire stomach wall.

According to the spasm theory, the primary disturbance is not an anatomical anomaly but a fetal spasm of the pylorus which produces a functional narrowing of the lumen and a subsequent hypertrophy of the muscular layer.

Pfaundus' original conception was that only a spasm of the pylorus existed and that the apparent hypertrophy is really a spastic contraction of the normal pyloric musculature, but as pointed out by Sauer, this theory fails to account for the fact that the pylorus remains hypertrophic months after spontaneous recovery.

My own experience tends to lead me to the conclusion that the primary spasm theory is the correct one and that the hypertrophy is a secondary condition. Compensatory hypertrophy, as we all know, is the natural result of overwork which would certainly apply to the condition under consideration. Furthermore, my own comparatively limited experience coincides with that of Strauss of Chicago, who evidently has had a large clinical experience with cases, that the size of the tumor is in direct proportion to the beginning of the vomiting and the time it is brought to operation. In fact, in the only case that I have operated on under four weeks of age, although the vomiting was severe and constant, and the diagnosis confirmed by X-ray examination, I found practically no pyloric enlargement and the muscularis had all the appearances of healthy tissue. In the December issue of the Archives of Pediatrics, Dr. Koin of Rochester, N. Y., reports a case operated on successfully the fifth day after birth. He found practically no hypertrophy of the pylorus, although the other symptoms indicated an extreme condition of a true pyloric spasm with all the classic symptoms as persistent vomiting, dehydration, etc. The diagnosis had been confirmed by barium feeding and X-ray examination and the operation was followed by prompt relief

from the distressing symptoms and an uneventful recovery.

Thus, with a multiplicity of theories and facts as set forth by various investigators and clinicians, we see that there is quite a diversity of opinion as to the etiologic factors that enter into this condition.

The symptoms are so characteristic that the condition can scarcely be overlooked by a careful observer. The usual clinical picture as presented in a typical case is that of an infant apparently well at birth, and may or may not show any signs of gastric disorder the first week or two. As a matter of fact gastric disorder does not usually appear at first for the child generally nurses well and gains regularly in weight until without apparent cause vomiting occurs which soon increases in frequency and severity; in some instances this is of only moderate degree, in others it is severe. In the severe cases the amount of food which passes the pylorus is so scant that emaciation progresses to an alarming degree. Stools are scanty and usually do not contain bile for obvious reasons. Gastric hyperstalses are usually visible in the epigastric region. Shortly after a meal these peristaltic waves trail across the abdomen from left to right, so obviously as not to escape the notice of the mother or nurse. Vigorous peristalses in connection with projectile vomiting is pathognomonic of obstruction, and should there be any question as to this, the X-ray examination after a barium meal will demonstrate the condition beyond a reasonable doubt.

As to treatment of this condition, I will deal only from a surgical standpoint. The medical treatment can be well taken care of by our pediatric friends, for usually long before these cases have reached the surgeon all of the medical and dietary treatment known to the profession have been faithfully tried; and I must say that with constantly improved methods of treatment many of these cases are relieved without surgical interference, and that the intractable cases in which the only permanent re-

lief is surgical, are being recognized more accurately. Raemstedt himself says that in every case of congenital pyloric stenosis the internal treatment should be tried first. If after two weeks of careful clinical observation all the recognized dietary and therapeutic measures fail to accomplish a weight increase, then operation is indicated. The great difficulty lies in deciding just when to advise operation. This, in my opinion, should be worked out and finally settled by the combined judgment of the pediatrician and the surgeon.

The operation of choice as now practiced by all surgeons is that as done by Raemstedt, or a modification of it as advocated by Strauss of Chicago. Strauss, after making the longitudinal incision just as Raemstedt, proceeds to dissect flaps from the incised muscularis of the incised hypertrophic pylorus and bring them together, thus protecting the protruding mucous membrane. Strauss has had remarkable results, but as for myself, like most surgeons, I prefer the original Raemstedt operation as the easiest and safest procedure. As pointed out by Stuart McGuire, in operating on a Lilliputian patient, the surgeon should employ Lilliputian instruments. McGuire further states that every surgeon who does work on babies should have a special kit of instruments for these cases, consisting of small scapels, miniature retractors, mosquito artery forceps, delicate needles and needle holders, etc., and furthermore, we should not forget we are operating on a frail delicate organism which should be handled accordingly. By placing at least two hot water bags of the correct temperature under a light blanket the natural warmth of the body may be maintained. As for the anesthetic, very little will be required. I usually give a little ether, which in the hands of an expert works very satisfactorily. Perhaps a majority of operators use local anesthetic and I believe it was Stuart McGuire who said that taking his cue from a Jewish Rabbi in circumcising babies, he has operated with a small sugar bag in the baby's mouth as a pacifier. I

have not attempted that as yet, though, no doubt it would be quite helpful with local anesthesia and I think I shall give it a trial in my next case. The incision, after careful sterilization, should be made through the upper right rectus where there may or may not be felt a hard movable tumor. This incision should not be over $1\frac{1}{2}$ inches in length as this is long enough to permit the delivery of the pyloric end of the stomach without being large enough to permit other abdominal contents to protrude. If there is trouble in bringing up the pylorus which will usually be found to consist of a hard ball-like consistency, a small blunt hook will prove to be of very great assistance after which a longitudinal incision should be made through the least vascular part commencing at the stomach junction and continuing downward to the duodenum. After this careful incision which should not be quite down to the mucous membrane, the parts should be spread outward by a combination use of the fingers and the handle of the scapel, to avoid tearing or opening the mucous membrane which unfolds and protrudes through this incision. Special care should be taken also not to open the duodenum, which I unfortunately proceeded to do in my first operation with disastrous results, and have carefully avoided in my later operations. I do not attempt to cover the raw surface with flaps as suggested by Strauss neither do I attempt to cover with omentum and my results have been very satisfactory. In closing the abdominal incision I prefer through and through silkworm sutures as I think that with the low vitality we usually find in these cases the layer sutures of catgut do not hold so well and there is more danger of a ventral hernia following this procedure; besides, the other is more quickly done which is an item not to be ignored. Warm water in small quantities should be given almost immediately after the completion of the operation and breast milk within a few hours with increasing quantities, until the third or fourth day the normal diet should almost be reached.

DISCUSSION.

Dr. M. S. Picard (Shreveport): The most important question that enters the pediatrician's mind is when the medical treatment ends and the surgical treatment begins. Some base their opinions on the duration of the disease, others on the loss of weight. To this should be added the birth weight of the child and the time of the onset. The earlier the disease begins and the lower the birth weight the more imperative is an early operation. One is not justified in making the child a surgical risk when this can be avoided. On the other hand if we have a large child, even if the onset is early, one can safely wait. Of course the loss of weight in inanition and dehydration is the most impending indication.

Infants stand inanition better than dehydration. If one can maintain a water balance, then one has a safe foundation to work on. Again the loss of weight is indication for early interference. If after a disease has persisted two weeks and a steady loss of weight is shown, ten ounces weekly in a large infant or eight ounces in a small one, then an operation is imperative, because according to a quest if a child loses on third of its birth weight it dies.

If we are to attempt medical treatment we have two methods at our disposal. First, the continued use of mother's milk under careful supervision, that is, with a careful watching of weight and if no considerable loss takes place one can safely go on. The amount of vomit must be determined. Towels or cloths can be handy or tied on in such a manner that the infant vomits directly into them. These can be weighed after the vomiting has ceased and the amount of food lost determined, or the baby can be weighed before each feeding and the loss taken after vomiting. This is easily done as the infant vomits a short time after nursing. This method is of course associated with atropine in increasing doses down to 1/250 of a grain or lower. I have become rather skeptical about the use of atropine. I am not so sure after using it in pyloric spasm and other forms of vomit in infancy that it is a valuable drug as I once thought. The same can be said of stomach washing in regard to the intervals in feeding. The behavior of the child is the deciding factor, some do well according to Ibrahim if you disregard the vomiting and feed them at short intervals, others do better if feed on longer intervals. Again environment is a strong factor. Some infants do better in a hospital, some vomit less if fed while lying on their abdomens. The temperature, hot and cold, comes in, also feeding in a dark or well lighted room. There is a strong nervous element in these infants.

The second and most satisfactory method is

the method of Sour, the thick ruling method. For the benefit of those who are not familiar with it I will mention the most common formula.

9 ounces skimmed milk.

12 ounces of water

6 tablespoonsfuls farina

3 tablespoonsfuls of dextro-maltose.

This is cooked one hour. This makes a mixture of rather thick consistency, which can be fed in two ways. First the food is placed upon a tongue depressor and with another tongue depressor the food is pushed into the child's mouth. Another and more satisfactory way is the use of the hygeia nipple. A hole is cut in the tip of the nipple and the food pushed through this either with the finger or a tongue depressor. This as a rule is necessary for only a short time because the infant learns quickly to nurse this thick mixture.

Personally I prefer mother's milk to cow's milk. First, because of the remote possibility of the spasm being caused by a cow's milk allergy, and second I find in young infants there is a less tendency to colic and better adoption of food. The infant is fed in this manner, the feeding is divided into two parts one part placed in a glass in a bowl of warm water, a large hole is cut through a hygeia nipple and the food is pushed through this with a tongue depressor or a finger, but as a rule this is useless as the child soon learns to nurse this as well as a bottle. The second method is to put the food on a tongue depressor and place it on the back part of the child's mouth, pushing the food off with another tongue depressor.

It is up to us to decide which is the better method the surgical or dietary. According to many authorities the prognosis is the same with either method, whether it is better to subject the infant to the prognosis period of dietary treatment which lasts between six and twelve weeks, and even longer, with its intercurrent dangers, intermission, dehydration, and infections common to all infants or to choose the surgical method with a similar prognosis and a much faster recovery.

Dr. S. C. Barrow (Shreveport): I think a radiologist might discuss this important question. I do not know whether it is because the diagnosis of these cases seemingly is easy, or because we have every expert pediatrician in Shreveport, but all of the cases that they have said exist we have found existing radiologically. I just want to make one point which I have observed in quite a number that I have examined for Dr. Picard, and operated by Dr. Willis, and that is that we cannot rely upon the fact that there is or is not a complete retention of barium

in the stomach as observed radiologically. We have noticed that these children examined before barium is given present a characteristic picture of the stomach in those cases of pyloric hypertrophy. The stomach takes on a typical balloon shape, filled with air. It has been observed in each of these cases as has not been observed in the examination of babies whose stomachs are affected by other pathology. The character of the shadow is balloon shaped, due to the stomach being filled with gas, and when that balloon shaped shadow is there it seems to me operation is needed. I want to make this point for the benefit of the radiologists who may be present, and that is to not fall in with the belief that you do not have this condition when you see the barium after 6 to 9 hours. If you see the barium going through and see this balloon shaped shadow, our observation has been that you have a condition which is in a favorable stage for operation.

POST OPERATIVE PAROTITIS*

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ALEXANDRIA, LA.

A recent experience prompted the writers of this paper to look into the subject of post-operative parotitis, and we thought that the data on the subject might be of interest to the members of this society who may have had the misfortune to have had similar cases.

It has been recorded for many years that following major operations under a general anesthesia, certain patients develop an acute septic infection of one or both parotid glands. This condition was often referred to as a secondary or metastatic abscess, upon the theory that the infective organism was metastatic in origin, but later considerable evidence has accumulated to cast doubt on this theory, seemingly establishing the fact that most or all are ascending infections of the excretory ducts; however, neither theory is proven beyond dispute. There is an apparent association of parotitis with pelvic operations and particularly ovarian operations which is suggestive of the occurrence of epididym-

itis and ovaritis following epidemic parotitis, which undoubtedly, establishes some association between this gland and the adnexa. A patient following major operation is kept upon his back in bed, with usually a liquid diet, and having no occasion to use the masseter muscles does not empty the parotid ducts. The salivary secretions are not only less for this reason, but by the administration of hypnotics, the stagnant gland tends to promote infection from the oval bacterial flora.

Inflammation of the parotid occurs not infrequently after any surgical procedure, but usually after laparotomies and most frequently after pelvic operations, especially those having to do with the ovaries. The condition, as may be inferred, occurs most commonly in women.

Several days following an operation—usually from the fourth to the tenth day—the swelling is first noted in front of the lobe of the ear, where the parotid capsule is less tense, but eventually the swelling involves the whole of the gland. In fulminating cases this may be rapid and the parotid obscured by edema of the cheek and neck. The tumorfaction is always accompanied by fever, pain, tenderness, limitation of motion of the jaw, general malaise, and other signs of sepsis. The secretion from the excretory duct may be entirely suppressed or purulent in character, the parotid papilla being swollen and red. These patients usually present the appearance of being extremely ill, and the pain and symptoms brought on by the parotid infection completely overshadows the primary surgical condition. The infection may clear up in mild cases, or in the more severe types may go on to diffuse phlegmon of the gland and surrounding tissues, or gangrene. Suppuration of the gland is the usual occurrence.

Prompt treatment of the condition is demanded. In the beginning ice packs should be employed constantly. If not controlled then, suppuration develops—usually about the third day, accompanied by an exaggera-

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tion of symptoms. Now we must resort to radical treatment. If a soft fluctuating, localized spot can be found, this may be incised through the capsule and drainage instituted, but as the capsule of the gland may be so tense as to prevent fluctuation, the surgeon should not hesitate to incise the gland within twenty-four hours if the symptoms are severe. An incision should be made from the zygoma to the angle of the jaw and the flap drawn forward. It must be remembered that the trunk and a branch of the seventh nerve lie deep in the tissue of the parotid. These nerves may be destroyed by the infective process if drainage is delayed, and they may be injured by the incision if care is not taken when establishing drainage. The capsule should be incised and the gland explored by inserting the tips of artery forceps or director.

Blair in his book "Surgery of The Mouth and Jaw", says, "Where the pus is not liberated by incision it has been reported to have frequently ruptured into the external auditory canal, but it may make its way into the deep spaces of the neck, into the post pharyngeal space, into the mandibular joint, or through the olivary foramen into the cranial cavity. By thrombosis of the contained veins the infection may spread to the cranial cavity, or pyemia may result."

Our case was a white female, married, age twenty-seven, operated July third, trachealorrhaphy, perineorrhaphy, appendectomy and shortening of the round ligaments. The operation was under ether anesthesia, lasting one hour and twenty-five minutes. Reacted satisfactorily. On the third post-operative day complained of slight sore throat and the next day experienced a little difficulty in swallowing. Face slightly swollen on right side, painful and tender. Swelling over angle of jaw grew rapidly larger in twenty-four hours in spite of constant local ice packs. Fever with rapid pulse, morphia necessary for relief of pain. Patient no longer referred to discomfort caused by operation but suffered intensely with right side of face and neck. Oral examination showed excretory papilla swollen and red with pus exuding on pressure. On sixth post-operative day and third day since appearance of the

swelling the parotid was incised and drained. Patient felt relieved, fever curve dropped and facial and neck swelling reduced as drainage became free. The condition now became one of localized abscess with adequate drainage. Silk worm gut was placed deep in incision to facilitate drainage. Eventually recovery without further complications except that the infection ruptured into the external auditory canal, which condition we attributed to a slight delay in incising the gland.

Fisher in the "Annals of Surgery" 1923, in discussing this subject classifies the infection into four types:

1. Acute inflammation occurring three to five days after operation and subsides in the same length of time.
2. Acute circumscribed suppurative parotitis with local and systemic reactions intensified, in the absence of obstruction pus can be pressed out of Stensen's duct.
3. Acute profuse suppurative parotitis. This is rare. Suppuration in from thirty-six to forty-eight hours, marked swelling of the face and severe general symptoms. Mortality is about thirty per cent.
4. Gangrenous parotitis. This is very rare and almost always fatal.

This author summarizes his conclusion as follows:

1. Every post-operative parotitis is a potentially lethal condition until it proves to be benign.
2. To await the spontaneous evolution of parotitis is to jeopardize life.
3. The differential diagnosis of these types suggest at once the method of relief. Medical or surgical.
4. When the condition is surgical early operation with free incision and open drainage is indicated.
5. The greater the involvement on the face and neck structures especially in gangrenous parotitis, the greater the need for thorough exposure.

(References: W. H. Fisher *Ann. Surg.*, 1923, lxxviii, 568. Blair. *Surgery of the Mouth and Jaw*. Crandon. *Surgical Aftertreatment*.)

DISCUSSION.

Dr. P. B. Salatich (New Orleans): I have not had many of these cases following operation. There has been quite a discussion on both sides as to whether it is the blood that is affected or whether infection follows along the duct. Some of these cases of so-called sympathetic parotitis

have followed abdominal operations but by careful attention to the mouth after operation, there has been quite a diminution of these cases. I had one case following perinephritic abscess that came on about ten days or two weeks afterwards. There was swelling and definite stiffness of the jaw, and I waited a couple of days and it looked very much like an abscess. I took the patient to the operating room and made a small incision just large enough to use an aspirator, of large calibre. I could not get any pus and I realized afterwards that I was a little bit too superficial. The swelling continued for about four or five days so I took the patient back to the operating room and operated again and found pus deep in the glands. As a rule after you locate your pus with the aspirator, you can go on the side of it until you reach the capsule, and then with your scissors you can separate it and let the pus out with very little damage to the exposed nerve. I located this pus deep in the glands, put in a silk worm gut drain and after a few days the swelling was controlled, the inflammation subsided and the case got all right.

Dr. Homer Dupuy (New Orleans): The most surprising thing about these cases of parotitis it seems to me is that in rhino-laryngologic practice we see few such cases. Yet we have some severe reactions after tonsilectomy. In the presence of a peritonsillar abscess you have to take into consideration the proximity of the infected part. In nasal sinus infection you have a constant dripping of pus contiguous to Steno's duct. That leads us to the question of etiology. Unquestionably the infection must travel along the pathway of the duct. Now, how can we minimize the dangers, as Doctor Simmons has already pointed out many fatal cases occur. I believe that the suction apparatus used by the throat man could be used in all cases where the mouth of the patient cannot be brought to the highest hygienic perfection. The mouth is a flora bed of microbes, and therefore if the patient requires immediate operation, and there is no time for investigation and purification of the mouth, if such apparatus were used in those cases at the beginning of, and during the anesthesia, I believe it would tend to minimize the dangers pointed out by the essayist.

Dr. L. M. Provosty (New Orleans): In two cases following ovarian operations the occurrence of suppurative parotitis coincided with marked and violent mental disturbance. I would like to ask whether Dr. Simmons had any cerebral symptoms in his cases of post-operative suppurative parotiditis.

Dr. Joseph A. Danna (New Orleans): We have heard much about suppurative parotitis following operation, but I have seen very little of it myself. In fact I have only had one case in

my own practice, but that case I remember so very distinctly that I thought it might be of interest to relate. It followed five or six days after a gall bladder operation in which a large stone was removed and the gall bladder drained. The patient, who was doing very well, suddenly developed a temperature of 105, and we noticed a swelling in the side of the neck and face. The next day it was as tense and red as could be and quite large. I called in the family surgeon and we decided that the quicker we got in there the better it would be, for if we let that gland alone there might be a sloughing of the gland tissues from pressure. I took her up to the operating room and made a curved incision around the angle of the jaw—it was like slicing a watermelon in two. There was no pus as yet. I filled the wound loosely with gauze to control the hemorrhage and let the patient alone. The patient was a very good looking woman about thirty-five or forty, and I thought I had ruined her looks for good. She has a linear scar which you can only see if you look for it. I mention this so that if you have a similar case it may help you to handle it. I went around the posterior aspect of and below the mass in order to avoid interference with the nerve.

Dr. Thos. B. Sellers (New Orleans): I have had two bad cases of parotitis. The temperature ran from 104 to 105 1/2, associated with severe pain, which was not relieved by large doses of morphine. The swelling extended from above the ear, down to the clavicle. After consultation in both cases, we decided not to incise the gland, but to wait until a pocket of pus could be localized. Both recovered without operative interferences.

I believe it is better surgical judgment to delay operative measures as long as possible.

Dr. R. O. Simmons (closing): I would offer my grateful acknowledgment to Dr. Salatich for his kindness in opening the discussion of our paper and to the other members who have so generously taken part in the discussion.

To Dr. Dupuy I would say, in regard to his failing to encounter parotitis in his operations, that it is probably because of the fact that all our authorities refer these complications as being associated almost entirely with abdominal operations and too, it would be possible to prevent such complications in his oral operations because of the fact that he uses a suction apparatus and the bacteria that collect about the teeth and especially about the ducts would be aspirated away.

Dr. Provosty has asked me whether we have had any mental conditions in such cases. In reply I would say that I am very thankful to have had

only one severe case of parotitis following an operation, and although I have seen a few other cases, I do not know of any such nervous manifestation except from actual pain, when our patients in many instances, suffer untold agony. We did, however, in this particular case note that the patient was very forgetful and for about two days during her illness she could not remember whether it was morning, afternoon or night. I would readily say, however, that there is great danger of the brain itself becoming involved if left too long before drainage is established.

In Dr. Danna's case I can see quite well why his patient recovered so rapidly, because in the first place, he recognized the case early and made a thorough incision establishing perfect drainage, and the patient recovered. By making a thorough incision in these cases usually there is very little scar for the wound heals rapidly and very evenly.

Dr. Sellers undoubtedly in his two cases met with very simple parotitis and was very fortunate, for in many of these cases the suffering is almost unbearable and if within twenty-four hours after the appearance of swelling in the parotid gland there is no improvement in the condition, it is well not to wait, for by waiting too long we may lose some of our patients. A thorough incision of the capsule and leaving it wide open whether or not we encounter pus gives relief almost always.

HAYFEVER FROM TREE POLLENS.*

WM. SCHEPPEGRELL, M. D.,

President American Hayfever Prevention Association; Surgeon in Charge Department of Hayfever and Asthma, Charity Hospital,

NEW ORLEANS.

The common forms of seasonal hayfever are due to the pollen of plants with wind-borne pollen. As many of the trees have wind-borne pollens, these must also be investigated in their relation to hayfever. A prolonged series of tests made by the American Hayfever Prevention Association, has shown that in the United States generally the pollens of the following may cause hayfever in subjects sensitive to their protein, viz: the oaks, sycamore, box elder, poplar, cottonwood, elm,

ash, willow, hickory, mountain cedar and black walnut.

The pines, which generate pollen in enormous quantities, do not cause hayfever. This is not due to the fact that the protein of this pollen is negative in hayfever, as we have had many positive reactions in patients tested with an extract of this pollen. The reason is that the covering (extine) of the pollen contains a resinous substance which inhibits osmosis in the nostril of the patient by which the protein is released. This is fortunate, as the pines generate pollen in such enormous quantities, that frequently the ground and water surrounding a forest of these trees is literally coated yellow with the pollen.

POTENTIAL AREA.

The pollen of most of the trees is relatively large, which limits the distance which the wind currents may carry them from their source. As a rule, therefore,



Fig. 1. Changing the pollen plate in the specially constructed plate holder.

they do not infect a very large area, as is the case of the ragweeds and grasses whose small size and corresponding bouyancy enables them to traverse long distances (1). The pine pollens which, as already explained are harmless in hayfever, alone form an exception to this rule. While measuring 60 microns in diameter, which would make their area of distribution very

*Read before the Orleans Parish Medical Society May 25th, 1925.

small, they are provided with wings or parachutes, which enable them to traverse long distances. In the airplane tests which we made to determine the altitudes to which the various pollens may ascend, we have found these pollens at an altitude of 6,000 feet and at a distance of 15 miles from the nearest group of pines, showing the great distance which they may travel in their aerial flights (2).

The season of bloom of most of the trees is in the spring, and cases of hayfever occurring in February and March may be

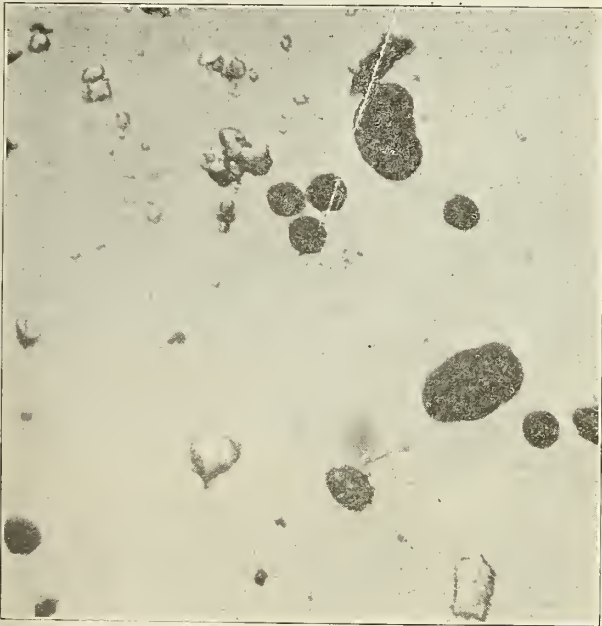


Fig. 2. Photomicrograph of pollen plate showing pine and grass pollen. x 200 diameters. Exposed at 2000 ft. altitude.

caused by tree pollens, although they are usually complicated by pollens of other weeds and grasses found at that season. These cases should be differentiated by the diagnostic skin tests.

While the trees, on account of the large size of their pollens, usually form only a local cause of hayfever, still as many of them are used for shade and ornamental purposes in our cities, and as the pollens are usually formed in large quantities, they are in the aggregate an important cause of hayfever.

LIGUSTRUM POLLEN.

On a number of occasions, the American Hayfever Prevention Association has received complaints regarding the ligustrum as a cause of hayfever. As the pollen of this tree is rarely found on our pollen test plates, its relation to hayfever was until recently considered negligible.

These complaints became so insistent, however, that last year a series of intensive tests was instituted in the Clinic of the Department of Hayfever and Asthma of the Charity Hospital, New Orleans, in order to decide this question. In all cases of complaints against the ligustrum, and in cases of hayfever and asthma generally, in which the attacks or their aggravation synchronized with the pollinating period of the ligustrum, our pollen test plate were exposed at the residence of the patient. In 17 of 20 of these cases, the plates showed the presence of large numbers of the ligustrum pollen.

These patients were then tested in order to determine their sensitivity to the ligustrum pollen and practically all showed a positive reaction. Most of the cases were also sensitive to other pollens, but the clinical history proved that their suffering was greatly increased by the pollen of the ligustrum.

The New Orleans Parking Commission, which has done such excellent work in establishing a system of shade trees in New Orleans, was therefore urged in the interest of public health, not to plant ligustrums in the streets or public squares of New Orleans, and to minimize the ill effects of those already planted by having them pruned in time to prevent their pollination.

MOUNTAIN CEDAR POLLEN.

In 1917 we received a communication from Dr. Samuel N. Key of Austin, Texas, stating that there was a hayfever problem in that section of Texas during the months of January and February, which could not

be explained by any of the recognized hayfever weeds, none of which bloom at that season. A series of our pollen plates was therefore sent to Dr. Key, which were exposed in the usual manner, and returned to our laboratory at New Orleans. These plates were found to contain large numbers of the pollen of the mountain cedar. This cedar (*Junipers sabinoides*), is found in large numbers in the suburbs of Austin and other parts of Texas, and the male tree, which distributes the pollen, is in bloom at a season corresponding with this form of hayfever. A series of tests was then arranged, which corroborated the fact that the hayfever was due to the pollen of the mountain cedar.

BLACK WALNUT POLLEN.

An important cause of early hayfever on the Pacific Coast is due to the pollen of the black walnut (*Juglans californica*), which is much grown as a shade and ornamental tree in the Sacramento, Napa, and Russian River valleys, and to a limited extent from the San Joaquin valley to the South Coast ranges. It occurs native especially at Walnut Creek and in the coastal canyons of southern California, from the Santa Ana Mountains north, but is also common in the hills back of Los Angeles and Santa Monica, often growing near suburban homes (3). The pollen is produced in great abundance, but, on account of its large size, is not carried far from the trees.

The pollen of the black walnut not only gives a positive reaction in sensitive subjects but one of unusual severity. In the months of April and May, when this is in bloom, it causes a great deal of suffering to patients who are sensitive to its protein, and who live within its potential area.

THE PEPPER TREE POLLEN.

The fall hayfever is a distinct product of the United States, being due principally to the ragweeds, wormwoods, and similar

weeds which are not found in Europe, where the spring hayfever, caused by the grasses and grains, is the common form. Hayfever from tree pollen has received little attention in Europe, as there are not many extensive forests, especially near cities. An interesting report however has recently come to us from South Africa by Prof. George Potts of the Department of Botany of Greys University College, Bloemfontein.

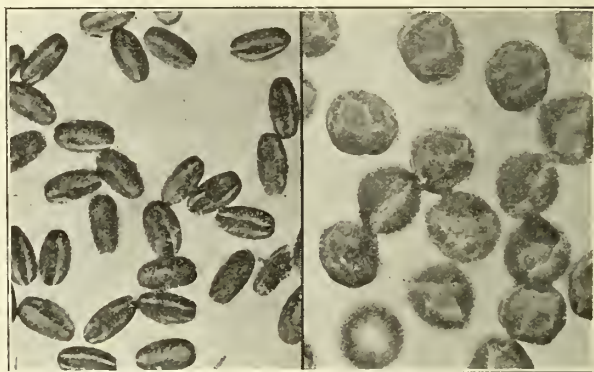


Fig. 3. Pollen of water oak. *Quercus nigra*. Characteristic tree pollen.
Fig. 4. Pollen of black walnut. *Juglans nigra*. Local cause of early hay fever.

From an exhaustive series of tests he states that Bloemfontein and Kimberley are subject to severe epidemics of hayfever in early summer, especially in November and December (Reversal of seasons due to Southern Hemisphere).

By means of pollen plates exposed and checked after the Scheppegrell method, it is shown that the pollen of the pepper tree, (*Schinus molle*), is virtually the only kind of pollen frequent in the air of Bloemfontein during these epidemics. Inoculation tests showed that hayfever patients reacted to pepper tree pollen. These pollens were also found in the nasal discharge of the hayfever patient tested. These proved definitely that the pepper tree is the cause of these epidemics, to which, indeed, they are popularly attributed. Prof. Potts shows that the pollen of this tree, which is nor-

mally sticky and carried by insects, becomes dry and powdery, and is dispersed by the wind in the hot, dry weather prevalent in Bloemfontein during the hayfever season.

The difficulties in accepting the pepper tree as a cause of hayfever are: The large size of its pollen, pollination by insects, and that the tree occurs in many towns of South Africa which are not troubled with hayfever. The explanations suggested are the hot, dry weather during the principle flowering season of the pepper tree, and the fact that this tree is cultivated in large numbers in Bloemfontein as a street and garden tree. Kimberley, whose climate is

15 by 30 microns (4). Fortunately, the protein of all the oak pollens that have been tested are morphologically similar, so that if the patient is immunized against the most common variety of the oaks in his vicinity, he will be protected from the other varieties of this tree. The oaks pollinate from March to June, according to the climatic condition. This is also the season of bloom of most of the grasses (5), and a patient with spring hayfever should therefore be tested for both pollens before the immunizing treatment is commenced.

The sycamore, box elder and poplars are less common causes of hayfever. The western cottonwood (*Populus sargentii*) is the common cause of hayfever in sections in which it is in sufficient abundance. Other less common of this genus are narrow-leaved cottonwood (*Populus angustifolia*), swamp cottonwood, (*Populus heterophylla*), yellow cottonwood (*Populus deltoides*), and Arizona cottonwood (*Populus arizonica*). The elm is not usually considered an important cause of hayfever as it is not prolific with its pollen as many of the other trees. We have had a number of cases in this vicinity, however, where it had been an important cause of hayfever, due to the close proximity of these trees to the residence of the patient, where they were planted for ornamental purposes.

Some of the common forms of tree pollen, photomicrographed by the author, are shown in the accompanying illustrations (Figures 1 to 8).

PREVENTION AND TREATMENT.

The season of bloom of the trees causing hayfever is usually limited to a few weeks, but the pollen is generated in such large quantities that they usually cause great distress to patients sensitive to their pollens. These pollens, should, therefore, be carefully tested for, and the patient be given the appropriate immunizing treat-

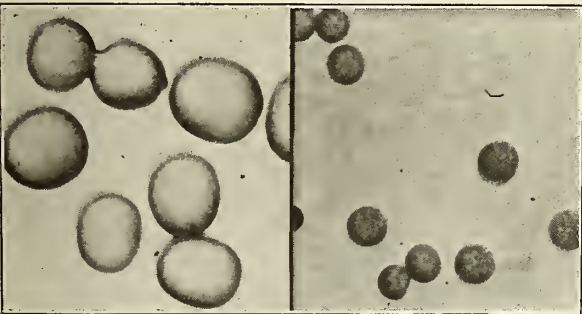


Fig. 5

Fig. 6

Fig. 5. Pollen of Johnson grass, *Andropogon helapense*. Type of the pollen of the Gramineal group.

Fig. 6. Pollen of careless weed, *Amaranthus spinosus*. Type of the pollen of the minor groups.

like that of Bloemfontein, and which also has many pepper trees, is likewise subject to these epidemics. The practical preventive measure is the removal of the male pepper tree from these localities.

OTHER TREE POLLENS.

Several varieties of the Ash (*Fraxinus*) are among the local causes of hayfever in many of the states, and are important causes in Arizona, Missouri, New Mexico, and some parts of California.

The most common of the trees causing hayfever are the oaks. There are about 65 varieties of these sufficiently common in the United States to be considered in hayfever. The average size of the pollen is

ment. The extract is prepared and used in a manner similar to that of other forms of hayfever, the doses being graduated from 10 to 5,000 units progressively. This method usually gives good results in hayfever due to the oak, poplar and cottonwood pollens, but the results in cases of mountain cedar and walnut have thus far not been encouraging. The intensive treatment has not yet been used in these cases and should give a high percentage of cures as in the more common forms of hayfever.

The important remedy is the education of the public and of our public officials, so that the planting of shade trees, which

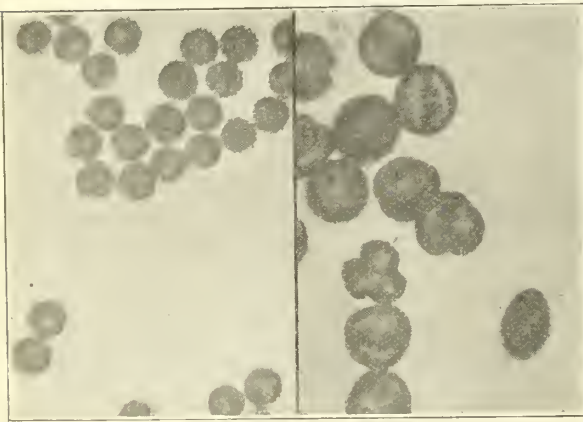


Fig. 7

Fig. 8

Fig. 7. Pollen of common ragweed, *Ambrosia elator*.
Fig. 8. Pollen of California mugwort, *Artemisia heterophylla*.

are the usual cause of this form of hayfever, should be limited to trees that may not be a source of discomfort to sensitive subjects.

The majority of trees generally are harmless in hayfever. All the fruit trees, in spite of the fact that their pollen is listed by some of the biological houses, indicating that they may cause hayfever, are harmless as they are insect pollinated. This also applies to most of our ornamental trees and shrubs. In cases in which the trees are indigenous, the control may present considerable difficulty. In the case of the mountain cedar, for instance, which generates pollen in great quantities, the

pollinating area is several miles, which makes the question of control expensive and difficult. In view, however, of the discomfort which they cause in sections where this tree is common, its removal from the neighborhood of municipalities will eventually be accomplished.

DISCUSSION.

Dr. Narcisse Thiberge (New Orleans): I am sure we all enjoyed hearing Dr. Scheppegrell. Hay fever is somewhat different in its treatment from other ailments to which a patient may be subject, because we are often confronted not by a single infection, but one where both grass and tree pollen play a part; therefore, keeping this in mind the general practitioner should become suspicious when a patient reacting to grass pollen skin tests refuses to improve under a thorough grass pollen immunization course.

This paper calls attention to the fact that in these cases tree pollen as well as grass pollen may play a part.

The attending physician should be especially on his guard when the case is a Spring case and the attack is short but sharp corresponding to the pollinating period of the trees.

This paper may also serve as a guide if the occasion comes to select trees for planting—in these instances we should remember that trees do cause hay fever. A good rule to follow is to select such trees as have a showy blossom—these as a rule are not wind pollinated but are pollinated by insects.

In verifying our suspicion as to the actual cause of hay fever in individual patients, it is always easy to have them expose a glycerine coated slide near their sleeping quarters.

We are now conducting a series of observation as to the efficiency of Peptone intravenously in cases resisting ordinary immunization methods, but it is as yet too early to draw definite conclusions. However, in the event that hay fever cases resist treatment with grass pollen and tree pollen extracts, it is always good to have something to fall back on, and here the non-specific protein seems to give some hope.

(1) Scheppegrell: Hayfever and Asthma, Cause, Prevention and Cure. Lea and Feliger 1922.

(2) Scheppegrell: Aeroplane test of Hayfever pollen, density in the upper air. Medical Journal and Record, Feb. 20, 1924.

(3) H. M. Hall, Hayfever Plants in California, U. S. Public Health Report, April 7th, 1922.

(4) Scheppegrell: Classification of Hayfever Pollens from a biological standpoint. Medical Journal 1923.

MASTOIDECTOMY: WITH SPECIAL ATTENTION TO LOCAL ANAESTHESIA IN THIS OPERATION*

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NEW ORLEANS.

Mastoiditis may be divided into two general classes, acute and chronic. We will consider the chronic condition first in order to dispense with it in as few words as possible since this paper is concerned chiefly with local anaesthesia in mastoidectomy. Chronic mastoiditis is the type in which we find it often necessary to perform the radical operation and it is very rare that the anaesthetic problem looms before us with such great importance as it does in acute mastoiditis when the simple mastoidectomy is almost universally chosen.

Local anaesthesia may be employed in the performance of radical mastoidectomy, but general anaesthesia is to be preferred for the reason that the middle ear and external ear must be rendered anaesthetic (i. e. that part of the external ear involved in the flap operation). That portion of the concha and external auditory canal which is involved in the making of a flap may be anaesthetized by injection of the anaesthetic solution anteriorly and posteriorly and the middle ear may be anaesthetized by the injection of a few minims of a 5% solution of cocaine through the tympanic membrane. But since it is rarely so important in these cases the general anaesthetic is more practicable.

However, when we consider the fact that acute mastoiditis usually complicates diseases which so often involve the respiratory tract as for example, measles, scarlatina, influenza, pneumonia, bronchitis, sinusitis and tonsillitis and when we find it complicating such maladies as typhoid fever, diabetes, nephritis and cardiac diseases, conditions that so fre-

quently preclude the use of a general anaesthetic, we are forced to the conclusion that a local anaesthetic is necessary to meet the situation. And after using the local anaesthetic and finding it safe, simple and entirely satisfactory, we wonder why it is not more universally used.

Of course it is contraindicated in a child who is too young to reason with since he would become panicky and intractable and perhaps there are some few individuals of maturer age who might be too excitable or too temperamental to co-operate with the surgeon without being thoroughly asleep. But the vast majority of patients who are old enough to reason with can be operated on with great satisfaction under local anaesthesia.

Some of the advantages in using the local anaesthetic are that there is very little preparation necessary (i. e. purging, dieting, etc.), there is no nausea and vomiting, which are depressing in some cases, such as those complicated by pneumonia and heart disease; there is no shock either during or after the operation, the organs of elimination are not taxed as they are when a general anaesthetic is employed, and it takes fewer assistants and the operator is not crowded by the anaesthetist and vice versa.

The patient being awake may warn the operator when working too near a misplaced fallopian canal and possibly prevent injury to the facial nerve.

The disadvantages are practically none excepting the two contraindications mentioned above.

During the fall of 1918, while located at the Base Hospital, Camp Shelby, I was privileged to do seventeen mastoidectomies under local anesthesia, some of which were in the active period of pneumonia and, all of them were associated with either measles or influenza, as both of these disease were epidemic at the time in that camp. The results were so gratifying that I am permanently converted to the use of local

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

anaesthesia in suitable cases and I have used it many times since.

The last two cases in which I used this technique were associated with diabetes, a condition in which a general anaesthetic is certainly contraindicated.

The technique employed is as follows: A hypodermic of morphine sulphate gr. 1/4 and atropine sulphate gr. 1/150 is given half hour before operation. After shaving the side of the head on the affected side and cleansing the external auditory canal with peroxide of hydrogen and alcohol the skin is cleansed with benzine and iodine. First the skin is injected with either apothesine or novocain in 1/2 of 1% solution with three minims of adrenalin to the cunee, beginning above the zygomar and extending the infiltration to below the tip of the mastoid process with a wide margin of surface so as to have the anaesthetized area extend considerably beyond the field of operation. Then the needle is inserted deeply under the periosteum and as the solution is injected the whole mass of tissue is elevated including the external ear and lastly the needle is inserted straight in and along the posterior wall of the external auditory canal which is thoroughly infiltrated. Since there is no nerve supply to the bone the operation may proceed now as in general anaesthesia.

I use a trephine to remove the cortex covering the mastoid antrum, as it doesn't jar or excite the patient as much as the use of a hammer and chisel, and from this point I complete the operation with rongeur forceps and curettes. I have found that closing the wound with through and through silkwoim gut sutures which include the periosteum with a blood clot shortens the period of convalescence very materially. Generally I use a rubber drainage tube which is inserted straight in to the antrum down to the additus parallel with the external auditory canal which is anchored with a suture through the skin and removed in three days.

The period of convalescence is shortened to about fourteen or fifteen days by this method, whereas in the open method where packing is employed, the convalescence may extend over months.

In closing, I want to add that the use of the blood clot often prevents deformity and adds materially to the cosmetic result.

DISEASES OF THE GALL BLADDER*

With Special Reference to Gall Stones and Duodenal Drainage.

LOUIS ABRAMSON, M. D.,

SHREVEPORT, LA.

One of the serious problems of abdominal surgery is not the operation itself, but what result will be obtained by a contemplated operation, and of these difficulties there is perhaps nothing more perplexing than the surgery of the gall bladder and ducts.

I am unable to present anything new in this field but hope to present some clinical experience and collected observations that will be sufficient excuse for the time you are so kindly giving me on this program.

In the time limit of this paper, I could not hope to go into an extensive discussion of this subject, but hope to be able to present a few high lights on some of the principal points.

The approximate relative frequency of abdominal organic disease is: Gastric Ulcer 1; Gastric Carcinoma 2; Reflex Appedicitis 4; Duodenal Ulcer 6; Gall Bladder Disease 12.

The infected gall bladder may be a cause of cardiac disease, acting as a harboring focus for selective germs; cardiorenal and toxic cases come under this heading also. High Blood Pressure is often relieved after removal of gall stones. Many types of arthritis may be regarded as generally

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

having originated in a focal infection, and the infected gall bladder may be such a focus. Gall bladder infection is very frequently the cause of appendicitis and pancreatitis, and it is the most common cause of biliary cirrhosis.

Heyd says that hepatitis is almost invariably associated with chronic disease of the gall bladder. It may be primary or secondary; when primary, infection of the gall bladder by the lymphatics is seen; when secondary, the infection is from the gall bladder by extra-hepatic- and intra hepatic lymphatics.

The liver, pancreas, gall bladder and gastro-duodenal segment must be regarded as one physiological and pathological segment; and disease of one organ expresses itself in some way on all the others.

If all the symptoms and findings associate disease of the appendix and gall bladder, the patient should be informed that operative relief in one condition only can not assure a cure. The double operation is by no means trivial.

There are many operations in which only one of the two conditions are attacked; the patient is not cured and such operations bring surgery into disrepute.

The patient should know and decide. Besides, there is great necessity for medical treatment and supervision, especially in diet after the operation.

Spicy, hot, acid and sweet foods should be avoided. Alkalis are efficacious for relief of symptoms.

Deaver and Reiman say that there is little difference of opinion today that it is not the gall stones *per se*, but the inflammatory processes induced by the calculi that determine the gravity of gall stone disease, that is, acute and recurring cholecystitis is the gravity. The work of the surgeon must be reparative and preventive.

Calculi in almost all cases, originated in the gall bladder and not in the bile passages.

The question as to the exact function of the gall bladder is still unsolved. We do not remove a normal gall bladder, presupposing that it performs some useful function.

But as far as has been observed, removal of the gall bladder does not appear to have been followed by results of much importance to metabolism. Clinical experience has shown that mankind can get along very well without the gall bladder.

Bacteriological examinations have shown that infection is not alone in the mucosa, but in the walls of the organ as well.

For all reasons, Deaver and Reiman prefer to remove the pathological organ than to try and repair it.

It is usually as safe as cholecystotomy; it removes the cause of the vicious circle of infection and recurrence; the patient does not miss an organ which probably has been functionless, or in which the function has been impaired; and the chances of complete recovery or cure are greater than after cholecystotomy.

The frequency with which chronic appendicitis and chronic gall bladder disease are found associated is very great.

Accurate differentiation between chronic cholecystitis, adhesions about the gall bladder, sclerosis of the gall bladder, and some cases of cholelithiasis is extremely difficult on a symptomatic or gross pathological basis.

Even on the operating table, a gall bladder may be passed over as normal, although post-mortem examination shows extensive or long standing disease of mucosa or ducts.

There is an intimate relationship between the gall bladder and appendix through their lymphatic and blood supply, *probably* the appendix is the first organ affected and it may invite disease of the gall bladder.

It is necessary to examine the gall bladder at every appendix case; but re-

removal of the appendix may and often does remove the gall bladder disease.

The study of the literature would seem to justify the belief that the gall bladder should be removed in all cases, in which it is definitely diseased, provided the condition of the patient is such that the added time on the operating table will not greatly lessen his chance of recovery.

The best results in gall bladder disease are obtained with surgery, but the number of 100 per cent. results is small; even after an operation by an excellent surgeon and with medical management a further operation may be necessary.

Niles, of Atlanta, Georgia, based on his experience for two and one-half years on one thousand cases concludes that non-surgical drainage of pathological gall bladders is a worth-while clinical method and in competent hands, will produce good results in a liberal per cent. of cases.

The method is not indicated in gall bladder disease in which the cystic duct is obstructed in such a way that the gall bladder is unable to discharge its fluid contents; nor can it supplant surgery, where there are gross pathological lesions of the gall bladder.

In many cases by early and adequate drainage this method may clear up certain cases that without it would have developed into surgical states.

Golab used the Lyon method of biliary drainage.

He has found that patient presenting symptoms of biliary stasis responded satisfactorily on the whole to a treatment which consisted of four to six successive biliary drainages at six-day intervals.

In all cases a cystological study of the bile obtained in the last drainage operation revealed none of the pathological elements found in the early drainage.

Jacob Meyer thinks, from three years' experience, that the diagnostic value of

duodenal tubage is greatest in infections of the gall bladder; that non-surgical drainage of the gall bladder should be used in treatment of early cases of gall bladder stasis, cholecystitis and catarrhal jaundice as well as more serious cases, which are a poor surgical risk.

The experience of Chviay and associates with non-surgical drainage of biliary tract (Lyon Duodenal Tubage) has been very favorable, especially in chronic cholecystitis without gall stones. They prefer the intermittent rather than the continuous method of drainage, as it is better tolerated by the patients.

Conclusions.

1. Every gall bladder containing stones should be operated.
2. Recurring attacks of cholecystitis is a definite indication for surgery.
3. The consensus of surgical opinion favors the removal of the gall bladder where it is at all diseased.
4. The mortality after removal is not greater than when it is not removed.
5. Duodenal drainage is a valuable diagnostic and therapeutic means and in skillful hands will cure mild cases of biliary stasis.

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DISCUSSION.

Dr. H. B. Gessner (New Orleans): If Doctor Abramson wanted to start something he chose a very good subject. It does not take long for a

gall bladder paper to start a very general discussion in a medical society. There is so much to consider that I shall limit myself to a few points which particularly interest me.

Doctor Abramson's first conclusion is that every gall bladder that contains stones should be operated. When you bear in mind that the mortality from operation for gall stones is only one-half of one per cent., and when you bear in mind the further fact that if gall stones are allowed to remain indefinitely, the gall bladder in 4 per cent. of cases will develop malignancy which is almost always fatal, you will see there is a strong argument in favor of operating gall stone cases. Another reason is that if the attacks of pain are severe, the patient will have to choose in the course of time between operation on one hand and morphine on the other. I think these two arguments alone, the small mortality and the danger of malignancy, as well as the danger from the morphine habit, are very important reasons for operation of no other were put forward.

As to whether the attacks of cholecystitis are a definite indication for surgery, we know today that the pancreas is injured by infection of the gall bladder; we have reason to believe that the starting point of many cases of biliary cirrhosis is in a diseased gall bladder, and we have every reason to believe that a long standing cholecystitis injures the myocardium. So we have to bear in mind not only the toxic effect of the cholecystitis itself, but also the infection of the liver, the pancreas and the myocardium, and I think everybody will agree that recurring attacks of cholecystitis call for operation, although the first acute attack may not.

The third conclusion is that the consensus of surgical opinion favors the removal of the gall bladder where it is at all diseased. I believe the weight of opinion is in favor of taking out the gall bladder, but there are certain things to be borne in mind in this connection. One is that when the infection is once established in the biliary tract, in a certain proportion of cases there is pathologic stricture of the common duct which takes place in the course of time, and if we do a cholecystectomy at once in a certain portion of cases we have to come back and drain the common duct, which is not an easy procedure when we have no guide. Deaver of Philadelphia makes a plea for what he calls the internal drainage of the gall bladder, drainage of the gall bladder into the duodenum or the stomach for infection. He calls attention to the fact that if the gall bladder seems to have retained some of its elasticity, if it still can function in a large proportion of cases it is better to connect the gall bladder with some part of the alimentary

canal for drainage, with the duodenum preferably, with the stomach as the second choice, or with a part of the intestine, possibly the colon, as the third choice.

Doctor Abramson gives as his fourth conclusion that the mortality after removal is not greater than when it is not removed. In other words, he says the mortality of cholecystectomy is not greater than the mortality of cholecystotomy. I believe that this is true in the hands of a man with experience like Doctor Abramson. Men who have had a great deal of experience in operating can do a cholecystectomy without greater risk, but Deaver says the occasional operator, the man who operates once in a while, is much more apt to lose the patient with cholecystectomy than from cholecystostomy. He adds that the occasional operator, the operator with small experience in the upper abdomen, is more apt to have one of those accidents of injury to the ducts. Doctor Eisendrath of Chicago has written a paper showing the anomalies of the ducts and showing how easy it is to do serious injury to the bile tract, whether the hepatic duct or the common duct, because of these anomalies. That sort of thing is more apt to happen to the occasional operator than to the experienced abdominal surgeon. So I do not think it is a just statement of the situation to say without reserve that the mortality from the cholecystectomy is not greater than that from cholecystostomy. I think that should be modified by saying—in experienced hands.

I will not touch on the question of duodenal tube drainage, because I have had very little experience with it, but I think it is perfectly right to say that we may expect help from this.

A very interesting thing along these lines is the diagnostic help that we are getting from the use of certain dyes injected into the blood and excreted by the liver into the gall bladder where the dye can be shown by means of the X-ray. Some work of this kind has been done by Doctor Silverman who will tell you more about it.

Dr. E. Denegre Martin (New Orleans): There are certain phases I want to touch upon. First, in regard to duodenal drainage. In a certain type of these cases it is helpful, but unfortunately it is not always reliable from a diagnostic standpoint. I say this because recently in two cases where the internist had been handling the case for me, and where they had, as they thought, obtained the bile from the gall bladder, it was discovered at operation that the gall bladder had been occluded for a long time, the bile came from the liver.

Now, I want to give you this from a personal experience and I give it for what it is worth.

Whenever the lavage was done without salts, I felt worse, but whenever salt was injected, I was relieved, so finally I just took the salts without the tube and got good results. Of course that is an isolated case, but I can tell you this, that we are learning not to depend quite so much upon our laboratory findings. If we would go back and use our brains, use our sight and our touch, I think very often we could make a diagnosis more correctly than if we first send the patient to have his blood count taken, the urine tested and something else done. If there is anything that is misleading at times it is our laboratory findings. I have in mind two distinct cases where even with the laboratory findings I did not think there was anything to warrant operation, and I believe that is the reason these people are living today.

Tubal drainage is a good thing; it has its place; it gave me relief and kept me going for six months until I could be operated upon. I have had better health ever since.

In regard to gall stones, you will find infection the cause in young patients usually very small; in these cases you can drain the bladder and get good results. In the case of old people, however, we have a different condition to deal with. Dr. Maes told you yesterday about drainage in appendicitis in the old. I do not know but what he is right. Cholecystitis in old people as a rule is produced by stones that have been present for years and years and all of a sudden cause an acute attack. In these cases cholecystectomy as a rule means death, because we are dealing with an acute infection, with an old chronic gall bladder. If you do not destroy the gall bladder you have recurrence, because you cannot drain it. I have used a procedure in such cases by which I have been able to save six lives. Here we are dealing with a chronic gall bladder, usually a large stone, and very often the bladder is contracted, though it may be large. If you attempt to take it out you leave a large cul de sac below, into which the pus will accumulate and the chances are you will lose your patient. What I do in these cases is simply to split the gall bladder from the fundus to the duct. If you attempt to drain it only it means a second operation later. If you remove it, you open up new arenas for infection and a high death rate. But by splitting it all the way down and inserting a large cigarette drain you get the same results as in cholecystectomy with less danger. Do not tie the duct; in 24 to 48 hours the bile will begin to flow. In this way you will relieve the congestion. In 7 cases, 6 of my own and one of Dr. King's, all are living and made an uneventful recovery.

Dr. P. B. Salatich (New Orleans): I do not think any surgeon has a right to operate on a

gall bladder on one or two examinations. Before deciding whether you are going to operate a gall bladder a thorough examination of the patient should be made, the case should be studied so that you know what your patient can stand. Some of these patients I have had come to my office every day for a week, so as to study the amount of trouble present and the best operation to perform either removal or drainage.

As to symptoms, you will find that as a rule you will have more symptoms and more disturbances in an infected gall bladder than with gall stones. You do not very often run against an infected gall bladder in doing a laparotomy, but you do often find one containing gall stones.

As to the operative procedure, very often we ask ourselves the question what is best to do?—that is a big question. If your patient is old, he or she will not stand much surgical trauma, and I believe those cases do better if they are not too long on the table and operated under local. Go in there, take the gall stone out, put in a drain and get out quickly. I have had one patient eighty years old who got over the operation very well. In a young subject after you get in you have to decide on the findings: If you find the gall bladder is entirely surrounded by adhesions, it is diseased through and through. You drain that gall bladder, you create more adhesions and more disturbance than you had before. That gall bladder should be taken out always if the patient's condition warrants it. If you find a kink and drain the gall bladder you will not relieve the patient. If the gall bladder is freely movable without signs of disease and with few stones, you may remove the stones and allow the gall bladder to remain and probably the patient will not have much trouble afterwards.

In some of these cases where they are jaundiced, and you examine the ducts and find some adhesions, if you take the gall bladder out you will probably regret it when you have to go back again and correct the condition. If the patient is not too jaundiced, you can do a cholecystoduodenostomy; if the case is bad, drain the case, get rid of the jaundice, and then go back the second time and do a cholecystenterostomy. As to the technique, as a rule it is seldom you find the arteries in front of the duct. By pulling the gall bladder out with large curved forceps, you can use blunt dissection to free the cystic duct. If you do this you very seldom injure the common duct, and it is almost bloodless. By stripping away the fat and the peritoneal fold, you can get entirely around the duct and isolate it so you can put the forceps above and below and cut it and after you have cut you can clamp the artery. It makes a difficult case comparatively

easy especially where you have a deep gall bladder.

Dr. D. N. Silverman (New Orleans): There are many points relative to the formation and treatment of gall stone, but I want to speak of the gall bladder itself and call attention particularly to those cases where there is gall stones. We should not make a diagnosis of gall stones without a survey of the intestinal tract and the other organs which are related to the gall bladder and its diseases. One point in reference to this is the metabolism. I believe it has been definitely shown that the disturbed cholesterol metabolism in cholecystitis has been the predisposing cause of the formation of stone.

With the removal of the stone, which is essential, we have to deal with the underlying factors which cause this disease, some of which we do not understand and some of which are at hand at the present time. I would like to say a few words in regard to diagnosis by the use of duodenal drainage. Unless the drainage is done in a definite and systematic way, we cannot expect to get any information from the gall bladder and liver. Just as the urologist in a definite way examines the kidney, the ureter and bladder, we are examining the duodenal tract. I do not believe you can examine the gall bladder and liver by simply passing a tube and aspirating bile which in a large majority of cases comes from the stomach. Therefore, we resort, always, to a very useful means of locating the tube, which is the fluoroscope. If you go into the duodenum, controlled by the fluoroscope, you know you are there and you can examine the bile from the liver and gall bladder and differentiate it from the findings you have already secured from the stomach and duodenum. In other words, it is a survey and a differential diagnosis. You get nowhere by simply examining the bile unless you understand what is going on in the stomach and duodenum. Microscopical findings on the bile are of great significance. We have found bile which we believed came from the gall bladder, which contained a considerable amount of cholesterol crystals. Backing up this finding it was observed, on operation, that the gall bladder was more or less full of cholesterol crystals, some in the form of stone.

As to the diagnosis, at the present time we have something that will often tell us when the cystic duct is obstructed, and that is the intravenous use of dye preparations. These dyes are injected into the blood stream, and if the preparation cannot enter the gall bladder, the diagnosis is usually cystic duct obstruction. Following Graham's method of visualization of the gall bladder by the use of these dyes, Doctor Menville and I have

experimented with the effect of duodenal drainage on the gall bladder. Our work has been of value in the diagnosis of gall bladder diseases. We found that a gall bladder whose walls were functioning, and were not distorted by adhesions, would react to the injection of magnesium sulphate into the duodenum and duodenal drainage, but it was necessary in nearly every case to use the repeated injections in order to get an appreciable contraction of the gall bladder. On the other hand, we have seen cases which would not respond to drainage. In some cases where we used repeated stimulations of magnesium sulphate, there would be no drainage of the gall bladder itself, but at operation some of these gall bladders were found to be distorted. In one or two after giving magnesium sulphate we found obstruction of the cystic duct, which was partial when we made our examination, but was complete one week later at operation.

Dr. Louis Abramson (closing): I want to thank you gentlemen for the interest you have taken in my paper. The reason there is such a difference of opinion is because I do not think the subject has ever been satisfactorily settled.

As far as the operation for removal of the gall bladder is concerned, I do not think there are any positive rules to show that you must do this or that. I think it remains within the judgment of the surgeon whether in that special patient operation and removal is indicated. As Doctor Martin indicated, there are cases of old people where some physical condition will not warrant the removal.

My remarks were based, not on the individual surgeon's work, but the collective work of several thousand in which the consensus of opinion of good surgeons was that the removal was the better operation when it could be done. Duodenal drainage, I think, is a very valuable diagnostic therapeutic means and it will relieve a certain per cent. of mild cases.

INCIDENCE AND CAUSES OF HEART DISEASES.*

A. B. HARVEY, M. D.,

TYLERTOWN, MISS.

The department of health in New York City, reports 1½ to 2% of heart defects in one-quarter million examinations of school children. This same department has estimated about 2% of adults are in

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need of medical attention for heart diseases.

The reports of the draft boards during the World War revealed that 4% of the boys were rejected on account of heart diseases.

Statistics from civil life present comparative figures which permit concluding that approximately four million people are affected with organic diseases of the heart. Fourteen per cent of total deaths in the registration area of the United States result from heart disease. Not less than two hundred thousand deaths from the same cause, occur annually in this country as a whole, and this number is increased by not less than ten thousand each year, causing an appalling mortality of one death in slightly less than every five from all causes whatsoever, in persons of forty years or older; and one death in about every eight of the total deaths from all causes at all ages.

These figures reduced to more comprehensive terms, disclose the fact that every three minutes during the twenty-four hours, a death results from heart disease in the United States.

In the State of Mississippi for the year 1923 heart disease as a cause of death is a close second only to tuberculosis in all its forms. Six-one-tenth per cent. of the total deaths reported to the State Board of Health died of heart disease.

The causes of heart disease are numerous, but rheumatism leads the list, followed closely by such diseases as scarlet fever, diphtheria, infected tonsils, and teeth, and cryptic foci. According to Cabot of the Massachusetts General Hospital, the three main causes of heart diseases are rheumatism, which he places at 40%, hypertension 40%, and syphilis 12%.

In order to give some of the rarer causes of heart disease, a simple classification is made and the causes under each enumerated.

Palpitation is a common complaint of the hysterical and neurasthenic. It may occur during puberty, menstruation, and menopause. Fright always, tea, coffee, tobacco and alcohol sometimes causes palpitation. But of a more serious nature, is palpitation due to organic disease of the heart.

The arrhythmias are produced by any condition which decreases the conductivity or increases the irritability of the bundle of His, or "The Pacemaker." Deficient contraction and the extrinsic nerves also give irregular hearts. Such conditions may be found in the debilitated and neurasthenic. Toxic agents, as tea, coffee, and tobacco, and the poisons from the infectious diseases are causes of irregularities. Flatulence and high blood-pressure are sometimes etiological factors. Organic disease of the myocardium often produces an irregular pulse.

Fibrillation is not an uncommon functional disturbance, auricular fibrillation being the commonest one. The most common etiological factor is mitral stenosis.

Tachycardia is found after any emotional disturbance, violent exercise, during most of the fevers, and sometimes during menopause.

Bradycardia is physiological in those who have inherited the condition, and in women during labor. It occurs during convalescence from the acute infectious fevers, also, in cancer, jaundice, emphysema, and nephritis. With some individuals toxic agents, as tobacco and coffee, instead of increasing the heart, slows its action. In anemias, chlorosis, diabetes, apoplexy, epilepsy, and tumors of the brain we find a slowing of the heart.

Heart block, the last of the functional disturbances, is caused by arterio-sclerosis, syphilis and digitalis. It is sometimes met in the neurotic.

Hypertrophy, which involves the whole heart, or one or more of its chambers, has its etiology in disease valves, pericardial

adhesions, sclerotic myocarditis, over action, arterio-sclerosis and high blood-pressure.

Dilatation results from any condition which increases the pressure within the cavities, or causes weakness of the muscular walls. It results from the same causes as hypertrophy, but is more likely to prevail when the nutrition of the heart muscle is seriously impaired, or when the strain is very sudden and severe. Thus, violent physical exertion in persons out of training may cause acute dilatation, even in the absence of any degenerated changes in the myocardium; and this condition may also occur in the course of acute infectious diseases, if retrograde changes develop in the myocardium, even though the intracardiac pressure is not increased. Anemia, chlorosis and other states of general malnutrition not rarely lessen the tonicity of the heart muscle to such a degree that simple dilatation ensues.

The etiology of acute cardiac insufficiency may be wounds of the heart, rupture of the valves, rapid effusions into the pericardium, access of air into the chambers of the heart, large thrombi in the cavity of the heart, sudden interference with coronary circulation, mechanical interference with the heart, acute infections, as diphtheria, certain drugs, as pilocarpin, and stimulation of the vagi nerves.

Chronic cardiac insufficiency may result from diseases of the heart muscle, from diseases of its valves, from diseases which affect the vascular fields of the efferent arteries, as asthma, chronic bronchitis, emphysema, from over-exertion, from poison such as alcohol, from adherent pericardium, and from exophthalmic goitre.

Acute endocarditis is rarely primary, but is more often secondary and fortunately more often simple than malignant. The acute simple endocarditis is probably always secondary to an infectious process elsewhere in the body. By far the most frequent cause of the disease is acute

rheumatism, the etiology of which is still undetermined. The frequency of endocarditis in rheumatism has been estimated from 40 to 50%. The mitral valve is the one most frequently affected, the valves of the right heart usually escaping. Chorea is the next most important cause. Other common causes which are related more or less to rheumatism, as acute tonsillitis and focal infection, may also produce simple endocarditis. Pneumonia, septicemia and the exanthemata are responsible for a certain number. Acute gonorrhoea is an occasional cause, though it is usually malignant. The terminal infection in chronic nephritis carcinoma, tuberculosis and diabetes may be an endocarditis.

Malignant endocarditis is observed most frequently in persons between 30 and 45 years of age, and is uncommon in children. Lowered vitality from overwork, alcoholism, debilitative diseases, etc., seem to exert a predisposing influence. In a large majority of cases the disease is secondary to septicemia from open wounds, puerperal fever, erysipelas, gonorrhoea and pneumonia. Less frequently it occurs in the course of a specific fever, as scarlatina, diphtheria, measles or influenza. Occasionally it is associated with furunculosis, or focal suppuration in the middle ear.

Chronic endocarditis may be primary or secondary and is surprisingly frequent. At autopsy in several hospitals in Germany from 4 to 9% were found to have chronic endocarditis. It results from high arterial tension, as a sequel to acute endocarditis, certain poisons, as lead and alcohol, from syphilis, gout, specific fevers and prolonged muscular exertion.

Chronic valvular disease—this term is applied to all chronic conditions of the valve cusps, or of the tissues adjacent to them which give rise to a stenosis or an incompetency of the valves. The lesions are brought about in various ways and sometimes more than one cause is operative. In more than one-third of all cases and at least three-fourths of the cases in

children and adolescents the changes are traceable to an antecedent acute endocarditis, the result of rheumatism, chorea, tonsillitis or some other acute infection. Not rarely a local focus of septic infection in the tonsils, gall bladder, Fallopiian tubes or elsewhere give rise to recurring attacks of acute simple endocarditis which ultimately result in permanent structural changes in the valves. Syphilis is an important factor after middle life, also arterio-sclerosis and chronic nephritis. Relative incompetency is due to chronic myocardial diseases. A small proportion of cases are congenital. Finally in rare instances one of the valves, usually the aortic is ruptured as a result of sudden physical strain or trauma.

Conclusion.

It is readily seen that cardiac diseases are extremely common, the greatest single cause of death today. While the causes are numerous the main ones are only a few. And in order to make this a safer place in which to live Prevention and not Treatment is the basic factor in heart diseases.

APPENDICITIS IN THE LATTER WEEKS OF PREGNANCY.*

(Case Report.)

E. A. FICKLEN, M. D.,

NEW ORLEANS.

The development of acute appendicitis in the latter weeks of pregnancy is a comparatively rare occurrence. DeLee reports that he has observed four such cases in the thirty years of practice, and in Baude-locques Clinic one case was found to each 11,497 admissions. Favreau and Chatput state that a collection of statistics gives approximately one case in 10,000 pregnancies. Mestivier reported a probable case in 1759, but it was not verified, as appendicitis was, of course, not recognized as a clinical entity at that time. Hancock, in

1848, in an address to the Clinical Society of London, stated that he had drained an abscess in the cecal region seven days after a five months miscarriage. Kirn, in 1885, performed an autopsy on a case that had developed a fulminating appendicitis at the end of gestation. The perforated appendix was found adherent to the uterus. In 1894 the first case was operated on by Munde. Up to 1902 only thirty-one cases had been collected by Boje of Helsingfors, but by 1910 the medical literature of Europe, the United States and Canada, contained reports of 500 cases. Findley in 1912 reported fifteen personal cases, five of which occurred during the puerperium, one during labor, and the rest during pregnancy. Ten were severe, and of these 7 recovered, and three died. One fatal case refused operation.

According to Heineck "During gestation every type of appendicitis may occur—adhesive, catarrhal, gangrenous, ulcerative, obliterative, perforative, and suppurative." There is no argument on the score of the different types of appendicitis encountered during gestation, but in running over the literature one is struck by the divergence of opinion as to treatment of the different authors. It is well known that a large percentage of women suffer with right iliac pain, with or without other symptoms of appendiceal disease, during pregnancy. What particular syndrome justifies operative interference, and under what circumstances are we justified in waiting? As will be mentioned later, the stage of pregnancy is a definite factor to be considered. During the first four months the problem is similar in the gravid and the non-gravid. After that time, due largely to mechanical changes, appendicitis is apt to run a more severe course, and operation is a more formidable procedure. To illustrate my standpoint, six cases have been personally seen within the past twelve months who showed definite evidences of appendicitis, probably, most of them, the mild recurrent catarrhal type, during pregnancy. One, here reported, was operated on, one has had three

*Read before the Orleans Parish Medical Society, May 25th, 1925.

brief attacks during this pregnancy, and is under observation. One delivered, but had a stormy puerperium. One had an uneventful delivery, but has had a subsequent attack, and will be operated on later. The fifth delivered a month ago, having had three attacks during the pregnancy, and one before, and the sixth suffered from chronic appendicitis before this pregnancy, and is now in her fifth month, having had one attack. Such cases are duplicated in every obstetric practice, and are picked at random. It is my opinion that if the pain is not excessive, if there is only moderate nausea, if the leucocyte count and the neutrophile percentage remain low, and especially if the symptoms begin to abate within three or four hours of the onset, conservatism is justified. The general appearance of the patient, the amount of rigidity, the degree of tenderness, the viability of the fetus, are all to be taken into consideration.

The opinion here expressed is by no means universally accepted. Heineck says "Pregnancy is an additional indication for operation in appendicitis." Cocke and Mason state that they are entirely opposed to the teaching that in the latter months of pregnancy operation should be reserved for suppurating or perforated cases, and that patients are given a better chance of recovery if early removal precludes the danger of perforation or gangrene. Dr. Curtis, of Chicago, believes that every actively diseased appendix should be removed without regard to the stage of pregnancy. Murphy, of Chicago, discussing Findley's paper, asked "If we can diagnose the condition, what is the excuse for waiting?" DeLee thinks that in case of doubt it is safer to operate. Unquestionably both conservatism and radicalism may be carried to a dangerous degree in unskilled hands, but it is only fair to put in a plea for protection of patients against hasty operation and its attendant dangers. It cannot be too clearly emphasized that the more severe the case, the clearer the diagnosis. Chronic appendicitis, mild catarrhal

appendicitis, obliterative appendicitis, invasion of the appendix by intestinal parasites—would these justify operation during pregnancy? Can any of us be sure until after the exploration that any of the above diagnoses are tenable? Is a prophylactic appendectomy during pregnancy ever a correct surgical procedure? An affirmative answer would sound too much like a manifestation of the furor operandi.

The length of this paper does not permit full discussion of the effect of chronic appendicitis on the female generative organs. Suffice it to say that it is contended that inflammation of the appendix may spread to the ovary, tube, or parametrium, by direct extension, or continuity, through the lymphatics, or by way of Clado's ligament, and that sterility, sub-involution, and uterine inertia have all been ascribed to disorders of the appendix. It is even thought that adhesions in this region may hinder the emergence of the uterus from the true pelvis.

Diagnosis: In typical cases the first symptom is a vague abdominal pain, first felt in the region of the umbilicus, and later in the right iliac region. Nausea and vomiting soon follow. The point of greatest tenderness is above and to outer side of McBurney's point, but may be median. The temperature is low during the onset, and the pulse-rate is not necessarily changed. The fetal movements are always more noticeable, both to the patient, and to the examiner. Later the rhythmic contractions of the uterus are increased in frequency and intensity. Leucocytosis is soon marked, with a high neutrophile percentage. A careful search must be made for signs of infection of the right kidney and ureter, and the previous history of the case reviewed to eliminate adnexal disease. In latter pregnancy bi-manual examination is not satisfactory, as the suspected organs lie beyond the reach of the fingers in the vagina. DeLee states that most mistakes are made with ureteritis and ureteral stone. Pyelitis with a blocked right ureter, except

that it is usually ushered in with a chill, would be difficult to distinguish without catheterization of the right ureter. If routine examinations of the urine have all been negative for pus, this possibility could be ignored. Cholecystitis, pancreatitis, intestinal obstruction, torsion of the pedicle of an ovarian cyst, all merit consideration. Eclampsia frequently starts with epigastric pain, but the blood pressure and the urinary findings, combined with the eye symptoms, and, later on, convulsions, render this differentiation easy.

There will always be a certain number of cases in which the diagnosis is in doubt until the abdomen is opened, but an exploratory operation does no harm if a condition amenable to surgery only is encountered. The operator for this especial reason must be on his guard against non-surgical affections of the genito-urinary tract. This problem is not peculiar to the differential diagnosis of appendicitis in the gravid woman, but is common to the differential diagnosis of right-sided abdominal pain in general. Stress is laid on it here simply because an exploratory operation is not to be lightly undertaken in the latter months of pregnancy.

Illustrative cases: In a case reported by Wallace, the onset of appendicitis was thought to be the first stage of labor, and operation was deferred forty hours. A perforated appendix was removed.

In Grattan's case of gangrenous appendicitis coincident with labor, the first symptom was epigastric pain. A little later the pain was localized in the right iliac fossa, and at the same time, dilatation of the cervix, associated with intermittent pains, indicated the onset of labor. Operation after 72 hours disclosed a gangrenous appendix. The child was lost.

Cocke and Mason report a case in which persistent and severe vomiting, associated with abdominal pain, was complained of three weeks before the expected confinement. The vomitus contained bright red

blood. The maximum temperature was 99.2. An acutely inflamed appendix was removed on the third day.

Favreau and Chaput treated a 2-para who had violent pain in the right flank during the six months of pregnancy. There was no muscular rigidity, and the tenderness was diffuse. The pains subsided on the fifth day, and a purgative was given. The temperature then rose to 102, and the pain returned. Still there was no vomiting. A fluctuating mass was felt in the cul-de-sac, and colpotomy released 500 c.c. of foul pus mixed with gas. They account for the atypical symptoms in this case by reporting it a case of pelvic appendicitis. It is easy to suppose that acute inflammation in an appendix that has dropped into the small pelvis, and has been held there by adhesions, might cause symptoms that would defy positive diagnosis.

Treatment: Immediate operation in severe cases is urged by all observers. Findley, quoting the statistics of Wagner, affirms that the mortality of non-operated severe cases is 77%, against 6.7% in cases of all grades of severity in which operation is performed within 48 hours of the onset of symptoms. Untreated cases may go on to the formation of an abscess in the cul-de-sac, as illustrated in two cases reported by Rider. In these drainage through the rectum was successful, and pregnancy was not interrupted. Opinion is still divided as to when a cesarean should or should not be performed. Up to the end of the fourth month, laparotomy is comparatively well borne by the pregnant woman. Abortion need not be feared unless there is considerable manipulation of the tubes or ovaries, or unless there is high fever accompanied by toxemia. Witness the numerous cases of fibroids removed without terminating pregnancy. For this reason, appendectomy may be done up to the fifth month by the same technique whether the woman is gravid or not. Unless there are extensive adhesions, or suppuration is present, abortion is unlikely. After this period, Hirst

advises a median incision, lifting the uterus out of the abdominal cavity to facilitate removal of diseased structures. If it is necessary to lift the uterus out of the cavity after the seventh month, he advises emptying it by cesarean section before it is replaced. He advocates amputation of the uterus if drainage is necessary. Ross, of Indianapolis, said that he would certainly not empty the uterus by cesarean section in the presence of a ruptured appendix. Heineck believes that "Every effort should be put forth to prevent miscarriage. Interruption of pregnancy is not indicated, as it increases the danger."

DeLee, in his latest edition, gives the consensus of opinion as to the type of operation. Briefly, it is this: In the presence of wide-spread infection, amputate the uterus, and drain from below. This is safer for mother and child. If the appendix is merely acutely inflamed, the pregnancy is not to be terminated, since it may go to the term. If there is localized abscess formation, it is best simply to drain, and allow firm adhesions to form. Rest and morphine are to be used as much as possible to defer premature delivery. He says that Kronig advises drainage of abscess, cases followed by vaginal cesarean section, which in turn is followed by inspection of the abscess cavity. Any breaks in the wall are to be closed by fine suture. He does not endorse this advice, and it is doubtful if the average surgeon could be persuaded of the advisability of vaginal cesarean section under such circumstances.

The escape of cloudy serum as the peritoneum is opened is a constant phenomenon encountered when operating on fulminating appendicitis. It does not mean wide-spread infection, and is not an indication for drainage, nor for radical cesarean section.

The following case is an example of the typical clinical picture, both as to onset and post-operative progress:

Mrs. H. E., aet. 34. One child 15. Two months abortion 8 years ago, said to have been spontaneous.

No serious illness. Has always suffered from dysmenorrhoea. General physique slight, but free from organic disease. She had suffered greatly from nausea and nervousness during her previous pregnancies. The expected date of confinement was Feb. 10, 1925. She reported to me when six weeks pregnant complaining of constant nausea. She ascribed tenderness on the right side of the abdomen to ovarian trouble of four years duration. Examination by a gynecologist was negative, except for a doubtful finding of induration of the uterus. There had been no definite attacks of pain, no nausea nor vomiting, but obstinate constipation.

When six months pregnant, she had a hard attack of right iliac pain, with one degree of fever. She was confined to bed for two days. No blood count was made. The urine was negative. After a few hours of colicky pain there remained only slightly increased tenderness. Mild sedatives were sufficient to make her comfortable. There was never any rigidity of the abdominal muscles. One month later she had a similar attack, but without fever, and remained in bed three days. Again simple sedatives were given, and the peak of the attack passed quickly. She did not seem to be seriously ill in either attack, and operation was not urged. The blood-pressure during the pregnancy ranged from 110 to 115.

Dec. 19, at which time the pregnancy was approximately 7 1/2 month advanced, I was called at 2 a. m. She was suffering acutely with pain over the entire abdomen, more marked on the right side. The fetal movements were much more active than usual, and added greatly to her discomfort. She was given morph. gr. 1/4 with only temporary relief. There was moderate rigidity of the entire right side of the abdomen. The temperature was normal. Her husband was not in the city, and delay did not seem dangerous, as he was expected back shortly, and as two previous attacks had subsided so quickly. The next day the symptoms were intensified. Nausea was persistent, and there was occasional vomiting. She complained bitterly of pain caused by the movements of the fetus. She was extremely nervous, but did not seem to be ill. The respiration was 20, the temperature reached a maximum of 99, and the pulse remained below 100. She was constipated. There were no bladder symptoms.

Dec. 21, the third day of illness, a blood count was made. This showed 22,000 leucocytes with 92% neutrophils. The husband returned, and she was carried to the hospital at once. On admission the temperature was 98.8, and her general condition was the same as the day before. The bowels had not moved since the beginning of the attack. No mass was palpable, but there was agonizing tenderness above and to the outer side

of MacBurney's point. The urine showed a few granular casts, no albumin, and no pus. The fetus moved constantly in spite of opiates.

Under ethylene anaesthesia a six inch incision was made. This was carried from just below MacBurney's point upward toward the tip of the twelfth rib. The fibres of the internal oblique and transversalis were partly divided, and partly retracted, to get proper exposure. When the peritoneum was opened about two ounces of cloudy serum escaped. The proximal half of the appendix was atrophied, but the distal half was acutely inflamed, cherry red, and adherent to the tube and to the uterus. Removal by the usual technique would have been easy except for the presence of the uterus. In spite of continuous traction on this organ with pads, the appendix lay at the bottom of a deep crevasse, with the uterus on one side and the iliac fossa on the other. A median incision with eventration of the uterus would have reduced the time of operation greatly, but if subsequent cases are encountered, the patient will be placed on the left side so that gravity will help to clear the field. The wound was firmly closed without drainage. There was no shock, though the operation lasted almost an hour.

Microscopical report (Dr. Lanford): "The specimen consists of a piece of tissue 5 cm. by 1 cm. Attached to the central portion of this is another piece of tissue measuring 8 cm. in length by 3 cm. in diameter. The first piece is rough and irregular on the surface, showing many tags of fibrous adhesions. The color varies from light pink to deep purple. Incision shows it to be hollow. The lumen is patent containing a small amount of serum. The wall is moderately thickened. The long piece of tissue also shows many tags of fibrous adhesions. It has a thin wall and incision shows the lumen to be patent, containing a small amount of blood serum. Diagnosis: Gangrenous appendicitis."

The day after operation the urine showed a faint trace of albumin, 2 plus acetone, and no pus. There were a few granular casts.

Dec. 22 there was a slight bloody vaginal discharge. The cervix was not dilated. The fetus was lying in O. L. A. position. No fetal movements were felt by the patient, possibly because she was getting morphine every four hours, but the fetal heart sounds were clear. The abdomen was distended. The next day the stomach was dilated, and there was persistent vomiting of small amounts of brown fluid. Gastric lavage was necessary Dec. 23 and 24. The pulse remained good. Late in the afternoon of Dec. 24, on the fourth day after operation, she began complaining of low back-ache, and at 6 p. m. there was a

bright bloody vaginal discharge. Dilatation was complete at 8:50 p. m. and exactly half an hour later she delivered a male child weighing 5 lbs. 7 oz. The child was obviously premature, but cried easily and was vigorous. The second stage of labor was conducted under ethylene and progressed smoothly and rapidly. The mother was not allowed to use the voluntary forces. The distension persisted even after this, and the duodenal tube was necessary for the next three days. Peristalsis was finally re-established after repeated doses of pituitrin and numerous enemas. On the fifth day after operation the temperature rose from 99 to 101.5, and a heavy colon bacillus infection of the wound developed. Free drainage was established by the removal of silk-worm gut sutures, but there was extensive sloughing of the aponeurosis of the external oblique. Fortunately no fecal fistula developed, and so far (May, 1925) there is no post-operative hernia.

Dec. 30, the urine was found to be loaded with pus cells, and still showed a trace of albumin. She felt sufficiently well to go home Jan. 4, but promptly developed pyelitis, the attack being ushered in by a hard chill, high fever and back-ache. She was transferred to a urologist, who found both pelvis infected. It is interesting to note that he also reports a stricture of the right ureter at the pelvic brim, the point of closest contact with the inflamed appendix.

The baby now weighs over fourteen pounds, and shows no ill effect from prematurity. The mother, under normal weight, but has been free from fever for five weeks, and is regarded as almost cured.

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DISCUSSION.

Dr. J. F. Dicks (New Orleans): Dr. Ficklen is certainly fortunate to report a case of ruptured appendix during the latter weeks of pregnancy. Dr. DeLee, with thirty years of experience to his credit, reports but four cases; in ten years' experience I have not seen one ruptured appendix in the latter weeks of pregnancy. In the earlier months of pregnancy, up to six months, we do see appendicitis fairly frequently, but no more so than in the ordinary run of cases. The fact that a patient is pregnant does not, in my opinion, predispose to appendicitis.

The important factor in appendicitis in pregnancy is how to manage these cases. My great

trouble has been that, if you operate, you bring on an abortion. About thirty per cent. of my cases have aborted in spite of every care having been used not to manipulate too much. My plan lately has been not to operate unless absolutely necessary, and when you do operate use a local anaesthetic and keep your patient well under morphine for thirty-six hours.

Dr. E. H. Walet (New Orleans): I have had occasion to operate a number of times for acute appendicitis in the early months of pregnancy, but can recall only one case in the latter months (about the end of the seventh month) with acute appendicitis. The case was called to my attention probably in the middle of the day, and after seeing the patient who had been absolutely well up to then, it was easy to make the diagnosis. She was immediately sent to a hospital and an emergency operation performed for acute appendicitis. The appendix was about to rupture, very erectile—I believe it would have ruptured within twenty-four hours. I do not remember that my patient was very different from the ordinary, or the case unusual in any way, except that I considered it very fortunate the appendix was accessible. As soon as the McBurney incision was made it stood up like a finger. I secured a broad, gentle retraction and worked in that narrow channel, removing the appendix in the usual way without difficulty. At the time the blood count showed a high leucocytosis and neutrophile percent. The other cases were at different periods, possibly three to four months pregnant.

While I have not had an enormous amount of cases, I have performed a sufficient number of operations to lead me to believe that I would not hesitate to operate on a pregnant woman any more than on a non-pregnant woman, provided the diagnosis had been established and did not rest between appendicitis and a complication of pregnancy, pyelitis, etc. My experience has been that all these patients have done well, as well as the average case, and made uneventful recoveries. I am not speaking of cases of rupture, or about to rupture, nor gangrenous appendicitis. While I did not use local anaesthetize, I believe existing conditions are the best indication of the anaesthetic to be employed. Were another case to come under by observation, I would operate as early as possible, feeling that the earlier you operate the less advanced the pathology and the better chance for an uneventful recovery.

Dr. Walter E. Levy (New Orleans): As a rule, I am opposed to the asinine custom of congratulating the essayist, but I think Dr. Ficklen deserves to be, as he has brought out something tonight that is really worth while. Acute appendicitis in the latter weeks of pregnancy is rare,

and I have not had, or seen a case at Touro or elsewhere. The points Dr. Ficklen brings out in regard to the difference between appendicitis and pyelitis are well taken. We have had five cases sent to our service with a diagnosis of appendicitis complicating pregnancy and the whole five were cured by ureteral catheterization, thus establishing the diagnosis of pyelitis. The point is not when to operate, but when not to operate. To be reasonably sure, one must be absolutely sure of diagnosis. The fact is that the pregnant uterus rotates to the right, due to the sigmoid on the left side; as the ureter crosses the brim of the pelvis, at this point, the pregnant uterus may cause a temporary stricture or blocking of the ureter. Now, what more do we want as a cause for right-sided pyelitis? As we have stasis, heat, moisture, and protein decomposition—the ideal environment and nidus for bacterial growth. And you do get pyelitis, as a right-sided pyelitis does occur in many cases of pregnancy. With further reference to the differential diagnosis: virtually all cases of pyelitis are similar, temperature and chill, leucocytes 15,000, and the differentials count over 85%. I think that tallies with the high leucocyte count mentioned by Dr. Ficklen.

The point I wish to stress is, that in the great temptation to go in, and operate, be sure you are not dealing with pyelitis.

Dr. A. Mattes (New Orleans): When there is right sided pain in pregnancy and the diagnosis of appendicitis has been made there are but two alternatives, either rest treatment is indicated, or surgical treatment. In regard to right ureteral infection, Dr. Ficklen mentioned that right ureteral conditions were excluded in all his cases, and as his subject is appendicitis of pregnancy and not pyelitis, renal conditions could very well be omitted from the discussion. However, it is to be remembered that pyelitis does occur and there are times when an error is made in diagnosis. The fact that urinalysis proves negative is no evidence that there is no infection on the right side. Recently I saw in consultation at the Charity Hospital a woman in her six months of pregnancy having right sided pain. From cystoscopic examination very little information was obtained. The urine from right and left sides was negative. There was no evidence of retention. She was diagnosed as having appendicitis. After several days of rest treatment I was asked to make a cystoscopic examination and ascertain if there was any right kidney or ureteral condition present. A second cystoscopic examination showed the presence of stasis in right ureter and pelvis. An excess of fluid was aspirated from the right pelvis. Colon bacilli and staphylococci were noted in bladder and kidney urines. Pyelogram and

ureterogram showed a dilated pelvis, dilatation and constriction of the ureter with some ptosis at the kidney and a definite angulation at the uretero pelvic junction of the ureter. This case did not have appendicitis, but angulation of the ureter, ptosis of the kidney and secondary infection of the renal pelvis. In many cases of pyelitis there is back pressure in the ureter with accompanying stasis and in some cases more or less complete retention. These cases require several examinations and treatment to properly exclude the pressure of an associated appendicitis. The urine may be negative, and the symptoms produced simulate appendicitis. However, I did not arise to discuss appendicitis versus pyelitis, but merely to state that pyelitis as well as right renal stasis will occasionally give symptoms that cannot be differentiated from appendicitis in pregnancy unless careful examinations have been made.

Dr. H. E. Bernadas (New Orleans): Dr. Ficklen operated on this case. I would like to ask him if he had seen any case where the inflammation had extended to the ovary? I had a case in the fifth month of pregnancy, and on opening the abdomen the surface of the ovary on that side was quite inflamed and adherent, the appendix was removed simply because I was in—it did not have the appearance of being diseased—yet, on opening it, there was about one drachm of loose pus within the lumen.

I wish to emphasize the use of morphine to keep the patient from aborting.

Dr. J. S. Hebert (New Orleans): I wish to say just a few words which may account for another source of pain in the region of the appendix in pregnant women. A positive decidual reaction in the appendix has recently been demonstrated. Might not this congestion account for a certain amount of pain in some cases?

Dr. E. A. Ficklen (closing): It has also been pointed out that transplants of endometrial tissue have been found in the appendix. This may account for the frequent coincidence of appendicitis and menstruation. The case cited by Dr. Bernadas, in which an acute ovaritis was associated with suppurative appendicitis, was probably an illustration of the spread of infection from the appendix to the right ovary by way of the appendiculo-ovarian ligament. One case was observed by me, in which a ruptured early tubal pregnancy, with pelvic peritonitis, was diagnosed as a ruptured appendix. No distinction could have been made before, the abdomen was opened.

It has been pointed out with justice that an examination of a catheterized specimen from the bladder is not always sufficient, and that catheterization of the right ureter is sometimes necessary for accurate diagnosis.

Various theories have been advanced to explain the development of appendicitis during pregnancy. The upward dislocation of cecum, obliteration of the lumen of the appendix by pressure, and the constipation of pregnancy, have all been noted. Against these theories is the fact that acute appendicitis during pregnancy is rare.

RADICAL FRONTAL SINUS OPERATION.*

LUCIEN SYDNEY GAUDET, M. D.,

NATCHEZ, MISS.

The circumstances which prompted me to write this paper and state my experiences in Radical Frontal Sinus operations, is of more than passing interest.

While attending one of the large clinics last year, several Otolaryngologists were gathered together, of whom the most may be called nationally known, were discussing different things of interest to them, when the question of Radical Frontal Sinus operations was brought up.

One of them, a good friend of Dr. Lynch of New Orleans, mentioned his work (Lynch), and the good results that had been obtained, when the question was brought up by another one, who was not familiar with his work, I am sure, of the great number of orbital complications that must necessarily follow, as a result of so much ocular manipulation, and in a way was skeptical of the results obtained. He would have seriously doubted these if Dr. Lynch had not been a man of such unquestioned reputation.

Naturally standing near enough to hear this conversation, and Dr. Lynch having been my instructor and advisor in this work and having had the great privilege of assisting him in several cases of this operation while I was Resident Surgeon of the Senses Hospital in New Orleans, I advanced and volunteered the information that the operation was a success in every

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

way, and all that the surgeon and patient could desire.

The Lynch operation is not only a success, but has many advantages, the foremost of which, is that there is no defor-



CASE NO. 1

mity, a complete cure, and the ability in ethmoid work to reach certain ethmoid cells extending well above and back of the orbit, that never could be reached intranasally. In other words this Radical Frontal Sinus operation gave birth to a more radical ethmoid operation, than could be obtained by any other method, according to my judgment.

This work and operation I wish to bring before you today.

It may be well before proceeding to review some of the anatomical considerations of the frontal sinus region.

The frontal sinuses are two cavities situated within the body of the frontal bone lying between the inner and outer tables and back of the superciliary ridges or eminences. The floor forms part of the roof and inner margin of the bony orbital cavity. The widest portion represents the floor and gradually narrows upward as the inner and outer plates come together. They originate about the seventh year, as an extension of the anterior ethmoid cells. They lie in close contact with the frontal lobes posteriorly, the orbital cavity contents below, and to the inner sides with the nasal cavity and the anterior group of ethmoids, through which pass the nasofrontal duct or canal.

From the above deductions it is a well established fact that variations as to number, size, shape are extremely frequent. They may run from 1 to 4 in number, from 6 to 16 c.c. in size, and from a small pea to the outer edge of the orbital ridge and up to the scalp margin, assuming regular and irregular shapes and forms.

The reason or cause of this is found in the embryologic development and the subsequent pneumatization that takes place. As a rule, the larger the sinus the thinner the walls. There always exists the septal wall, which may be thick or thin, and sometimes found perforated from disease, when multiple.

The size, shape and outlines of the frontal sinus are of great importance from the surgical standpoint, and the topography must be well established and studied by skiagraphic plates before any operative procedure is attempted.

For further anatomical consideration, the writer refers you to any of the text books on Anatomy, and especially Shaeffer and Skillern, as they go into it very extensively.

Neither will I take up your valuable time with the etiology, pathology, symptoms, treatment non-surgical, etc., but will go into the operative detail.

We have all of us, I presume, done some of this work on frontal sinuses, seen the results of the varied operative procedures, some with deformity, some uncured, and some not satisfactory to the operator or patient either.

Of the operation I am going to talk to you about, I am only sorry or rather happy, in a way, that I have only 3 cases to present, but they present 100% results to the surgeon himself, and the utmost satisfaction to the patient who was operated on, for only last month I examined each of these three cases I report, and they were all satisfied and happy and the results were all that any operator could ask for. I was fortunate in getting recent photographs of the cases, which are included with this paper.

Looking over the past we see such operations for frontal sinus described as Killian, Goode, Hale, etc., intranasally, and such as Ogston, Luc as far back as 1884, Kunts, Jansen, Riedel, Lathrop, Killian, Hajek, Beck, etc., extra-nasally, in which Killian's has been the most popular.

From these different operations, surgery has made many advances until the present stage has been reached. Jansen, Reidel, Killian removed a part of the orbital sinus wall or floor, but also removed portions of the outer plate. Knapp removed a part of the floor of the sinus floor at the nasal side.

In the Lynch operation the Knapp operation was continued to the point where all of the floor of the sinus was removed to the remotest outlying edge, thereby converting the orbital and sinus cavities into one large cavity, just as we convert the mastoid antrum and the external auditory canal, and middle ear into one large cavity in the radical mastoid operation.

The success of this operation, however, is not attributable to the above alone, but to the extreme care in the preparation of the patient, and a technique perfectly developed, and carried forward step by step.

Dr. Lynch demonstrated this operation in 1920 before the A. M. A., and it is fully described in his reprints, and also on page 289 of the April, 1925, number of the *Southern Medical Journal*.

Patients must be fully prepared as for any other major operation and should be hospitalized several days before the work is done and proper attention given to the nasal and oral cavities.

Ether is always the anaesthetic of choice and a 3% solution of iodine should be applied to the nasal cavities of both sides, gums, teeth, etc., just before proceeding.

Then an application of alcohol ether and tincture of iodine is thoroughly applied to the skin surface to the very edge of the eyelids, after which alcohol is applied and the iodine carefully removed.

A post nasal plug is necessary, after which the eye on the side to be operated on is given some attention. I prefer to use argyrol 10% and then wash it out with sterile water.

The incision is made through the brow, being careful that the eyebrow is not shaved previously, starting at the supra-orbital notch, extending towards the nose to the side and downward following the incision route as outlined by Killian or Knapp. This incision is not made to the periosteum the first time, but we gradually go deeper and deeper to check hemorrhage as we go, because the bleeding at times is quite excessive and troublesome, and much time lost. In making this incision, it is wise to make small cross cuts at intervals along the route the incision will follow, to later bring a proper co-aptation of the tissues when finally closing the wound.

I find it best to stop and tie off the bleeding points with fine catgut as we go along.

Finally as the periosteum is reached, it is cut through, and carefully it is elevated from the lower or eye margin of the wound, being very careful not to tear through into the orbital tissue or fat. The upper side is never elevated.

When the floor of the sinus is exposed, a small chisel and mallet is used to make an opening into same towards the nasal



CASE NO. 2

side. This can be enlarged with a rongeur forceps now to allow careful exploration and measurements with a probe, so as to get the proper dimensions of the sinus. The probe also helps to tell the condition of the wall, etc., before proceeding further. If the probe shows that the sinus extends outward farther than the supra-orbital notch, the incision first made is extended outward as far as the sinus measurements show. By doing this we have more room to work towards the outer angle of the sinus.

The floor is then removed as completely as possible with chisel and forceps, preferably the biting forceps, being careful to hold the orbital contents outward and downward out of the way, with catgut sutures or metal retractors, being careful that the assistant does not make undue retraction or pressure on the eyeball. Here I may say that sometimes in elevating the periosteum at the bridge of the superior oblique or elevating the lacrymal sack, there is some difficulty on account of the strong adherence, but with painstaking and careful work this I have found to be of only moderate difficulty.

After the sinus is exposed I find the Coakley curettes answer my purpose, and in very small corners, I use the Yankauer eustachian curettes satisfactorily, as they seem to get the small shreds of mucous membrane that may be left behind, and have the advantage of cutting in every direction.

After this is done to my satisfaction, I pack this cavity lightly with gauze soaked in iodine, and squeezed moderately dry, and leave same there while I give my attention to the ethmoid region. This gauze sterilizes the cavity, and stops all bleeding or coozing that may take place, but most of the time there is only a little.

The ethmoids are easily reached beginning with the anterior ones, and those extending over the orbit if any, working your way back to the posterior ethmoids, until you reach the sphenoid cavity. The ostium comes easily into view, is enlarged, and you have the full view of the cavity before you. I always make it a habit to probe carefully the sphenoid through this opening before introducing the curette, for any soft spots, that may or may not be pulsating, as we may get into dangerous parts, if through dehiscence or thin walls, we should get into the cavernous sinus or internal carotid artery, as they both lie adjacent to the sphenoid. I usually try and grasp the membrane and peel it out with forceps, and often it peels out nicely, or if we must curette, do so downwards and towards the center. This route has certainly given me chance to do my best sphenoid work so far. After this I usually take a biting forceps and smooth off the uneven edges, and remove parts that the curette did not take away, and pack these parts off with gauze in iodine as with the frontal sinus. This leaves the opening into the nasal cavity to be finished. A portion of the nasal bone, and the upper or nasal process of the superior maxilla are removed best with rongeur forceps, and a large opening is made into the nose. This is for subsequent holding of the rubber drain

and here we use a tube about $\frac{1}{4}$ inch in size, the inner end cut on a bevel and well pushed up into the cavity, and the other end coming out of the vestibule of the nose.

The packs are removed, all edges of the wound cleaned, interrupted catgut sutures are used in the deeper layers, the edges carefully brought together, a very important measure, and skin clips used at about every $\frac{1}{2}$ inch.

The eye is again cleansed, a drop of argyrol instilled and a pad of vaseline, sterile, placed over it, with the usual gauze and bandage dressing following. The post nasal plug is then removed, and patient sent to bed.

The patient is carefully watched. The dressing is left on for 48 hours, unless there is complaint of pain, and the tube allowed to remain in 5 or 6 days, passing a probe to keep it patent, daily.

The three cases following were each done by a new service in the operating room, never having assisted at such an operation before. Where you have trained assistants, the time of the operations is cut down a great deal, and the chances are much better for results.

A word about the previous removal of the middle turbinate. This I do when the middle turbinate shows enough pathology to warrant, otherwise I let it remain in, as I did in the last case in this report.

REPORT OF CASES.

Case No. 1.

T. E. S. White, male, age 26, married, was referred to me on June 2nd. 1923, complaining of intense pain over right eye at that time. Had this trouble periodically over a period of two years past. His family history was unimportant. His personal history was that he was never in perfect health, nervous and underweight and anemic, usual childhood diseases and a history of having had a luetic infection about two or three years before, with intense treatment and that Wasserman's test had been negative when taken 6 months previous. Had a child 18 months old, in perfect health, his wife also was living and in good health.

His appearance was that of being under weight, anemic and nervous and restless. His vision was 20/20 O. U. eyes negative ophthalmoscopic findings negative. Transillumination dark, maxillary antrum and frontal sinus right side, clear left side. Tenderness at Ewing's point and also under right eye. Nasal examination showed some pus under middle turbinate right side, which was increased with suction. Left side showed none. Culture was made and report came back as pure culture of staphylococcus alba.

X-ray report showed right frontal sinus maxillary antrum and ethmoids affected.

The internist reported right lung a little suspicious, with some slight elevation of temperature, pulse faster than normal, a few posterior rales on deep inspiration, which condition was treated and subsequently cleared up.

On June 7th. under local anesthesia, right middle turbinate was removed, and a radical Caldwell-Luc was done of right maxillary antrum which contained some pus, and hyperplastic membrane. This was all cleared out, and patient made a nice recovery.

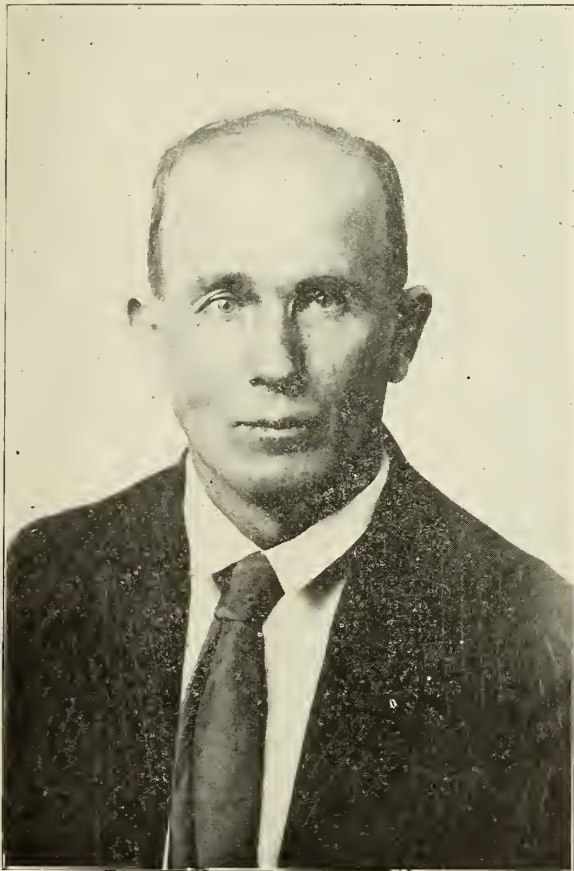
On July 9th. I did a radical frontal sinus operation, Lynch technique, under general anaesthesia, including ethmoids, sphenoid and even explored left frontal sinus. Had considerable bleeding but this was checked with hot packs very nicely. Convalescence ran the usual course until August 15th. when he returned complaining of left frontal sinus. Anterior end of left middle turbinate was removed, a large opening made into sinus on that side intranasally put to bed and by August 22nd. was very much relieved and improved. At this time a Wasserman was considered advisable and was reported a Plus 2. This second flare up of another sinus was thought to be of a syphilitic origin.

For a while patient received intense anti-luetic treatment, but did not do well. Finally he went to the Pacific Coast, did well, and later returned to his home, and is now enjoying the best health he has had for a number of years. His condition is good, and he has not had a recurrence of his former trouble, working daily as a druggist. No diplopia, vision 20/20 O. U.

Case No. 2.

L. E. H. White, male, age 30, logging work, married. Referred to me on August 4th. 1923, giving a history of having for the last 4 years suffered with pain over the left eye, periodic in character and when pain was present worse in the morning hours, and on stooping. Always had a nasal coryza, but could not remember blowing any pus from the nose.

His family history showed nothing of importance. His past personal history was negative. His weight was now 150 pounds, which was approx-



CASE NO. 3

imately normal. His physical examination was given me as negative, urine, Wasserman all negative.

My examination revealed a tender frontal sinus region, worse at Ewing's point, with transillumination dark on that side. Nose showed some septal deflection left side, but not enough to necessitate operative treatment. Vision at that time 20/15 R. E. 20/30 L. E. no eso- or exo- or hyperphoria.

X-ray picture showed left frontal sinus affected, ethmoids seemingly not involved on same side.

On August 4th, 1923, under general anaesthesia the Lynch radical frontal sinus operation performed, cleaning out the cavity well, and also some of the anterior ethmoids, which seemed to be diseased, also some of the posterior group, but as there seemed to be little evidence of pathology a complete exenteration was not done, nor was the sphenoid touched. The middle turbinate was not removed as it seemed to be in good condition.

Recovery was uneventful, wound healing well, and patient was discharged 12 days after in good condition.

On September 12th, 1923, patient reported back to me, and stated he was getting along fine. Had a Vision L. E. 20/30 and 2 degrees eso.- and 4 degrees L. Hyperphoria.

Having seen patient several times since then, and his condition has been good. On April 16th, again saw patient, and his vision in left eye was the same as in the right 20/15, and no esophoria, and only 1 degree hyperphoria.

Case No. 3.

C. C. White, male, age 49, married, works in R. R. round house. For six or eight months has been suffering with pains over left eye worse at times, and when stooping. Suffers more during the forenoon. Started with a severe pain, in the beginning, which lasted about 40 days, after which he discharged a lot of pus from left nostril, and then felt much better for a time.

His previous health has always been good, never any serious illness or operation. Recently some loss of weight. Has several children, all healthy. Family history negative. Transillumination shows dark frontal sinus left side, also has tenderness on pressure at Ewing's point. Wasserman and urinalysis negative. X-ray shows some frontal sinus trouble left side.

Was operated on December 15th, 1924, under general anesthesia, Lynch operation, and on exposing frontal sinus found a large Mucocoele in the cavity, with some purulent secretion as well. Contents were all removed. The ethmoids and sphenoid on the same side were explored.

Patient made not so rapid recovery as the other two, and towards the end of December contracted pneumonia which kept him in bed until the latter part of this past January, but since then he has been doing well.

Complained of diplopia at first, but on last examination did not complain of any. Found 2 degrees, but no discomfort.

ZINC IONIZATION IN THE TREATMENT OF CHRONIC PURULENT OTITIS MEDIA*

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To Prof. Leduc, of Nantes, we owe Ionic Therapy. He discovered the laws which regulate its application, and also the prop-

*Read before the Section of Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Mississippi, Biloxi, May 12, 1925.

erties of many ions. Dr. Friel of Edinburg, Scotland, has perfected this method of treatment and has had much to do with its success. It was introduced at the Eye, Ear, Nose and Throat Hospital, New Orleans, La., in October 1924, and since this date has been used effectively in the treatment of Chronic Purulent Otitis Media.

The term "ionization" is applied to that form of treatment which consists in the introduction into the tissues of particles called "ions" by means of the electric current. An ion, as we remember, may be defined as an atom, or group of atoms, which has either lost or gained electrons, and is therefore either electro-negative or electro-positive. The molecule of Zinc Sulphate, is represented by the formula $ZNSO_4$. When Zinc Sulphate is dissolved in water, a portion of its molecules split up into fragments, namely, an atom Zinc, which has lost two electrons, and a group of atoms SO_4 , which has gained two electrons. The Zinc ion is positively charged, and the SO_4 group is negatively charged.

Ions are capable of independent motion but under the influence of an electric current they move in definite directions. It is due to this control we have of Zinc ions in causing them to flow in definite directions that the success of Zinc Ionization is based.

By experimentation it has been proven that on passing Zinc ions into a solution of albumen by means of the electric current a coagulum is formed. Reviewing the pathology in chronic Purulent Otitis Media, with the theory of chronicity, a discharge which has been allowed to stagnate is invaded by micro-organisms. These micro-organisms, with the decomposition products of the serum and leucocytes, irritate tissue with which they come in contact, and the latter respond by secreting more leucocytes and more serum. This extra invasion or infection of the discharge is the basic factor in the causation of chronicity, other factors may later be

super added, such as polypi and caries. By syringing we may remove the macroscopic mass accumulation of discharge but there remains a thin layer made up of serum, leucocytes, and bacteria adhering to the surface of the mucous membrane. It is the sterilization of this layer whereby Zinc Ionization is so useful.

Serum and leucocytes contain a large percent of albumen, while the micro-organisms contain 98-99% albumen, therefore when the Zinc ions are introduced this whole layer is coagulated, which results in death to the bacteria, and at the same time a sterile barrier is formed between the tissues and the exterior. Irritation has now been removed, thus permitting repair of tissue which revert to their normal activity and rapidly progress towards structural integrity.

Equipment

- (1) A direct or galvanic electric current.
- (2) Rheostat.
- (3) Milliamperemeter.
- (4) Zinc Sulphate Solution (Rx. Zinc Sulphate grs. 75, Glycerine ozs. 2, Aquae q.s. ozs. 35. To be diluted at time of using with equal parts warm water.)
- (5) Two wires, one from the negative and one from the positive pole. There is placed a quadrilateral piece of metal at the end of the negative wire, and a piece of zinc wire or point at the end of the positive one.

The apparatus is so constructed that the flow of the electric current is thru the rheostat, which regulates it, thru the milliamperemeter, which measures it, and then thru the patient via the affected ear. It will be remembered that electricity flows from positive to negative.

Technique

The patient is now placed upon the table in a prone position with the

affected ear uppermost. The quadrilateral piece of metal on the negative pole is firmly attached to the arm above elbow with 6-8 layers wet towel intervening between skin and metal. The ear is now cleansed. Several drops of weak solution cocain and adrenalin are placed in the ear canal and allowed to remain 4-6 minutes, this anasthetizes and shrinks the tissues and allows for more thorough cleansing. With a common medicine dropper the warm zinc solution is placed in the ear canal and churned to and fro, changing the solution several times and until it returns perfectly clear as can be observed in the glass medicine dropper. The ear canal is filled with zinc solution. A vulcanite ear speculum is placed in the solution and the zinc or positive pole is placed therein, being careful that it does not touch the tissues.

We now have a complete circuit for the electricity to flow. The current is turned on and off very slowly, and the operator is to be careful that the circuit is never broken suddenly. The patient may feel a little dizzy at times but this soon passes and the procedure may continue. Three to five milliamperes for ten minutes is most effective. After the treatment the zinc solution is allowed to drain out and on observation a white coating may often be observed in the ear canal, this is coagulum, which is sterile and should not be disturbed, as it acts as a sterile dressing. In three or four days the ear is again inspected, which is either dry, discharging a clear fluid, or shows no improvement. The clear fluid exudate may often be dried by insufflation of sterile powder. Ionization treatment may be repeated in seven to ten days, and altho three ma. for ten minutes has been effective we have increased it to ten ma. for ten minutes without any bad effects.

Results.

All cases of chronic otorrhea were treated as they were admitted to the clinic

and there is a total number on record of 60. In 6 cases both ears were discharging.

At the present time 52 are dry, and of these:

19 cases have been dry 4-7 mos.

17 cases have been dry 2-4 mos.

16 cases have been dry 2 mos. or less.

Duration of discharge (Patients own statements):

12 cases had been discharging 15 yrs. or more.

6 cases had been discharging 10-15 yrs.

5 cases had been discharging 5-10 yrs.

12 cases had been discharging 2-5 yrs.

17 cases had been discharging 2 yrs. or less.

43 yrs. is the longest period of discharge in which the ear is now dry.

Of the 8 cases not reported dry:

2 had mastoid involvement, as reported by X-ray technician.

1 remained dry two months and had a recurrence following a bad cold."

1 Unfavorable (hysterical).

2 Unable to account for no improvement.

2 N. R.

The percent of cases that were made dry by the Zinc Ionization treatment is 80.6.

Summary.

(1) Zinc Ionization is applied to that form of treatment which consists in the introduction into the tissues of particles called ions by means of the electric current. (2) The equipment is so constructed that a continuous electric current can be slowly turned on and measured as it passes thru the patient. (3) Preparation and after-care of the patient is essential to success. (4) There were 60 cases treated with 80.6% made dry.

SOME INFORMAL REMARKS ON THE TREATMENT OF CANCER*

CARROLL W. ALLEN, M. D.,

NEW ORLEANS.

Last October a patient of mine suffering from an inoperable cancer of the rectum asked my advice about the Koch treatment. I strongly advised him to have nothing to do with it, that it had been investigated and pronounced worthless, and that I regarded it as a fraud. He, however, was determined to go to Detroit and consult Dr. Koch. At that time he was emaciated, weighing less than a hundred pounds and was so weak that he had to be carried to the train on a stretcher. Two months later he returned to New Orleans weighing more than 130 pounds, and now weighs 170 and attends to business as usual though there is still some local evidence of his trouble.

I am frank to say that I was amazed at the wonderful improvement in this man. I then called on another patient here who was treated by Dr. Koch at the same time. After talking with these two afflicted persons I was deeply impressed, not only by their personal experience but also by statements concerning others with whom they came in contact while being treated.

A doctor friend whose wife was in a hopeless condition from carcinoma called on me to discuss the matter and as his wife was unable to travel we wired Dr. Koch and received a treatment. In a similar way I received a dose for a hopeless bladder case of Dr. Walther's. With these treatments Dr. Koch sent some directions and information as to what would happen following its use.

The results were so strikingly as he predicted that I became extremely interested.

I looked up Dr. Koch's earlier contributions to medical literature and learned that he had written several creditable

papers on the parathyroid glands, such as one would expect from a high class laboratory man. Dr. Koch's method of procedure in the above work was quite original and his deductions and conclusions were at first not accepted but later were recognized and the proper credit given him. Paton of Glasgow won a triennial prize by a paper on the same subject in which he gave Dr. Koch due credit for what he had done. These papers will be found in the

Jour. Biol. Chem., 1912, XII, 313;

Jour. Biol. Chem., 1913, XV, 43-63;

Jour. Lab. & Clin. Med., 1919, 1,299; and,

Jour. Med. & Surg. Jan., 1918, 1-9;

that by Paton will be found in the

Quart. Jour. Phys. 1917 Nos. 3 and 4

In the A. M. A. Journal of 1913, Page 1649, there is a lengthy editorial devoted to Koch's work on the toxic bases in the urine of parathyroidectomized dogs. Dr. Lewellys Barker on the subject of tetany in a paper read at the Southern Medical Association, in 1922, quotes extensively from Dr. Koch. These papers, are however, of more than passing interest in this investigation as it was through the application of methods of reasoning in cancer similar to those that he used in his work on the thyroid that he feels he was able to recognize the specific toxin which formed the basis of his work on cancer.

Dr. Koch had a batchelors', a master's and a doctor's degree before he obtained the M. D. degree to give him clinical opportunities to pursue his study of cancer. He, however, does not care for the practice of medicine and is not a clinician but strictly a chemist and physiologist.

I was so deeply impressed with the conviction that Dr. Koch had discovered something that at least brought about certain more or less definite reactions indicating some direct or specific effect on cancer that I decided to go up there and make a personal investigation.

*Read before Orleans Parish Medical Society, April 27, 1925.

Arriving there December twenty-seventh I began a systematic study of his cases and saw many in all the various stages of reaction. Everything was absolutely open to my closest scrutiny and Dr. Koch was often not present during my examinations though always available to answer all questions, which he did with perfect frankness, both to me and the patients. Results were not always favorable, some were slow and uncertain, and he expressed doubt regarding others. He stated that 20 per cent of his cases failed to react. All this was done in a spirit of perfect candor and openness that disarmed at once any feeling of the possibility of subterfuge or evasion that may have existed in my mind.

The most interesting and impressive thing was the cured cases; of these I saw a large number and questioned them most closely. There remained no doubt but that they had had cancer as they all gave a perfect clinical history. Some were primarily inoperable, many had been operated with recurrence, the majority had had the usual routine of X-ray and radium. They all had been hopeless surgically and had come to Dr. Koch as a last resort.

The interesting thing in questioning these cured cases was that they all had gone through the same course with its varied reactions and toxemia as those I saw under treatment. This naturally increased my interest and encouraged my closer study of the phenomena which they presented. While many of these were quite sick it was apparent that they were not running a cancer course. The typical cancer symptoms were slowly giving way to a toxemia in which nausea, vomiting, temperature and prostration were the most prominent features with a progressive diminution of pain and finally just a soreness to remind them of their former suffering. During this time, or as long as the toxemia and temperature persisted there was a steady loss of weight until they were reduced to an extreme degree. As convales-

cense set in, recovery was at first slow later more rapid, and many of them told me that their physical condition and general health was better than they had ever enjoyed formerly.

The preparation used is a delicate, synthetic chemical compound, clear and colorless. It is injected subcutaneously in one cubic centimeter dose. The treatment is based on the germ theory of all malignancy and upon the theory that the cancer mass is an attempt at protection by the host towards the invading organism. The organisms being killed the cancer becomes a foreign proteid mass which must be absorbed to be removed. The absorption of this mass is a highly toxic process and produces the various symptoms which occur during the treatment; fever, nausea, vomiting, and depression. These symptoms and reactions of the cancer tissue are subject to considerable variation. At times the mass may swell and there may be an increase in all symptoms including pain, in other cases there is an immediate subsidence in the size of the mass and a lessening of pain. The reason for these variations is not well understood. The cancer mass takes on a bluish color and there is an ingrowth of angioclastic tissue during the stage of absorption. As this vascularized tissue contracts frequent small hemorrhages occur and it may require six to nine months for all of this tissue to disappear. Cases that are badly exhausted before treatment, where the mass to be absorbed is very large, or when the heart and kidneys are weakened are not likely to survive the toxic period.

My duty was apparent. I should take some steps to bring this matter to the attention of the profession and I felt that the best means of accomplishing this as well as for further proof for myself was first to treat a few of my hopeless cases here and properly check this work with the aid of the laboratory. This appeared to me to be the best plan of procedure and I ac-

cordingly arranged with Dr. Koch to furnish me with as much of his formula as was needed.

My understanding with Dr. Koch was that should any recognized group of reputable physicians make a calm unbiased investigation of his treatment and accord him due credit for having discovered something useful in the treatment of cancer, he would then make the formula public in some way, such as was done with insulin.

I know that a great many of my friends and associates feel that I have made a mistake in going into this subject but I hope that none will question my honesty or sincerity and just as soon as sufficient time has elapsed for me to arrive at a definite conclusion, based on personal experience, for or against the further use of this remedy I propose to make a frank, positive statement of the results.

In conclusion I wish now to present a brief summary taken from the records of cases treated.

Mr. H. Age 57. Brought to Touro Infirmary December 20, 1924, in ambulance accompanied by his physician. He had been bedridden several months. Ten years ago he developed an epithelioma on his penis which had gradually spread. In the last few years he had received a great variety of treatment including much X-ray and radium.

On examination his penis was a cauliflower mass about an inch long with extensive cancerous ulcerations on the pubes, scrotum, and perineum. In the right groin there was a mass which extended from the pubes to near the iliac crest and about nine inches in the long axis of the leg. The center was badly sloughed out with a cavity running down along the great vessels and up into the pelvis. The limb was badly swollen and presented decided evidence of an erysipelatosus like inflammation. The case was very far advanced and most unpromising and I felt hopeless. Following a conference between himself, the family and his physician it was decided that he take the chance as he had no hope otherwise. He left for home in a few days. I received frequent reports and visited him once.

At the time of his death, which occurred during the 11th week from exhaustion, the penis, pubes, scrotum and perineum had entirely healed.

All that remained of the growth in his thigh was a smooth granular surface two inches in diameter. The deep excavation which ran down into his pelvis had entirely filled in. This report was given me by his family physician a few days before his death. A Touro nurse who was on duty with this man for two months, has told me that the above report is correct and makes even more remarkable statements.

Mrs. J. Age 54. Was first seen by me in consultation with Dr. Walther about the middle of last August. She was bedridden with an inoperable carcinoma of the bladder. On examination the entire base of the bladder, anterior wall of the vagina, and interior surface of the uterus were involved in the growth. I was again called to see this patient and treated her with the Koch anti-toxin on December 8th. At this time she had been bedridden about five months and her condition had become much worse. The entire upper half of the vagina was a mass of growth which prevented the finger passing beyond the outlet and extended up above the pubes several inches, with a large mass about 2½ inches in diameter extending up along the right side above the crest of the ilium. There was constant vesical tenesmus with urination every few minutes and without patient's control, requiring her to remain on a bed pan day and night. The urine was very offensive and the odor penetrated the whole house. She had become very much reduced by cachexia, suffering, and hemorrhage, which was at times profuse. She was taking one grain of morphine by needle several times a day but still suffered considerably. Her general condition was so bad that the family was coming home from various parts of the country to see her for the last time. It was thought that she would not live until Christmas.

Course of reaction: There was an almost immediate subsidence in the pain. Nausea, vomiting and fever began about the tenth day; at first moderate, later becoming more severe by spells. During the early part of January she had several very severe spells of vomiting and purging. On one or two days she vomited almost incessantly and during one of these spells she said her bowels moved about fifty times during twenty-four hours. They were unusually offensive and sickening to those in attendance. The patient told me that had she known how sick the treatment would make her she never would have taken it.

About the middle of January she lost complete control of her bladder and her urine dribbled from her continually, its odor was, however, growing progressively less offensive and finally entirely disappeared. From the middle of January there was no more temperature and she was entirely free from all pain. The suprapubic and abdom-

inal mass had entirely disappeared. On vaginal examination the vagina could be easily entered, the masses in its upper part had disappeared, the base of the bladder felt soft and boggy with a soft fluxuating mass about as big as a fist within the bladder. I thought I made out a vesicovaginal fistula but could not be sure.

There were at frequent intervals during these reactions small vaginal hemorrhages, these became less frequent and of smaller amount towards the end.

Two weeks before death she regained control of her bladder and voided normally but again became incontinent just before she died. The last few weeks before her death were marked by nausea, frequent attacks of vomiting, disgust for food, and great prostration.

Death occurred March 28th in her fourteenth week. The outstanding features during her treatment were the almost immediate subsidence of pain and its complete disappearance after the fifth week, the great toxemia and the prostration. I give the history of this case at some length as there were several doctors who saw her both before and after she was treated. She was recognized as a desperate case already far advanced and exhausted.

As I followed this case closely I feel the information gained was most valuable as it was quite evident after the first few weeks that she was not running a normal cancer course but that the usual cancer symptoms were gradually being replaced by a toxemia. For three months before death there was no pain but a rapid diminution of the cancer mass and near the end a normal control of her bladder.

Mrs. B. Age 54. In July, 1924, began to have pain in lower abdomen, with loss of weight. First seen by me December 5, 1924, suffering from dyspnea, general abdominal and thoracic pains.

Abdomen was much distended and showed several large masses of woody like hardness extending from pelvis up to costal arch. Vaginal examination showed the upper part of the uterus fixed in a solid mass which extended across the pelvis. She was treated December 8th. Reaction set in within 48 hours marked by nausea, vomiting and depression. Her condition remained fair until within a few hours of death which occurred on December 14th.

Examination of the tumor mass the day before death showed that it had become quite soft and had shrunk fully one-third of its size. This case is reported to show some interesting metabolic changes:

Before treatment 12/8/24	5 days following 12/13/24
Total non prot. nit... 49.8	120 mg. per 100 cc
Urea nitrogen..... 25	108
Creatinin 1.42	2
Uric acid 6.64	10.6
Dextrose 74	113
Total white cells...8,250	12,500
S. M..... 13	8
L. M..... 7	3
N. 79	89
E. 1	

Capt. S. Age 48. Six years ago began to have swelling in left side of lower jaw. Resection of jaw three years ago followed by radium and X-ray. Further operation with X-ray and radium one year later. Last September and October had three operations followed by X-ray and radium. Five months ago began to have swelling in the neck on left side which presented a large tumor-like mass nearly as big as a turkey egg with an ulcerated center extending deep down into the neck. Many glands were found around and below this mass down to the clavicle. The entire left half of the jaw with cheek and side of the face had been removed exposing tongue and pharynx.

Given Koch treatment February 4th.

He went through a mild reaction followed by a steady and progressive disappearance of the cancer tissue until now the entire mass has sloughed out down to the vertebral column exposing the common carotid artery from the clavicle to above the angle of the jaw. The bifucation is plainly exposed showing many of its branches. The artery is lying loose in a deep crater-like cavity unsupported by the surrounding tissues. There are several glandular masses in the surrounding parts.

The patient is up and around and suffers very little discomfort. This is one of the greatest surgical curiosities I have ever seen.

Mrs. S. Age 35. Last spring began to have pain and metrorrhagia. During the early summer a curettage showed carcinoma. She was later laparotomized and found to be inoperable with a uterine carcinoma which had spread through the broad ligament to the pelvic wall. During convalescence she received several X-ray and radium treatments. She grew gradually worse and during October and November suffered excruciating pain.

December 5th when first seen by me and given the Koch antitoxin she was in constant pain notwithstanding liberal doses of opiates which she took every two hours day and night. She was able to be on her feet a little but walked sideways with a shuffling gait. She was unable to sit down and in attempting to do so had to recline on one side. Urination was very painful and defecation extremely so and she looked forward to the performance of this function with great horror.

Following the use of the antitoxin there was a gradual improvement in all symptoms. After the first week pain on urination had ceased and defecation was less painful. After the third week pain on defecation had practically ceased and she could sit down with comfort. The opiates were gradually reduced in frequency and amount. During this time there was some nausea and temperature. After about the sixth week she ceased to have pain at night but had some discomfort during the day. Up to six weeks ago the improvement in all symptoms had been progressive when she began again to have pain on defecation. This she describes as quite different in character from her former sufferings, describing it as a sore crampy feeling brought on by the movement of gas in the bowels which ceases after the bowels move. During this time she takes several small doses of opiates. This period occupies most of the forenoon. By noon she is comfortable and remains so without the use of opiates until the following morning and sleeps well every night. Lately this cramp-like disturbance in the morning has improved and she has a much more comfortable time.

About six weeks ago a recto-vaginal fistula developed which has caused her much worry. She has lost much in weight and some in strength but gets up at all times and moves about without discomfort. Temperature, which was continuous sometime ago, now comes on later in the day and runs a shorter, milder course. She eats fairly well three times a day and except when disturbed with her bowels in the morning or worrying over her protracted sickness is fairly cheerful.

During the last month I have given her two additional doses of antitoxin to hasten the convalescing process and lately with the co-operation of Dr. Giles have been using some other measures to aid in throwing off the toxic process.

Mr. R. Age 68. Had been operated by me some weeks previously when I removed a tumor about half the size of a guinea egg from his neck. This was submitted to the Touro laboratory and reported as secondary carcinoma.

It recurred early and grew very rapidly. March 12th when I gave him the Koch anti-toxin it was as large as a hen's egg adherent to the skin and showed extensive infiltration in all directions. I last saw him April 9th. The growth had reduced to about one-half its size was slightly adherent to the skin and had entirely lost its infiltrating character. Its edges were sharply defined feeling like a big button under the skin.

Mrs. McR. Age 55. Five years ago had right breast removed for carcinoma. Recurrence in situ one year ago. When seen by me, January 20, 1925, there was an ulcerated mass about as large

as a fist fixed to the chest wall and extensively adherent to surrounding skin. She had refused further operation and was suffering considerable pain. Treated January 20, 1925, and left for home with instructions. She has returned at intervals for observation. When last seen, March 26th, she said all pain had disappeared after first week, discharge had markedly diminished and was free from odor. Mass was about as large as an egg, still attached to the skin but freely movable over the chest wall. She had had very few reactionary symptoms and had never been to bed but had attended to her household duties daily.

Capt. C. Age 57. Operated by me last summer for jaundice which had come on gradually without pain or previous digestive disturbances, stools were chalky. The gall bladder was found moderately distended and the lower end of the common duct thickened. The gall bladder was opened and a probe passed into the common duct and through it into the duodenum without meeting apparent resistance. Palpation of the head of the pancreas failed to show any pathology. The wound was closed with gall bladder drainage.

For a short time following operation there was a slight improvement in the jaundice and the color of stools. This improvement was of short duration and there was a gradual return to his former condition. The gall bladder tube ceased to drain bile after about two weeks and was removed. He was referred to Dr. Levin who treated him for a while without improvement referring him back to me for further operation.

At this time stools were nearly white and jaundice was becoming of a bronze like color with much itching of the skin. Patient much emaciated with the usual digestive disturbances.

Second operation February 20th. A hard mass was found in the head of the pancreas measuring about two inches across and one inch thick. A drainage tube was again placed in the gall bladder and the wound closed.

Treated with Koch anti-toxin February 25th. For about two weeks there was no apparent change except a moderate improvement in the jaundice. Following this there has been a slow but progressive improvement. Jaundice has about disappeared, urine contains but a trace of bile and the stools are darkly yellow, the first time in nine months. The digestive disturbance has entirely disappeared, strength is returning and the patient is up and about. The gall bladder tube is still in place draining a little bile and mucous.

Mrs. H. Age 50. Had noticed a tumor in left breast since last spring. Was first seen by me September 26, 1924. Tumor was as large as a small orange in left upper quadrant, no glands could be palpated as she was quite fleshy. A

radical removal was done September 30th. The glands in the axilla and beneath the clavicle were well developed and numerous with a chain of large glands running up along the vessels as far as could be reached. The prognosis was clearly unfavorable and the operation was immediately followed by radium embedded in the wound. Laboratory examination showed carcinoma simplex. She made an excellent convalescence. Toward the end of October glands were readily palpable in the supraclavicular space. These grew rapidly and began to give pain. Obstruction of the circulation on that side soon became evident by swelling of the neck and face. The glandular mass grew to such size as to be noticed by the husband with whom I discussed the matter. Further surgery was clearly useless, radium and X-ray offered little hope. He already knew of the Koch treatment and he agreed that I use it. This was done on December 13th. No very decided reactions followed beyond some little fever and general upset feeling. The glands, however, began immediately to subside and entirely disappeared by about February 1st. Her former good health soon returned and she gained in weight beyond her previous normal. I examined her a few days ago and could find no evidence of any trouble.

Mr. W. Age 58. Developed a sore on left side of the tongue near floor of mouth last summer. This began to pain and increase in size. November 20, 1924, he received a radium treatment and several X-ray treatments during December, 1924, and January, 1925. His condition grew steadily worse and he had several hemorrhages, one quite severe.

On March 3rd the growth involved the entire left half of tongue extending back along the floor of the mouth to the root of the tongue. The mucous membrane on floor of mouth was involved nearly as far out as the mandible. An opening in the center of this mass penetrated deep down along the base of the tongue, was quite necrotic and foul. Weight 148 pounds.

Treated with Koch anti-toxin. His improvement was quite rapid. His pains entirely subsided in one week and the appearance of growth underwent a decided change followed by rapid disappearance. When last seen on April 13th all evidence of the former growth had entirely disappeared. There was no infiltration evident on close examination. A small opening about 3/16 of an inch wide marked the sight of the former necrotic area. There is no pain or discomfort of any kind and weight has increased to slightly over 160.

Miss L. M. Age 55. Reported by courtesy of Dr. L. S. Charbonnet. Ordinary diseases of childhood. Menstruation first at 14 years; normal and

regular. Menopause began at 45 and was complete at 48.

About one year ago she began having cramps in abdomen, accompanied by constipation. Distension at times. Early in 1924 consulted Dr. Charbonnet complaining of this. Examination revealed a large mass which seemed to originate in the region of the left ovary. Operation was advised. Ten days later while painting a floor had violent pains. Rest and ice bag gave no relief. Operation on November 7th revealed a large growth in left abdomen springing from ovary and was cystic in character. Pathological report, carcinoma of ovary. Stormy convalescence with dementia. Returned home 16 days after operation. Two weeks later had severe abdominal pains with partial obstruction. Usual treatment gave no relief. January 13th had severe pain again with sterco-rocous vomiting. No results from treatment. Reoperated January 15th. Adhesions of sigmoid to uterus and much induration found with some enlarged glands. Adhesions broken. Section of abdominal wall removed. Reported malignant. Slow convalescence. Large indurated mass developed in abdominal wall. Koch serum was suggested and given February 4th. No very severe reaction, but indurated mass gradually disappeared. About March 4th she began to improve rapidly. Now doing wonderfully well. Resumed work April 1st and has gained 14 pounds since then. Seen at office on April 22nd, she told Dr. Charbonnet she "never felt better in her life."

I feel that your careful consideration of the above cases must convince you that they have not run a normal cancer course and if Dr. Koch has not discovered what he thinks he has, he has at least found something which profoundly affects cancer tissue and I feel it should be accorded a most liberal investigation both clinically and in the laboratory as it may at least be the beginning of tremendous possibilities.

I have been persistently at work on the two objectionable features in the use of this preparation; its cost and its secrecy. The cost has been substantially reduced and I feel the problem of its secrecy is open to solution.

DISCUSSION.

Dr. F. W. Parham (New Orleans): It is with considerable reluctance that I rise to take the position of opposing Dr. Allen.

I want to say first, that if Dr. Koch had presented the matter in the same scientific spirit as

has Dr. Allen, I do not believe there would have been so much feeling. I want it understood that anything I have to say shall not be construed as any reflection upon the sincerity of Dr. Allen. While I think he is mistaken in his advocacy of the treatment, I believe he is sincerely of the opinion that the treatment is of value. Dr. Koch does not deserve the same consideration. He has not adopted the scientific attitude. He indulges in vituperation. He has attacked the American Society for the Control of Cancer: "If the American Society for the Control of Cancer did not raise such a hullabaloo, throwing the people into the arms of the people who use X-ray and radium," he says, "there would not be so much fear among the people suffering from this disease." Now, this is a tremendous charge, for one who claims to be a scientist, against a Society which has attempted to do nothing but good for suffering humanity, and I do not believe such a charge made against the American Society for the Control of Cancer should be countenanced by right-thinking people.

I substantiate these statements by referring to Dr. Koch's pamphlet, which I have in my hand. These, and many equally absurd statements are to be found in this pamphlet, called "St. Mark's Sanitarium Bulletin." Herein are thirty-eight cases reported, practically all of which are as wonderful as those reported by Dr. Allen and some of them are more wonderful. One of the cases which Dr. Allen has not reported in his paper and which is more wonderful than any reported is a glioma of the brain. This case (Dr. Allen sent me the report of the case with an affidavit) had been intensively treated by X-ray after temporal decompression. The case had been treated so thoroughly by the X-ray "that her people thought she was being killed." That case, subsequently treated by Dr. Koch apparently recovered, and the recovery was attributed to the injection.

Dr. Martin can tell you of a case of carcinoma of the tongue that seemed to be absolutely hopeless, when an apparent cure was effected. I saw this man in consultation and agreed in the diagnosis. Radium needles were put into the tongue. That was four years ago. Two weeks ago Dr. Martin saw him; there were no signs of recurrence and he was at work.

Can a man who knows of such a case as that be justified in saying that radium is not the proper treatment to use? Let me read you something that Koch writes about one case, No. 36, in his St. Mark's Bulletin:

Mrs. L., treated by Dr. W. A. Dewey, formerly a Professor in the Homeopathic Department of the University of Michigan. "Died four months after being cured." And the explanation was that

she had, in Philadelphia, "some 200 mgms. of radium stuck up in the uterus for 48 hours straight." No date was given. Subsequently she came into the hands of Dr. Koch, who called in a specialist from Easton, Pa., who said he could find no signs of cancer, but she seemed "all shot to pieces." Dr. Dewey also saw the patient and they concluded she was suffering from "swollen and oedematous" intestines. The oedema was so great that it was as thick as the finger. How he could feel all that through the abdominal wall so accurately I cannot say. Dr. Dewey instituted treatment to cure this condition of the bowel. Then, "as the patient was getting well she died." The explanation was embolism, death attributed to the liberation of the clot from the "radium cooked vessels," these vessels being greatly reduced by the treatment instituted by Dr. Dewey, thus liberating the circulation. What the treatment was is not stated.

Dr. Koch goes on to make a statement which I would like to read to you, as coming from a scientific man:

"We learned that Dr. Dewey's treatment was bringing the patient around rapidly toward recovery, and then she suddenly died. This event could only be from embolism. In her recovery under Dr. Dewey's treatment, the bowels lost their cooked, swollen state, and began to functionate. Thus the nutrition of the patient improved, and the bowel movements became more normal and active. It is no doubt this resumption of intestinal activity that liberated a clot from the radium cooked blood vessels and this clot circulated about until it had lodged in a vital center. This all happened some four months after all cancer tissue had disappeared and is accountable only to the latent burning properties of radium. Thus sufficient radium to cook the abdomen full of intestines, only made the cancer grow more rapidly. As it were, the more hell you give the devil, the better he likes it."

"Radium poisoning is not well known, though everybody who is treated for cancer with radium dies. It is because the cancer is stimulated to grow so rapidly that it kills the patient before the terrible manslaughter effects of the radium exert themselves. There are those exceptions as is cited in the present case."

"Look into it yourself, no one yet has been able to discover a man cured of cancer by radium, nor have you found a person who has had one large exposure or numerous small ones, live very long. Yet the American Society for the Control of Cancer drives the country into unsuccessful surgery and murderous X-ray and radium, and as Dr. Bulkey says the mortality from cancer has increased alarmingly since this agency has stamped the country."

"Our friend, Dr. W. A. Dewey, who has had some opportunity to study the matter, moreover, claims that many a death certificate reads cancer, where the real cause of death is X-ray or radium."

"Indeed, were it not for extensive campaigns, foolishly supported by the unsuspecting public, the use of radium and X-ray in the treatment of cancer would long ago have died out and the industries flourishing upon such propaganda long ago have failed by way of uselessness. They should be stopped for the sake of the public safety."

I will report a case which illustrates very well that X-ray may apparently cure cancer. This is a case of tumor of the spinal cord. We operated upon that patient with the assistance of Dr. Van Wart, who located the tumor; we got down to it without difficulty and cut away most of the tumor, but did not remove it in its entirety for fear of destroying so many of the terminal nerves in the leash of the cauda, thereby causing incontinence of urine and feces. We closed the wound, which healed by first intention. The vertebral column was then subjected to very thorough X-ray treatment. I saw this gentleman three days ago (three years and four months after the operation) in a rolling chair. He has contracture of the lower limbs. He was a Professor, is happy, comfortable and useful and is doing a great deal of work. That man had no Koch treatment. Now that shows that sometimes X-ray may have its effect. I cannot say that the X-ray did it, but I do know that the tumor was not completely removed, that he was treated by X-ray and that now he is well. Pathological diagnosis: Gliomatous Tumor.

I would like to mention just here that Dr. Gaylord of Buffalo reported in S. G. & O. some years ago fourteen cases of malignant disease spontaneously cured.

I would like to read you a few excerpts from Dr. Koch's reports and to say a few words in regard to the investigating committees in Detroit.

In 1919 Dr. Koch was given an opportunity, through the Board of Health in Detroit, to place his cases in one of the institutions to make a demonstration in regard to the value of his treatment. Now his statement was that this was not a fair examination or report. The Committee reports definitely, "We do not know whether this treatment has any value or not since the cases were not observed long enough to draw any satisfactory conclusions." Of these cases one-half of these people left the institution because of the negligence of Dr. Koch, the other half were discharged by the Committee. This statement was made by Dr. Kelly last September in his address as retiring President. He states further that subsequently, in 1923, Dr. Koch sent a note to the Society stating that as some of the cases observed

by the Committee in 1919 were still living and well they ought to make another examination. The Committee gave him a second opportunity. Out of his numerous cases he had only nine that he could present to the Committee. A few others were examined by the individual members. Their report was that the remedy was not of value.

Contrary to our Code of Ethics we are dealing with a secret remedy; it is not professional for a physician to prescribe a secret remedy; many of us do it sometimes, but this is an aggravated case.

Dr. Koch has made some very curious statements. He agrees with Dr. Bulkley, who has done more harm than any individual in this country by attributing cancer to a constitutional poison. We all know that in late years many cases of cancer of the breast, etc., have been cured by operation. I have some myself of ten years duration. This could not be if the disease was not local at the time of operation.

1. Statement purporting to be that of Dr. Mayo: "After amputation of a cancerous breast under the most favorable circumstances I believe that in ninety-nine cases out of a hundred the disease returns. I asked Dr. Mayo about this and he said: "I think my brother is the one this is attributed to, but it is not true."

3. He also quotes Sir James Paget: "I am not aware of a single case of recovery, and as to the influence of an operation in prolonging life, I believe the removal of the local disease makes no material difference in the average duration of life." Of course, at that time we did not have the cures we have today nor the advanced surgery. Sir James Paget would be in favor of Dr. Koch's proposition regarding recurrence.

4. "In certain parts of Canada radium has been prohibited, and the better hospitals of our country have discontinued the use of radium."

5. "No one yet has been able to discover a man cured of cancer by radium."

6. "Radium has been ostracized by law in certain localities."

Then he states that his remedy is a synthetic chemical compound of definite molecular arrangement. He further states that it "is absolutely harmless to the body," which is not in accord with Dr. Allen's statement. Now whether the harm is the direct result of the medicine or is the result of the liberation of the toxin, as Dr. Allen believes, the result is the same, it is a dangerous remedy.

He makes this statement also, that the restoration in some cases was so complete "that as the cancer disappeared under treatment and the area healed, it became covered with normal skin, even with replacement of sweat glands."

9. "His cancer was large enough to furnish material for a good deal of muscle reconstruction." Grace's case, p. 26.

10. Case 28, p. 27. "The silly medical world uneducated in the sciences as it predominantly is, looks upon this lump as the disease, and says, cut it out, when it is only one of the last manifestations of a constitutional disease that had existed some time previously. Is there any wonder that surgery, X-ray and radium are utter failures in the treatment of cancer?"

11. "When the medical profession as a whole has proven itself receptive and free from the shackles of the American Medical Association, we will gladly instruct them in our method and provide them with the treatment. This has been our original intention."

Now I made a proposition to Dr. Allen long ago, in January, that I thought the only way to settle this was to insist on certain things:

First—That a Committee be appointed by this Society to investigate on its merits.

Second—That this Committee should communicate with Dr. Koch and that a sufficient amount of the remedy be furnished for an adequate investigation.

Third—That if the Committee found the remedy of value they would so report and give Dr. Koch credit for his discovery.

Fourth—That if not of value they would so report.

Fifth—That if Dr. Koch were not willing the Committee would so report to the Society and we would have nothing further to do with it.

Dr. Allen stated that Dr. Koch had been treated so badly by Committees that he would have nothing to do with them. I told him that we ought to have an impartial Committee to settle this matter. Dr. Koch would not permit an appointed Committee—would have nothing to do with a Committee.

Now I think there are a few things one ought to understand. I do not know the treatment, but taking the position I do, some of them appear to me to be absurdities.

Dr. Koch maintains that much benefit is often accomplished by bicarbonate of soda and hot water drunk, or by enema of warm water and bicarbonate of soda, 1 dram to the gallon.

In serious cases hypodermoclysis of salt solution should be used, never by infusion for fear of overloading the heart. Never use glucose solution.

Medicines often exercise harmful effects. Digitalis is dangerous. For the heart cactus tablets

(homeopathic), one every ten to fifteen minutes for several hours if necessary.

Morphine for pain, always by mouth.

Bicarb. soda and mineral oil are the only medicines that can be used without harm.

Heat in hot water bags useful, but electric pads objectionable.

Codeine, aspirin, arsenic, mercurials, aromatic spirits of ammonia, glycerine, alcoholics, etc., are positively harmful.

The above with the diet list meets all indications.

Now, gentlemen, I want to say something about this remedy. I read a paper of Dr. Koch's published October 30, 1920, in the "New York Medical Record." Dr. Koch reported some nine cases cured, he asserts, by the injection of what he calls thrombin. He had arrived at this through some experiments on the parathyroid and investigation of coagulation. These nine cases were just the counterpart of those he reports in his bulletin with the new remedy (if it has been changed). He states in this report even that he was able to differentiate between a cancer of the stomach and an ulcer of the stomach by the reaction in the one case and its absence in the other.

The cases published in this Journal, "New York Medical Record," October 30, 1920, are cases resembling very strongly, and just as wonderful, as the cases reported later in this St. Mark's Bulletin. I do not know, nor have I been told what this treatment is, but there is one thing certain, gentlemen, that we are dealing with a secret remedy, which no scientific man ought to handle. The laboratories all over the country are working full time and there is not a single one that has found a successful treatment of cancer. Dr. Koch says he has. Dr. Glover says he has found it. Whether Dr. Koch has found the organism or not, he has not shown it.

Dr. Allen is sincere and I do not reflect on any statement he has made. We have talked frequently on this subject and he knows how I feel about it. He knows that I am opposed to going on with this thing as a secret remedy.

Dr. F. W. Parham—Question to Dr. Allen:

Would Dr. Koch be willing to make known this remedy, patent it and turn the patent over to Tulane University or some institution that we regard as reliable? Of course, we understand in the case of insulin that that was the necessary thing to do to prevent the remedy from being improperly prepared and hastily used. After the period of probation it had met with the requirements and it then became a generally accepted remedy. Now we have insulin, which we all re-

gard as one of the most valuable remedies, under certain conditions, that we have.

If Dr. Koch has a remedy of value, as medical men, we ought to have nothing to do with it until he patents it and turns it over to an Institution. I do not believe the profession can be got together and acknowledge Koch's remedy as a good thing until he has removed the veil of secrecy.

Answer by Dr. Allen:

Dr. Koch has discussed some plan for an Institution which I will mention in closing, but he does not think the remedy should be made public until better understood.

Dr. F. W. Parham—In answer to Dr. Allen:

I would not agree to that plan at all in as far as I am personally concerned. What I insist on is that the remedy be made known first, with the proper safeguard of the financial interest of Dr. Koch. The remedy must be known first, as insulin was—this is parallel to insulin. We have got to quit using it as a secret remedy and thereby give up possibly a valuable remedy, or accept it on the evidence you have gained, which I do not believe is sufficient. Nor do I agree to an examination of the cases. That naturally would be part of a systematic investigation, but would not be satisfactory. I have a case myself which I might report, a case that had no reaction whatsoever, but one has to have a good many cases of that sort.

We have to begin right, to be informed what we are using and the dangers of using it. The remedy must be taken out of the domain of secrecy.

Dr. F. W. Parham—Question:

Dr. Allen says, and that agrees with Dr. Koch's statement, that this is a synthetic compound of definite molecular arrangement. He stated, in 1920, that the remedy was "tissue thrombin," which is not an antitoxin compound. May I ask Dr. Allen for some information on this point? Whether, if he is in a position to state, it is the same as he now uses?

Question:

I would like to ask Dr. Allen if I might read my answer to his letter of January 8th?

Note: Letter read by Dr. Allen:

Dr. F. W. Parham, January 8, 1925.
City.

My Dear Doctor:

Your communication regarding the Koch treatment was immensely appreciated and after reading it I cannot help but feel that I did not make myself sufficiently clear during our recent conversation.

While I had heard of it and made some investigations last summer the matter was not forcibly brought to my

attention until last fall when a patient of mine left me and went there. There was also another patient from this neighborhood there at the same time, from the families of both cases. I learned they were improving. Calling to mind what I had learned last summer, which had prompted my investigation, I decided to write to Dr. Koch. There were points in his first letter which were not clear and I wrote again. His second reply was more communicative and discussed some features about his treatment. Dr. Koch told the two patients above referred to that I had written him and he had answered telling me something of his antitoxin.

The patients in writing home conveyed this information which reached the family doctor, a friend of Dr. X. Dr. X called on me and told me what he had heard. I told him what I knew and showed him Dr. Koch's letters. I suggested that he take his wife there, this he said he could not do as she was not able to travel. We finally decided on a telegram which Dr. X sent. Dr. Koch replied and sent the treatment.

Another case came to me in a similar way and after their urgent solicitation I agreed to do what I could and procured a second dose. I finally received several doses and had some very astonishing reactions after its use. The patients and families first referred to returned about this time and all told very remarkable stories. Further correspondence followed from which I learned that Dr. Koch would discuss the professional side with me if I would come there.

I went. As a result of this visit I learned that Dr. Koch is unquestionably curing cancer. That he is a man well equipped to have accomplished what he has done. That he has been forced into his present position and that he intends to make it public when given proper recognition.

I am convinced of what I have seen and that the truth cannot be suppressed.

My intentions have been to use it on a few hopeless cases and if results justified interest others and gradually bring about a situation that would arouse more general action which would result in all being given the benefit of this discovery and protect Dr. Koch in some such way as has been done with insulin. Dr. Koch has already formulated some such plans. There is no problem that has not a solution and I am convinced this can be brought about. Certain unpleasant reports, however, having reached me and for fear that my motives may be misunderstood, I felt that the only safe course was to ask a few of the profession to meet and discuss the matter.

Was I wrong in helping Dr. X in his distress? Was I wrong with the next case? Was I wrong after I learned there was something in it and feeling that Dr. Koch was approachable in going to him? Now that I have seen a large number of cures am I wrong in using it in absolutely hopeless cases? Must I too cast a stone at a man that is down because someone else has done so when I feel he may yet do great good, or should I have the courage of my convictions and tell what I know?

The object of the meeting at my house was not in any way to endorse Dr. Koch but to state to them what I was doing and ask their indulgence in agreeing to my using it in hopeless cases that came to me for relief.

Aside from any opinion which I hold the reports made by Drs. X and Z would certainly justify further observations and I particularly request that you talk to both of these men.

The situation I feel is a very delicate one but it is also a big one and fully capable of developing as I have

outlined above. It is too early to ask for any investigation. I feel we should await some results as the treatment is full of reactions, capable of misinterpretations. Later on if we get no results we have nothing to ask for, if we do we then know what to look for in any cases placed before a committee.

Dr. Koch told me he would not distribute it broadcast when its use is not understood but will be glad to have me supply those who will use it properly. This, of course, is a tentative arrangement; it can later be stocked at a suitable place but this idea cannot be entertained at the present time.

I beg that you carefully consider what I have said and withhold any judgment on this matter, at least for the present. If it is the truth we cannot stop it and I feel it is worth the most thorough and careful investigation on the part of the profession. Let me work as I have proposed, join with me if you will, and let the result be my judgment.

With the deepest appreciation of your friendship, I am,

Sincerely yours,

(Signed) CARROLL W. ALLEN.

Dr. C. W. Allen, January 9, 1925.
New Orleans.

Dear Doctor Allen:

I am just in receipt of yours of January 8. I have read carefully what you say about Dr. Koch and his cancer cure. I think you have made yourself perfectly clear, as you did in our conversation previously. I grant freely that in the inception you did right in not casting aside the information you received, but I do feel that you satisfied too easily with the statements of Dr. Koch himself and the words of the people treated by him, and did not ascertain, or if you did, did not give sufficient weight to the unfavorable reports from reliable sources of the man himself and his methods. If you had done so I feel that you would not have gone so far with Dr. Koch as you have done. I think you should regard the other side of the picture. This I have done to a sufficient extent to satisfy myself that his remedy is of very doubtful value and that the man himself is reckless in his statements and extremely careless in his handling of his patients. The evidence in my hands abundantly sustains this view. Now, as I wrote you previously, we are confronted with this situation: Either we must reject utterly a method which you seem convinced has much merit or we must allow our patients to believe in implicitly, and spend their money, on a fake remedy which can do no good and may, indeed, prove responsible even for deaths.

Feeling this way about it, I see no other course than that suggested in my first letter to you. If Koch is honest, he will do it. If not, the truth ought to be known. If he be really honest and has a good thing no harm can result to him financially. If his remedy is as good as he says, safeguards for his financial interest can easily be provided, but we owe a duty to the public, which is so prone to think we refuse to acknowledge a remedy because it has not been ethically produced.

Finally I would urge you personally to favor this course, for I believe if you persist in allowing yourself to be considered a quasi-endorser of Koch it will sooner or later do you great professional damage. The Glover cure for cancer has had even greater prominence, but has now been pronounced after careful, honest, investigation a worthless remedy. Glover thought he had the germ but could not demonstrate it. Let Koch show his germ and prove his case and no one would rejoice more than I.

The world now is burning with desire to find the cause and cure of this great scourge. All the laboratories are diligently at work hunting for it, but so far have only the barest clue. Shall we be satisfied to have Dr. Koch, who seems afraid of the light, to settle the question by his ipse dixit? I have several letters from reputable men in Detroit, who say that they know of no single substantiated case of cancer cured by Koch.

Surely, we would all welcome such evidence. Such an investigation was carried out in the case of the diphtheria anti-toxin, Doyen's Neoformans vaccine, and Banting's insulin, and later in Glover's cancer cure. In all these cases the matter as to value has been settled. Shall Koch be allowed to go on undisturbed in the even tenor of his way, while he collects fees of \$100.00 to \$300.00 for each injection?

The investigation heretofore undertaken was not satisfactory chiefly for lack of Koch's co-operation. I have evidence. I beg you to give the matter further consideration.

Yours sincerely,

(Signed) F. W. PARHAM.

RESOLUTION.

I would move:

That this whole matter be referred to the Board of Directors for its consideration;

THAT they consult with Dr. Allen or any others they may see fit regarding the best plan of lifting the veil of secrecy from this question;

THAT they would devise and report back to the Society some plan for the investigation of this matter.

The important thing is to get rid of the mystery surrounding this method of treatment. I do not see how the Society can go any further in the investigation of its merits until the secrecy has been removed.

Dr. J. J. Wymer (New Orleans): Dr. Allen in his paper perhaps left out something about the impression which Dr. Koch would give to the visiting doctor. I went up there on January third, fully convinced in my own mind that it was a piece of humbug. I inferred as much to Dr. Koch when I went into his office and asked him if he had anything he cared, or would permit, the outside doctors to look at. I told him I did not believe he could cure cancer, altho two cases in New Orleans which had come under my observation showed marked improvement. He was very open and told me that if I could stay there for six months he would show me positive cures—that I was welcome to the Institution and could look at and examine every case that came in as long as I remained in Detroit.

The following morning we met at his Hospital. He left the room, telling me that I was to examine every new case that came into the place, take the history. I saw about twenty cases that morning, coming from all sections of the country. I quizzed them as to how they obtained information regarding the treatment, whether they had

received word from Dr. Koch to visit the institution, whether they had been selected, etc. Without a single exception everyone of them stated that they had been sent there by other people who had taken the Koch treatment. Two or three of them came from Detroit, some from Cleveland, Pittsburg, New York, Boston, Baltimore, Iowa City, and one from somewhere in Nebraska. During my stay there (six days) I saw perhaps over 200 cases that were reported cancer. Many of these people I spoke to personally and learned that they had been treated in institutions in Detroit and other Cities where the pathologists' report was cancer. Some of them had had radium, some X-ray and others no previous treatment. The type of patient varied, embracing all classes, from the very wealthy to the very poor, ignorant emigrant. I cross questioned them all I possibly could to try and break them down and altho for several days my suspicions were unallayed I endeavored to prevent this from being apparent. I was requested to remain in the Institution and my meals were served there.

So impressed was I with the remarkably good results obtained in many cases that, on returning to New Orleans from my visit, I presented these observation and impressions to the Staff of the Hotel Dieu.

Dr. H. B. Gessner, (New Orleans): I think we are greatly indebted to Dr. Allen for undertaking this difficult piece of work and I hope that it is work which will prove successful. At the same time it must be borne in mind that there are cases of cancer that live a long time where X-ray or any other method of treatment is employed.

I had occasion recently to present to the Touro Staff a patient who, at that time, had had cancer for fourteen years—now almost fifteen years. With your permission I will give a summary of the case:

Miss M., 45, unmarried, a seamstress, was admitted to Touro Infirmary August 30, 1911, with a diagnosis of cancer of the breast. The history was that of a mass in the right breast noticed a year before admission, which had grown slowly and without pain. Examination showed a hard, fixed tumor in the right breast; skin and nipple were retracted; no axillary or supraclavicular glands involved. Amputation of the breast was performed, including the removal of both pectoral muscles.

Pathologist's Report (Dr. Harris) Adenocarcinoma. She was readmitted January 7, 1919, with a secondary growth in the line of incision. More than seven years had elapsed since the original

operation. There had been evidences of recurrence in the skin, small buttons, which had been destroyed with the Paquelin cautery. The secondary growth, which was about the size of a 25c piece, was removed by Dr. L. H. Landry under general anesthesia.

Pathologist's Report—None. November 4, 1922, she was again admitted. There was ulceration and induration at the center of the old scar, under ether an area about six inches square of chest wall was removed, including skin, muscle and ribs. The pleura was exposed, presenting small, discrete carcinomatous masses. The wound was left open for X-ray therapy.

Pathologist's Report (Dr. J. A. Lanford)—Secondary Carcinoma. There have been numerous exposures to the X-ray under the direction of Bowie. At times skin lesions about the site of the old scar, apparently have dried up and disappeared under vadiction; however, new lesions have kept appearing, and the right side of the thorax in front presented but little healthy tissue. The sternal end of the clavicle is much enlarged and the bony elements of the right hemi-thorax are deformed. Recently skin lesions have appeared over the left thorax and two considerable growths have developed in the left loin and in the left groin. The loin growth was removed in October and the Pathologist's Report (Dr. Lanford) was Gland Cell Carcinoma. Apparently the viscera have escaped; lungs and liver seem free from disease. No mediastinal involvement.

This patient probably has not a long time to continue in the land of the living. However, it is interesting to know that she has had the cancer for fifteen years and is still on her feet. She still comes to see me occasionally.

Dr. Wilson, of the Mayo Foundation, whom I met at Charleston last December, says that in these cases the examination of the blood is of interest. He finds that patients doing well with cancer show increased cholesterol. In the blood from this patient examined by Dr. Lanford there was a low cholesterol content, 110 mg. cholesterol per 100 cc. The reason for the low cholesterol content in this case may be the fact that she is on the down grade, is getting thinner and is not as strong as she was.

I wish to call attention to this case, as one showing an unusual degree of resistance to cancer. It may be that in some of the cases reported cured by the Koch treatment the same factors are at work; some have had X-ray treatment, some radium; possibly high degrees of resistance to cancer contribute to their apparent recovery.

Dr. Louis Levy (New Orleans): As Chairman of the Investigating Committee appointed by the

Staff of the Hotel Dieu, I would be remiss if I did not say something in regard to Dr. Allen's paper. Dr. Allen's paper has explained whatever he knew about this treatment and he has asked the co-operation of the profession in general. The first case I had asked for the Koch treatment, I went to Dr. Allen and told him about it, and he said: "The treatment is here for anyone who wants it. I will be glad to give it to you and show you how to use it as far as I know, but it is understood that there is nothing certain about the treatment."

Since that time a Committee has been appointed by the Staff of the Hotel Dieu for the investigation. The committee is composed of Drs. J. J. Wymer, J. T. Nix, M. Couret, S. C. Jamison and myself. We have had two cases that have had no treatment by radium or X-ray. We are not going to give any data for at least six months, after this time we are going to tell you something about the Koch treatment of cancer.

Dr. Allen's report has nothing of a misleading nature. As you see, he reported his failures as well as his apparent successes. Already we have had some failures, but we have learned something of this treatment which gives us encouragement to go on. This Committee will be glad to have cases that have had no treatment and we will give them the Koch's serum with Dr. Allen's permission and co-operation and will report to you the result after six months.

I may state that in the letter mentioned by Dr. Allen, Dr. Koch has made an offer of ten or fifteen doses free of charge and that I have used two of these already.

Dr. I. I. Lemann (New Orleans): Could not Dr. Koch protect himself by patenting this remedy and holding the patent himself, not asking the sanction of any institution since it would seem that no institution would care to assume the responsibility?

Would it not then be possible, once the nature of the remedy was made clear and certain, to obtain from philanthropic individuals funds to permit reimbursing Dr. Koch for the actual cost of the preparation in order that it might be tested clinically?

Dr. Isidore Cohn (New Orleans): I want to ask a question. If this is going to be done for investigative purposes, can this be obtained free of charge, or must these patients who are being investigated pay for the remedy?

Dr. Paul A. McIlhenny (New Orleans): Would it be possible for you to write to Dr. Koch suggesting that he patent this remedy and then supply sufficient to a committee that would be agreeable to you, as his representative here, for investigation?

Dr. C. W. Allen (New Orleans) closing: I want to say that I appreciate very much the interest with which this subject has been received because it has been under very serious criticism, but as I said in my paper, I am honest and sincere and I have seen a great deal that has profoundly impressed me.

Before I went to Dr. Koch I had a statement from him that he would be open to the minutest inspection and the only thing he asked was that if I found his treatment as represented that we would accord him recognition as having discovered something useful to cancer. During my investigation I went into everything that took place in his institution and on two days read all of the letters which he received. I sat across the table from him and he opened his mail and after reading he passed the letters over to me, sometimes making some comment.

While visiting him I saw a great many very remarkable things which I have not referred to. My experience here is alone referred to in my paper.

After my return I felt I should place the matter before my confreres and accordingly invited twenty-five of my medical friends to meet at my house and asked their indulgence in allowing me to use it. I later had some correspondence with Dr. Parham, who was very kind in advising me about this matter and with whom I discussed it very freely. I have seen so much of its use that I believe there is something in this that profoundly affects cancer tissue and have felt that if Dr. Koch alone has been able to accomplish this much with it what might not be accomplished if we could get hold of it and investigate it in some of our great laboratories.

Now gentlemen I do not wish to defend Dr. Koch but there is a great deal about this treatment that has seemed very satisfactory and I am convinced through the large number of cases seen that there is enough in it to permit us to try to get hold of it and make it right. Dr. Koch has made a great many mistakes. He is a peculiar kind of man but I believe he has something worth while and this belief has been strengthened by my experience in the past few months.

Now to answer a few questions:

About the Charges: I have no means of determining what it costs Dr. Koch but I was told by a patient that he charged as high as \$300.00 in one case and \$100.00 in another. This, however, included a great deal of attention and services for two months, which was the only fee he made. In some cases he makes the charges less. He says it takes six months to make and the process is slow and tedious. Of course I have no means of determining this and feel it is of secondary importance if we can get it and get it right.

About the Committee: Dr. Koch did say when I came back that he would have nothing to do with a committee at the present time, that he would want to know something about the committee and after doing so he would be glad to co-operate but would not bind himself to any degree but that later when he felt we had acquired some knowledge regarding the action of the preparation he would make a different arrangement with the committee, and as he now feels we have acquired some knowledge I understand he has lately written to Dr. Levy, Chairman of the Hotel Dieu Committee, making him some formal proposition.

I told Dr. Koch there would have to be some early and satisfactory solution of this problem. He agreed to some already established institution taking over the handling of the treatment or the organization of an independent institution for the purpose, inviting a representative of the Marine Hospital to affiliate and co-operate with such an institution.

In answer to Dr. Parham's question regarding the patenting of Dr. Koch's treatment, I do not think so either. I originally had some idea in my mind about getting it for Tulane. Dr. Koch had some idea about trying to utilize simultaneously several institutions but I am satisfied he will consider one, and I am taking the stand before the Society tonight that I will write Dr. Koch and get him to state very definitely to what extent he will go but I must say, gentlemen, that I was not prepared to ask for that sort of thing tonight. This is a preliminary report. I know Dr. Koch has something of merit and wish only to prove this point and to justify my having used it to try to determine the degree of merit, and I feel I should be given some privilege and latitude in making these investigations and do it without criticism. I will suggest that a committee be appointed. Let the committee examine every case treated. Go to the families of the patients that died and talk with them and let that committee report back to the society, which may later take it up with Dr. Koch. I do not think we are ready yet for the institutional proposition and I do not believe we ought to go so fast. I want to be conservative. I have seen quite a few cases. In some instances the results were bad but in a series of twenty-eight cases which were treated eight were as bad as many of those reported. I have a great many that look as if they are on the road to recovery. There have also been some bad results in the hands of others but the treatment is complicated and must be understood. You cannot just give the injection and turn the patient loose. Following the injection you often see very profound reactions, then after three or four weeks

the cancer mass begins to disappear and toxemia sets in.

Now I do not know how far the society wants to go but I do wish to put myself on record as being honest in this matter and to ask that the investigation of a man with clinical experience should be tolerated. If the institutional proposition is to be taken up with Dr. Koch I would suggest the more conservative course for fear that in a few months hence we might decide we would not want it. Appoint a committee, let that committee investigate and then report back here. I propose later to make a final report in which I will make a frank statement of my results as I feel I am not yet through.

Question by Doctor:

Is Dr. Allen making that as a motion?

Dr. Allen's answer:

No I am putting that as a thought. I am not willing to endorse this in a unqualified way but I feel that it has merit and should be tried in inoperable cases.

In answer to Dr. Parham:

I must say there has been nothing confidential between myself and Dr. Koch. I would be glad to have you see him. He discussed the very thing which has been mentioned here tonight. He did tell me that some years ago he wrote an article on thrombin which was somewhat different from what he is now using. I do not know whether that was a synthetic preparation that he adopted that name for but I do know that the present substance that he now uses is synthetic and takes a long time to make. It is very unstable and has to be kept under perfect conditions and used when fresh.

I discussed the matter of his furnishing this treatment free for charity patients. Dr. Koch said it was too expensive for him to furnish free but if we could get up a charity fund he would supply it at cost. I accordingly talked this over with some friends here and Mr. Salmen gave me \$500.00 for this purpose, which we used in supplying doses for these patients, but as there was so much feeling about the whole matter I did not care to go further with it and did not wish to be considered Dr. Koch's agent and consequently did not replenish this fund. I know that Dr. Koch will not distribute it broadcast as it must be kept under proper conditions and used understandingly. It no doubt is as he says, expensive to make under present conditions, but he told me that if manufactured in quantity the price would probably be reduced one-half. Trained assistants could, no doubt, make it but he is afraid to leave this to them at present.

Now, is it agreeable that I write to Dr. Koch and ask him to patent this and turn it over to

an institution? If the society does not wish to commit itself in this way it can be done by others with official approval.

*SUBSEQUENT CORRESPONDENCE.**

New Orleans, La.,
July 2nd, 1925.

Judiciary Committee,
Orleans Parish Medical Society,
1551 Canal Street,
New Orleans, La.

Gentlemen:

Fully recognizing the incompatibility of my duties as a member of Organized Medicine with any professional or business relations with secret or proprietary remedies as opposed to the principals of ethics which govern a liberal and humanitarian profession, I hereby declare that I have severed all professional and business relations with Dr. W. F. Koch of Detroit, Michigan, as the inventor, manufacturer and promoter of a specific treatment of cancer. I hereby make it also clearly and unequivocally understood that I shall have no further connection with the said Koch Cure as one of its advocates and endorsers,

and that henceforth I shall cease to administer or distribute this treatment or recommend its administration to my patients or those of other practitioners as long as its composition and manufacture remain a secret monopoly, and only resume its use, if I deem proper, after its composition and manufacture has been wholly, clearly and definitely revealed to the profession through the recognized organs of the medical press.

I wish, however, to qualify in this otherwise absolute renunciation of the Koch treatment with the request that I be permitted to complete the observations on the patients to whom I have administered the treatment in a purely experimental way, and for which treatment there will be no fees charged or payments collected for services relative to the Koch Cure.

In making this declaration I trust that the objection to my continuance as a member in good standing of Organized Medicine will be removed.

I will furnish your Committee at an early date the list of cases now under treatment.

Yours very truly,

CARROLL W. ALLEN.

*See Bulletin of Orleans Parish Medical Society in this issue.

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Medical and Surgical Journal

Established 1844

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MISSISSIPPI AND TEACHERS OF SCIENTIFIC SUBJECTS.

Close on the heels of the Scope trial in Tennessee comes the prediction from Governor Whitfield that we are to have an anti-evolution law introduced at the next meeting of the Mississippi legislature. It will be well for the medical profession to think over this forecast from every angle.

You can not legislate a man into Heaven. Tennessee's experience has shown that books on evolution are being drawn from the public libraries by more people now than ever before—and by people who never thought of asking for such. It is but natural that the very perversity of human nature will prompt a person to investigate for himself an interdicted subject, to which, in the ordinary course of events, he would have paid no attention. Let someone suggest that a play be prohibited, and the manager is forced to hand out his "standing room only" sign. Witness the effect of the Volstead act on the whole country.

We have already in this country a postal regulation—thanks to Anthony Comstock—which prohibits the sending through the mails certain scientific matter pertaining to birth control. Imagine a self-appointed arbiter of morals being able to bring to pass such a condition as exists in no other civilized country on the face of the globe. The physicians of America are as well educated a body of men as may be found anywhere else. Their trustworthiness has never been questioned. But already they are being told what they may read, and when they may prescribe certain things! Now comes the proposal to regulate their thoughts.

An anti-evolution law will emasculate our colleges and schools. The teacher with any moral stamina will simply move to another location where he may teach the Truth. As a result, we shall evolve a teaching corps in this state consisting of weaklings, whose main urge will be to "get the money".

They will teach complacently what the "state" directs. Only ten years ago the rest of the civilized world was pointing to the government-controlled teachers of Germany, and their doctrines.

Judge Fain, in his Commencement Address at the Mississippi State College for

Women this year, urged that we consider most seriously the results that may come from the Tennessee law, and from such court procedures as that at Dayton. He pointed out that it was striking at the very foundations of freedom of speech, freedom of thought, and freedom in religion.

The petty mind has always rebelled at the thought of taking in some fact that was new to it. But the broad mind sees in each new discovery fresh evidence testifying to the glory and power of the inscrutable Infinite, and feels that His laws always work in an unchangeable orderliness, often beyond the comprehension of our finite, human minds. Thus the physicians and other scientists, have come to know that there is no conflict between religion and science.

It, therefore, behooves us, as disciples of Aesculapius so to guide those who rightfully look to us for leadership in sanitation and in the art of healing that they may avoid the pitfalls, unwittingly placed, maybe, in their path by the intolerance of the petty-minded. If the proper education of physicians is to be interfered with, who is to take up the staff of leadership when our hands falter?

For many years Mississippi has been pointed out as one of the most illiterate states. Only in the last few years have we been able to so strengthen our Department of Education as to enable the state to work to a more enviable standing. Such thoughtless laws can only hinder our progress.

Let us therefore, in the few weeks that remain before the Legislature meets, do all that we may to show the public the threat of danger hidden in such a law.

TULANE GRADUATE SCHOOL OF MEDICINE.

Medical Education has advanced rapidly during the last decade and quite a number of institutions unable to meet the require-

ments of the Council on Medical Education of the A. M. A. have fallen by the wayside.

This however applies more particularly to Under-graduate Schools; the question of Graduate Schools having been somewhat neglected, only recently has it begun to receive the very serious consideration it deserves.

In this connection we observe with a great deal of interest and satisfaction the reorganization by Tulane University of its Graduate School of Medicine, in order to satisfy the present day demands for more technical training.

This School was organized in 1888 as the N. O. Polyclinic by a number of progressive younger members of the local profession and gave post-graduate work as an independent school until 1906 when it became a part of Tulane University, since which time it has continued its course of instruction.

Just as has been the case elsewhere the efforts of the University authorities have in a great measure been concentrated upon the advancement of the Under-graduate School in order to keep it in the front ranks. Now that these measures have been accomplished, to a great extent at least and realizing the pressing demands for higher Graduate work, the Board of Administrators recently ordered a complete reorganization of their School.

The President of the University, the Medical Advisory Committee of the Board and a special Reorganization Committee have labored industriously throughout the summer months, perfecting plans so as to avoid any interruption in the work of the School.

They have now reached a point where we are in a position to say the School will be prepared to offer three classes of instruction, namely: Review Courses, Short Intensive Courses and Courses leading to a Degree. Review Courses such as have here-to-fore been given as Post-graduate work will be continued, but every effort will

be made to improve the class of work offered, by the addition of quite a number of teachers to the Faculty and in the subdivision and arrangement of the courses so as to cover the subject more effectively and in a shorter time.

Short intensive Courses may be arranged in various subjects for students requiring training of this character.

Following recommendations of the Council on Medical Education provisions will be made for Graduate work leading to a Degree. A Permanent Committee on Graduate Studies is now carefully working out plans and when these are completed it is expected that comprehensive courses will be offered in various branches including most of the specialties.

This we anticipate will prove one of, if not the most important subjects in the near future offered by Graduate Medical Schools. We see in this move by Tulane a most important epoch in Medical Education and one which will not only be of local interest but will attract the attention of the medical profession throughout the entire country.

Tulane University with its highly trained corps of teachers, with free access to the enormous and varied clinical material afforded by the great Charity Hospital, Eye, Ear, Nose and Throat Hospital and Touro Infirmary should and no doubt will be able to offer all classes of Graduate work of the highest possible character.

The authorities of the University propose to co-ordinate the various agencies of the entire College of Medicine, to have a free interchange of ideas and to develop a strong spirit of co-operation which will inevitably result in making New Orleans a great Medical center.

CORRESPONDENCE.

July 30, 1925.

Editor-in-chief,
N. O. Medical and Surgical Journal,
Whitney Bank Bldg.,

City.

My dear Doctor:—

In reply to your communication regarding the publication of my paper on the use of the Koch cancer remedy I feel it better for all concerned that this not be published, which request I have made before.

There are two sides to this question—the ethical and the scientific and my discussion deals entirely with the scientific. I had been impressed with the merits of Koch's discovery and urged that something be done to make it right, feeling that if Koch did not have as effective a remedy as he thought, he at least had something that profoundly effected cancer tissue and my hope was that after putting the matter right it might serve as a key or starting point to the elaboration of something more effective when worked up and studied in our large laboratories. I did not pretend to defend the unethical side of the treatment but discussed the scientific side exclusively. The above views are amply brought out in my paper and the discussion that follows.

I feel there are sufficient developments to bear me out in the statement that the treatment has merit. There are several cured cases here and others which have been tremendously benefited and look as if they may get well. In addition to this, other physicians, who visited Dr. Koch, came to the same conclusion I did and recently the Detroit City Council took action in the matter and requested their Board of Health to conduct an investigation. I enclose a letter received from the Board of Health, which explains itself.

A careful consideration of the facts as revealed by this letter must suggest to your

mind a situation, which is to say the least, very unusual in view of the fact that the treatment has already been twice condemned by both the local and national medical societies, which should logically be best qualified to pass upon such matters.

It is not necessary here to recite the details of how the investigation came about or the character of evidence produced. Many of these facts I can give you if wanted. It would, however, seem sufficient that the common council of a city of a million and a half people would take such action and incur the political animosity of the medical profession and place themselves in a ridiculous light, subject to the severest criticism, if the evidence produced before them had not been convincingly and overwhelmingly in favor of Dr. Koch.

It is also quite significant that the Board of Health, composed of such able men as make up its personnel, should have acceded to the request of the council if they could have taken any other course. One fact in connection with the action of the council I feel I should state as it has been said that if Dr. Koch had accomplished anything those in his own community should be in a better position to know the true facts. This investigation was confined to what had been accomplished within the City of Detroit with residents of the city as the council could not concern itself with outside affairs.

It is also of interest to know that Dr. Koch was not in favor of the above procedure as he preferred to have the matter straightened out within the profession, but could not afford to stop it without having it appear that he was afraid of an

investigation or wished to continue in his present status.

A notable feature in this affair is the absence of any newspaper publicity. A charlatan would have capitalized this to the fullest extent.

Immediately following the meeting at the Orleans Parish, at which I read my paper and feeling that the profession was not inclined to take any particular steps likely to result in righting the matter I wrote Dr. Koch and informed him that I had discontinued the treatment. I some time later wrote a more positive letter at the request of Tulane and agreed to absolutely discontinue both its use and advocacy in any way except to continue on the cases then under treatment, which was to be done under certain conditions.

Having renounced the further use of the treatment, on ethical grounds, I feel that publication of my paper will only have an unfavorable effect and may bring the Journal into discredit. It will certainly be gotten hold of by the lay press and as there is certainly enough to it to justify anyone trying it and there are a great many arguments that can be used which may be very hard to answer. There is also a great deal else that I feel will come out if it gets in the lay press, which I feel is very much better left out.

I cannot help but feel that careful consideration of the subject must convince you that the above view is correct.

I will be glad to hear from you as to what action is taken in the matter.

With appreciation and thanking you for any trouble I may put you to, I am

Very truly yours,

CARROLL W. ALLEN.

NEWS AND COMMENTS

DEPARTMENT EDITORS.

Lucien A. Ledoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the up-building of the profession to which he belongs."
—Theodore Roosevelt.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

During the month of June two meetings were held, one a joint Clinical Meeting with the Charity Hospital Staff was held in the Miles Amphitheatre at Charity Hospital, New Orleans. Interesting cases were presented and discussed by the members. The other was a scientific meeting and was very well attended. Three papers were read and discussed.

The Judiciary Committee has been very active during the past month, several matters are pending and a complete report of the action taken regarding the Koch Cancer Cure is attached to this bulletin.

Four applicants were elected to membership and three are pending. The membership of the Society to date is 463, the largest in the history of the Society.

At the last meeting of the Society the membership voted to adjourn during July and August. The next meeting of the Society will be held September 22nd, 1925.

REPORT OF THE BOARD OF DIRECTORS. The Koch Cancer Cure and Dr. Carroll W. Allen.

The Board of Directors at its last meeting held July 6th, 1925, instructed the Secretary to publish the attached report and the disposition of the above matter as part of the bulletin. Owing to the mass of correspondence, etc., only a summary is presented, the facts being reported in the order of their occurrence.

On or about January 18th, 1925, the Board of Directors received a letter from Dr. Wilkes A. Knolle, associate of Dr. Carroll W. Allen stating that Dr. Allen was anxious to make a report before the Society of his visit to Dr. Koch's Clinic. This letter was referred to Dr. John F. Dicks, Chairman of the Scientific Essays Committee who wrote to Dr. Allen under date of January 22nd, in part: "As there is

some question as to the ethical standing of Dr. Koch and his remedy the Scientific Essays Committee concludes that if you care to read a paper for the purpose of asking an investigation of his remedy we will be glad to have your paper on this condition." January 28th Dr. Allen replied to Dr. Dicks stating in part: "That he had some half dozen patients not yet sufficiently advanced regarding which no very positive statements could be made. He thought that these cases though would be impressive to the medical mind. He stated that a visit to these patients by a Committee or any other steps taken by the Society would be welcome by him."

Under date of February 13th, Dr. Allen wrote to Dr. Urban Maes, President, suggesting as the title of his paper, "Some Informal Remarks on the Treatment of Cancer." In this letter he stated in part: "That he would have much preferred to have deferred such a discussion for several weeks or a month longer stating that this would give the patients under treatment a sufficient time to make recognizable progress either toward getting better or worse." The Board of Directors replied to Dr. Allen under date of March 4th stating that his request to read a paper under the title, "Some Informal Remarks on the Treatment of Cancer" was granted. The Board insisted that these remarks be made in writing so that they may become a part of the official records of the Society. Dr. Allen's attention was called to Section 10, Article 2, and its amendments to our By-Laws, and the request to appear on a future program was referred to Dr. Dicks.

March 13th Dr. Allen acknowledged the letter from the Board of March 4th and asked for a copy of the By-Laws.

March 20th Dr. Dicks, Chairman of the Scientific Essays Committee, wrote to Dr. Allen stating that his paper was acceptable and that he had been placed on the program for Monday, April 27th, 1925.

Dr. Allen appeared on the program of the Society, April 27th, 1925, and read a paper, "Some Informal Remarks on the Treatment of Cancer." The discussion that followed was very free, several letters being read and were attached to the paper and form part of the minutes of that meeting. Following the discussion and the reading of the letter, the following motion

was made by Dr. F. W. Parham, seconded by Dr. Paul McIlhenny and carried. "That the whole matter be referred to the Board of Directors for their careful consideration in order to determine whether further investigation should be undertaken. At the meeting of the Board of Directors held May 6th, the matter of Dr. Carroll W. Allen and his paper entitled "Some Informal Remarks on the Treatment of Cancer" and his connection with the Koch Cancer Treatment, it was moved that it be referred to the the Judiciary Committee and all the data in our possession be placed at the disposal of this Committee. It was further moved that the chairman of the Publication Committee be asked to withhold the editing of Dr. Allen's paper until the Judiciary Committee had made its report. The above motions were carried. This matter was then referred to the Judiciary Committee and in a letter of May 16th instructed Dr. Allen to meet with them.

May 18th, 1925, Dr. Allen appeared before this Committee to answer to the status of the Koch Cancer Treatment. "The Doctor made it clear that he considered the Koch preparation used in the treatment, as strictly unethical. However, he is sincerely and honestly of the opinion that the method has merits and many possibilities and that his sole interest is to determine to a conclusion its relative merit. He stated that his work at present is in the hope of collecting a sufficient number of cases to permit a fair and impartial conclusion. The Committee is confident that his purposes are purely altruistic and he has no financial interest in the matter," and recommended that the Society appoint a Committee of Five of which Dr. Allen was to be a member and complete the investigation started and now being carried on by Dr. Allen and report back to the Society within a definite period of time. The above report was presented to the Board of Directors at its monthly meeting, June 1st. The reply of the Board of Directors was as follows:

"The recommendation of the Judiciary Committee has been considered in this form on numerous occasions. The Board of Directors does not countenance this as a proper method of procedure. We wish to call your attention to page 9, Chapter 2, Section 6 of the Code of Ethics of the American Medical Association which we have adopted as our standard for the conduct of the practice of medicine. The Board of Directors therefore requests that you give this matter your immediate consideration so as to conform with the laws that govern the practice of ethical medicine. The Board of Directors unanimously calls your attention to the fact that had your

re ommendations been accepted the whole Society would be guilty of an unethical procedure, and in all honesty would have been compelled to sever its affiliations with Organized Medicine as represented by the Louisiana State Medical Society and the American Medical Association. If Dr. Allen desires to investigate this remedy further, he should in all fairness to our Organization resign." The above motion was made by Dr. Fenno, seconded by Dr. Gelpi and unanimously carried by those present.

The article of the Code of Ethics which we wish to call your attention reads as follows:

Section 6. Medical Laws—Secret Remedies.

It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine; it is equally unethical to prescribe or dispense secret medicines or other secret remedies agents, or manufacture or promote their use in any way.

June 24th, Dr. Allen addressed a letter to the Judiciary Committee stating that he understood that their report to the Society on his use of the Koch Treatment has been referred back to them. He had asked to be advised when this matter came up for consideration.

The Judiciary Committee met again July 1st, Dr. Allen being present, and he read a communication to the Judiciary Committee so that they could make their final report to the Board of Directors of the Society. His letter is attached as follows:

Judiciary Committee,
Orleans, Parish Medical Society,
New Orleans, La.

Gentlemen:

Fully recognizing the incompatibility of my duties as a member of Organized Medicine with any professional or business relations with secret or proprietary remedies as opposed to the principals of ethics which govern a liberal and humanitarian profession, I hereby declare that I have severed all professional and business relation with Dr. W. F. Koch of Detroit, Michigan, as the inventor, manufacturer and promoter of a specific treatment of cancer. I hereby make it also clearly and unequivocally understood that I shall have no further connection with the said Koch Cure as one of its advocates and endorsers, and that henceforth I shall cease to administer or distribute this treatment or recommend its administration to my patients or those of other practitioners as long as its composition and manufacture remain a secret monopoly and only resume its use if I deem proper, after its composition and manufacture has been wholly, clearly and

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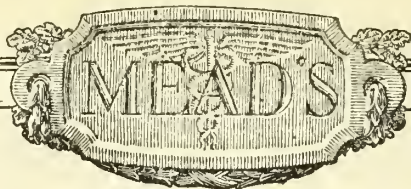
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CONSTIPATION AND INTESTINAL TOXEMIA.*

JAMES S. McLESTER, M. D.,
BIRMINGHAM.

I

From time immemorial constipation has been recognized as a source of discomfort and disease. It is known that the intestine harbors enormous numbers of bacteria some of which, at least, are capable of producing poisons, and also that many bacterial poisons generated outside the body, notably the Botulinus poison, are capable when taken into the intestinal tract of producing grave sickness and even death. Such considerations have led to the assumption on the part of both physician and layman that the intestinal tract is a fruitful source of disease; and the terms "auto-intoxication" and "intestinal toxemia" have become household words. To this source has been ascribed at one time or another almost every ill to which human flesh is heir.

Much has been written upon the toxemia which presumably accompanies intestinal stasis, but unfortunately conclusions have as a rule been based upon indefinite, vague clinical impressions rather than upon carefully controlled scientific observation. It would seem profitable, therefore, to take stock of our actual knowledge of the effects of constipation and of so-called intestinal

toxemia—not what we surmise, but what we actually know.

In the first place, we must accept without question the fact that constipation produces a well defined train of symptoms. The experience of everyone testifies that fecal retention may be accomplished by mental hebetude, headache, malaise, inertia, bad taste in the mouth, and bad breath; and clinical experiments has shown that it results even in a definite lowering of mental and physical efficiency. Then, too, we know that certain psychoses and other nervous diseases are made worse by constipation and at times relieved by regular evacuation of the bowels. Evidently, constipation is a deterrent to health and may even produce actual disease.

In what way does constipation produce these deleterious effects. Is it or has it been widely assimilated through the absorption from the intestinal tract of poisonous substances? Or it is in other ways? And if the former, what are the sources of these poisons and how do they act? To answer these questions we must inquire into the nature of these intestinal poisons and their effect upon man. This includes the study of both food decomposition products and the synthetic products of bacterial activity.

II

Among the foods, we can for the sake of brevity dismiss at the outset carbohydrates and fats. True, these two food-stuffs are prolific sources of trouble in certain altered metabolic states, such as diabetes mellitus,

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and also in the diarrheas of infancy, but as sources of intestinal poisoning in adults they may be disregarded. It has been the custom to place all, or almost all, of the blame upon the products of protein decomposition.

The poison of this group which has been most feared and most widely discussed is Indican, a derivative of Indol. Indican has been accorded a voluminous literature, almost all of which for our purposes is worthless because it is based upon vague, inaccurate observations. The time was when, as a routine measure, the urine was tested for indican in the expectation that it would give valuable information as to the existence of intestinal "stasis". A few clinicians still attach importance to the presence of this substance in the urine, but by the vast majority the indican test has long since been placed in the discard.

In order to clear up this question more definitely, investigators have taken up in an exact manner the experimental study of the poisonous effects of indican. Time will permit merely a brief survey of this work.* Nesbitt found that a dog could without injury receive intravenously twenty times as much indol as is daily excreted by man. Hertea observed that indol was toxic to dogs when given daily by the intravenous route and that in this way nervous and nutritional disturbances and eventually death could be produced. The amount of indol thus required, however, was much larger than the greatest amount ever formed in the intestine of man. Wooley and Newburg, and other investigators, in like experiments reached similar conclusions. It became obvious, however, that intravenous administration to animals and oral administration to man are essentially different, which fact led Herter to adopt the latter method of experiment. He found that excessively large doses of indol taken by mouth will produce in man dizzi-

ness and other disagreeable symptoms, but that smaller amounts, comparable in any degree to that generated in the intestine, were without effect.

Many people though in excellent health show at all times large amounts of indican in the urine. In spite of the interest manifested in this subject no one has ever been able to connect indicanuria with any definite disease. We are forced to conclude, therefore, that the absorption of indol from the intestinal tract and its appearance in increased amounts in the urine is not of clinical significance.

There are other protein decomposition products, notably Skatol and the Phenols, which are sometimes regarded as intestinal poisons, but when these are subjected to critical scrutiny and to animal experiment, as little evidence can be gathered against them as against Indol.

Histamin, a derivative of the amino-acid histidin, is formed in small quantities in the bowel and has been suggested as the cause of the low blood pressure often observed in chronic intestinal invalids. It has been shown, however, that this substance is quickly destroyed by the bacteria which normally inhabit the bowel and perhaps by other agencies as well. It is evident, too, that if enough histamin were absorbed to produce low blood pressure it must also, through its known action on smooth muscle fiber, produce other more graphic symptoms.

Many other protein decomposition products have been studied by means of animal experiment and exact clinical observation with equally negative results.

III

Concerning the absorption during constipation of those chemical poisons which conceivably result from bacterial activity, there is a two-fold argument against this as a disease factor. First, those organisms ordinarily found in the bowel do not produce soluble endotoxins; and second the

*This entire subject has been completely summarized by Alvrez, to which the reader is referred.

vast majority of bacteria, through a drying process, die in the large intestine (where practically all stasis takes place), and thus become incapable of producing anything. The greatest degree of bacterial activity is in the small intestine where there is no stasis of fecal matter and which therefore does not concern us in this discussion.

True, there is a profound change in the nature of the intestinal flora, in certain of the diarrheas, especially in children, and other bacteria come to predominate. These other more virulent organisms produce soluble poisons which are absorbed from the fluid intestinal contents and which may cause grave illness. Such intestinal poisoning of bacterial origin is one of the features of the acute diarrheas, but it does not come within the scope of this paper.

About twenty years ago great interest in the subject of intestinal toxemia was excited by Metchnikoff's assertion that the changes of age are brought about by the slow absorption from the intestines, of soluble bacterial poisons, and that by substituting the lactic acid bacillus for the normal intestinal flora we could halt these progressive changes. Suffice it to say, that experience has not confirmed these generalizations of Metchnikoff, and also that more recent bacteriological studies show that the bacillus in question does not, as was once thought, thrive in the lower portion of the intestinal tract. It now appears that the lactic acid bacillus cannot successfully be made to replace the normal intestinal flora.

Interest in this, however, has served the useful purpose of directing attention to another organism, the *Bacillus Acidophilus*. This bacterium has been shown to grow readily in the intestinal tract, particularly in its lower portions, and through its fermentative activity to be of genuine benefit in correcting constipation. It may be of value too, in the diarrheas of infancy, to which allusion has just been made, by substituting the *Bacillus Acidophilus* for the harmful invaders. When satisfactory Ba-

cillus *Acidophilus* milk cannot be obtained it often suffices to prescribe large quantities of milk sugar—say, three or four ounces daily. Lactose in such amounts favors the growth of this organism to the exclusion of others and thus accomplishes to a certain extent the same purpose as the more direct administration of the *Bacillus*.

In considering the poisons which conceivably can be produced in the intestinal tract and the diseases which may follow their absorption, we often lose sight of the fact that the body is in possession of two effective means of defense. First, the intestinal mucosa, presents a strong first-line barrier; many substances cannot pass through the epithelial lining and others while passing are destroyed or rendered innocuous. Second, the liver as the great "detoxicator" of the body either destroys outright those poisons which reach the blood stream or by a process of coupling, it renders them harmless. Were it not for these two barriers the story of "intestinal toxemia" would perhaps be different.

IV

Thus far we have discussed the absorption from the intestinal tract of chemical poisons, and have been unable to find, except in the acute diarrheas, direct proof that such poisoning takes place to an appreciable extent. There is another aspect to this question, however, and yet it is of paramount importance—namely, the passage of bacteria themselves through the wall of the gut. It has been shown that such bacterial invasion does take place and that it is in all likelihood a fruitful source of trouble. Adami called this process "latent" or "sub-infection".

The internal organs are not, as we once thought, sterile always in health, for examination of the mesenteric lymph nodes and other organs in the lower animals show that without evidence of disease they frequently harbor viable, though latent, microorganisms. Small numbers of bacteria make their way from time to time through

the intestinal wall and although the majority of these are killed in the lymph nodes, a few occasionally succeed in gaining foothold and thus in establishing latent infection. Later, these may proceed still further and gain access to the liver. Thus, through this process of "sub-infection" there are produced constantly increasing minute insults to the liver and finally obvious disease. We can picture to ourselves cirrhosis arising in this manner. What has been said of the liver applies equally well to the joints. It would seem that a great deal of the trouble ordinarily ascribed to intestinal toxemia of chemical nature could more properly be laid at the door of repeated sub-infection of intestinal origin.

To summarize, then, the arguments for and against the clinical importance of a true intestinal toxemia, we can say first, that here are unquestionably formed in the intestinal canal, chemical bodies which when introduced into the general circulation in sufficient amounts are poisonous, and second that clinical experience has given to many carefully observant physicians an abiding belief in the absorption of such poisons as a potent cause of disease; while against this we can argue, first that such known poisons when taken by mouth in comparable amounts cause no trouble, second that the body possesses two effective lines of defense which prevent ready access of intestinal poisons to the blood stream; third that neither animal experiment nor clinical experience has ever actually proven that any definite disease results from intestinal toxemia of constipation, and fourth, viable bacteria frequently pass from the intestines to the inner organs, causing at times actual disease. Sub-infection of intestinal origin, therefore, rather than chemical poisoning is probably the most fruitful source of trouble.

To return to the discomforts of constipation, if not due to intestinal toxemia what, then, is the explanation of these discomforts. When evacuation of the bowels has been accomplished, relief is immediate;

and yet it is evident that if absorbed poisons were the offending cause, this relief could not possibly be so quickly experienced. As Alvarez very aptly puts it, we can just as well talk of sobering a drunken man by taking the bottle out of his hip pocket. Some other explanation must be sought. The suggestion has been repeatedly made, and this seems most reasonable, that the disagreeable symptoms of constipation result from pressure of the fecal mass in the lower bowel, pressure both upon a sensitive mucous membrane and upon the pelvic nerves. Alvarez suggests an additional and perhaps an equally important factor, reverse peristalsis. This reverse peristalsis carries some of the intestinal contents back into the stomach and may even transport material from the stomach still higher. The discomfort and distress of an overloaded gut is genuine, but nevertheless in last analysis it would appear to be of nervous origin.

This explanation recognizes not only the direct effect of pressure from the fecal mass but also the contributory influence of individual nervous susceptibility. It is only by taking into consideration this factor or individual susceptibility that we can account for the wide differences in the way in which people react to constipation. Thus while the majority for comfort and health, must have a daily bowel movement, there are others with a lesser degree of susceptibility, who are content with an evacuation at intervals of two or three days. Numerous instances have been reported of people who empty the bowels at intervals only of several weeks, and occasionally we hear of a person who, while maintaining apparent health and attending to his daily duties has a bowel movement only every three or four months. But most remarkable of all was the case reported by Gieb and Jones of a man who went a year and three days without a bowel movement, during most of which time he was in comparative health. From a consideration of these wide variations in individual response to an overloaded

colon and the immediate relief which follows evacuation, we are forced to the conclusion that the discomforts which ordinarily accompany this condition are not due to the absorption of poisons but are dependent upon reflex nervous stimuli.

Question may arise here as to the explanation of the rapidly fatal disturbances, which accompany obstruction of the bowel in its upper portions. In spite of a great deal of animal experiment there is much that is still obscure about the nature and origin of the poison evidently formed in an obstructed small intestine. It is clear that this is an extremely acute process and that this type of obstruction is essentially different from stasis in the large intestine. In comparing the two we should not lose sight of the fact that from a physiological standpoint the large intestine is little more than a reservoir, designed to store feces over a considerable period of time or until it is convenient for the animal to empty the bowel, while on the other hand the function of small intestine with its rapidly moving contents is an essentially different one, and therefore the stasis in the one is not comparable to complete leakage of the others.

Recognizing then, that constipation has definitely baneful influences, the question of treatment is of great importance. There are three kinds of constipation,—first, that in which the evacuation of the bowel is infrequent, second, that in which evacuation occurs at proper intervals but is insufficient in amount, and third, that in which the feces are abnormally hard and dry. These conditions may be brought about by either of two factors: first, the fault may lie in the musculature of the bowel,—either a weak muscle or disturbed enervation; or second, it may be in the character and quantity of the fecal mass,—in last analysis is the kind of food eaten. Often both causes are operative. The object of treatment then, should be first, to improve the muscle tone of the bowel; second, to restore normal reflex activity, and

third, to insure a bowel content of proper amount and consistency.

Because the trouble can be traced most often to faulty habits attention should first be given to good hygiene. It is essential that complete and emphatic instruction be given. First of all comes regularity of habit. The patient should go to the toilet at a definite time each day, preferably after breakfast because the awakened movements of the early morning usually carry forward the fecal mass to the descending and pelvic colon, but whatever the time chosen, he should visit the toilet invariably at that hour and make the effort even though no desire is felt. It should be said, too, that should the desire for defecation come at any other time it should receive immediate attention. Postponement to a more convenient time is, especially in women and in school children a frequent cause of constipation. We are all creatures of habit and a good habit in this direction should be inculcated early and preserved always.

There are other frequently neglected factors which make for success or failure. Chief among these are comfort and leisure. The room should be sufficiently warm, the person should be thoroughly comfortable and he should not be in a hurry. For many men the smoking of a cigar permits relaxation and brings into play those stimuli which initiate and carry forward the act of defecation. The reading of a newspaper or an interesting book acts in like manner. These precautions do away with the totally inhibitory influence of haste, nervous excitement and the fear of failure.

The position of the body is important, in that a stooping posture gives the abdominal muscles best opportunity for effective action. For this reason children should not be permitted to sit on a toilet with the feet dangling over. For the adult as well as the child, a small foot-stool which elevates the legs and knees is oftentimes of great help.

Something should be said of the genuine importance of psychotherapy in the cure of

constipation. Dubois and Dejerine as well as other writers emphasize the inhibitory influences of fixed ideas—ideas which lead to the belief and fear that the bowels will not move. Effort should be made always to eradicate these phobias. The patient should be told that to miss a day or even two or three days is, after all, without danger to health. If he can be induced to quit worrying about it and make up his mind that with a little patience his bowels will eventually function properly he will often be rewarded. Certain it is, psychic influences play a contributing and at times even a determining role in the continuance of constipation. Successful treatment demands that these be combated.

The musculature of the bowel can be stimulated to better functional activity in two ways: first by breaking the vicious circle and starting regular habits, and second by improving the muscle tone of the entire body. I have never been able to accomplish by abdominal massage the great things which have sometimes been claimed for it, and my own feeling is that attention to general muscular development is best. Walking is the best form of exercise; golf is fine. There are certain systems of exercise which may be taken in the bedroom on arising and which are good if consistently carried out. In the matter of exercise as well as of other regularity of habit, it is of great importance that the patient understand the necessity for persistent, long continued and sustained effort.

In the correction of constipation the character of the bowel content is perhaps the most important single factor. A concentrated diet leaves in the bowel a small amount of hard, dry, lumpy residue which irritates the mucosa but does not promote normal propulsive movements. For proper function the bowel should have a relatively large soft content which gives the right sort of impulse and is easy to propel, and for this, the food should furnish an abundant residue of undigestible matter. A diet containing an abundance of cellulose

is best because this substance, being indigestible, leaves a large residue which under the influence of bacterial activity ferments and gives a soft consistency to the bowel content. We should advise an abundance of vegetables particularly the green variety, such as lettuce, spinach, cabbage, asparagus, onions and tomatoes, Orange, marmalade, other preserved fruits and honey are all of help. Stewed fruit, especially pruns, figs and rhubarb are effective and make a very nice dish when added to any of the cereals and taken with cream. The value of fresh fruits is usually appreciated but should nevertheless always be emphasized.

We hear it said in this connection that whole wheat bread is better than white bread. This is true because of the bran contained in the former and yet I much prefer to permit the patient the more palatable and easily obtainable white bread and then to instruct him to add to the morning or evening meal a dish of ordinary bran. It is not necessary to prescribe any of the especially prepared more elegant forms of bran, for they are no more effective than plain washed bran, the kind we feed to the cow. The latter when taken with a little stewed fruit and cream is not an unpalatable dish. Occasionally the patient does not eat enough bread and butter. Also, the necessity for a sufficient amount of water should be emphasized.

Agar is another substance, which is an effective aid in our efforts to change the character of the intestinal content. This gelatin-like substance when taken into the bowel absorbs water and on mixing with the food gives a large bulky intestinal content, just the kind which favors the proper propulsion forward of the fecal mass. Agar may be mixed with bran or other breakfast food; or it may be taken straight. A tablespoonful twice daily usually is sufficient. Since Agar corrects an actual fault and relieves constipation by bringing about within the bowel a normal physiologic condition, I greatly prefer it to the mineral oils so commonly used. There is

one small objection, however to both agar and bran. In absorbing fluid these substances incidentally absorb also a certain amount of the dissolved nutritive substances which otherwise would be taken up by the intestinal villae. With sufficient agar we can create a negative nitrogen balance in an individual who previously was in nitrogen equilibrium. This does not seem to me, however, to be a serious fault.

I do not think anything need be said regarding drug stores since the particular drug used is a matter of personal bias. It can be safely said, however, that with proper hygiene, patience and long persistency and with an intestinal content of the proper kind, drugs will seldom be necessary.

Finally, further emphasis should be laid upon the importance of persistency. Constipation of many years standing cannot be corrected in a day. Persistency and patience are the requisites of success. The necessity for persistent sustained effort should be explained and the patient should be told that he must have the benefit of a full year of such effort before he begins to tire or becomes impatient. If he is consistent in his endeavor he will usually be rewarded long before this time has expired.

DISCUSSION.

Dr. L. S. Lippincott (Vicksburg): I think this paper is very timely. We see a lot of chronic constipation and stasis. There are several points I would like to bring out. First, I want to defend the test for indican to some extent, because most people believe now that when you find a marked increase of indican in the urine, it means putrefaction in the small intestines. It does not indicate stasis in the large intestine. It is especially valuable, therefore, in cases where you suspect acute obstruction of the small intestine. In those cases you do have a marked increase of indican and it does help in making the diagnosis.

In regard to absorption of bacterial products, the Doctor says that most of the bacteria are dead. As I understand it, the organisms of the colon group, which make up much of the intestinal contents, have an endotoxin, and that endotoxin is not liberated until the organisms are dead and broken up, and therefore it seems to me the fact that they are dead would be more in favor

of absorption of the toxin of the colon group. That is my personal opinion. You cannot get away from the idea that there is absorption of bacterial products, especially the endotoxin, and particularly since the use of acidophilus milk does help to clear up this condition by reducing the number of grave negative organisms.

In regard to acidophilus milk—it is very difficult to make it, especially if you have not clean milk, and the chances are that most of us do not have clean milk; it has manure in it, and manure has spore bearing organisms. If you use whole milk you will have trouble right away. You can pasteurize it. That kills the colon bacillus, but not the spore-bearers. If you put this milk in the incubator the cream rises and makes an anaerobic culture. The spore-bearers, which are also gas-producers grow well and in 24 hours will blow the milk all to pieces. We have in Vicksburg a man who tried to produce acidophilus milk. He had great trouble. We worked with him and gave him pure cultures, but he finally had to use skimmed milk, and even then he was often not able to keep it from being contaminated. The patients can make it if you will get them pure cultures. Lactose does help, but they have to have such large doses that it is hard to take. We have found by making candy out of the lactose they can take it better. Also the use of a common thermos bottle is an excellent way to incubate these cultures.

Dr. J. S. Ullman (Natchez): Doctor McLester's paper is very interesting and there is very little to add, except that in my opinion something more might be said as to the importance of diet and of drinking water. Possibly the Doctor was prevented on account of lack of time from mentioning this. In my experience a large majority of people who are suffering from constipation, that is, where there is no organic trouble or any trouble of innervation—where it is what you might call a habit condition—it is my experience that these people do not know how to eat properly. Take for instance, the average traveling man who lives day after day and three times a day on steak and potatoes and bread and butter. This is a very concentrated diet, but after he once acquires the habit of steak and potatoes it is hard to get him to take any other food. Even though people have a more varied diet, nine out of ten when they sit down to the table will eat the concentrated foods first, even if all the vegetables are served when the meat and bread are served—they satisfy their hunger and the quantity of the green and leafy vegetables necessary to produce bulk in the lower intestines is not taken.

For several years past I have used this plan in handling this condition. I put the patient on what we call a fruit and vegetable diet. I stress this

point that they are *not to use this diet for more than three days*, because it will bring on trouble if they stick to it. But they are not allowed to have any form of flesh, eggs or cheese; in other words, the proteids are cut out, and as far as possible the carbo-hydrates are cut out. We make them live that way for three days, without bread or anything else made from flour, if possible, not that we have so much objection to the carbo-hydrates in themselves, but we find this diet makes an impression on the patient's mind in a way that nothing else will. By the time the three days are up, and usually before, the patient is back at your office asking for relief from the vegetables and fruits. Then you can use your judgment as to whether you cut the time short or not. That has had the effect of stressing to that patient the value of this kind of food. Very few patients need any laxative or purgative when once this lesson is learned.

Dr. J. M. Buchanan (Meridian): I want to say a few words in regard to constipation from the neurological standpoint. Just what produces that nervous condition I am not going to say. Doctor McLester, with all of his learning, did not even know whether it was from absorption of the poison or from pressure. But we do know that we have what is ordinarily known as auto-intoxication which produces very serious nervous troubles at times. We know that we have a nervous condition that we believe is due to the absorption of some of the toxines, and in fact, there is evidence of this toxic poisoning and its effect on the brain and central nervous system. On the other hand, we sometimes have a very severe headache, a splitting headache, and, if you evacuate the bowel, the headache is quickly relieved. If the trouble had been from absorption of a poison, the evacuation of the bowels could not relieve that so promptly, therefore, I think it is probably due to pressure—to a reflex condition. There is a mass in the bowels that produces pressure on a nerve, and there is a reflex condition that affects the central nervous system, and produces a severe headache which is removed immediately after elimination.

We also know that in epileptics as long as we keep the bowels well opened they are not so liable to have these attacks. There is a variation in regard to diet for epileptics—some say they should eat vegetable foods and very little meat—things that do not tend to constipate them. On the other hand, I read not long ago where some doctor gave his diet, and he was giving the very things that had been discarded by others. He gave these patients meat and a liberal diet, excepting that he would not let them have peanuts and popcorn or anything that would tend to irritate the bowel. So it is a matter largely of opinion, I think, in regard to diet. In fact, I have not much faith in diets

since Stefannson lived three years in the northern regions on seal blubber. It may be necessary to have some bulky substance in the intestines in order to create evacuation, but somehow they did not require it up there.

There is no question that in nervous and mental conditions the first thing we should do is to open the bowels and thoroughly eliminate as quickly as possible. I have seen cases of insanity clear up almost in a day after the bowels have been thoroughly evacuated. Just what effect that constipation had had on these patients I could not tell. Of course these people did not know how to take care of themselves. Nearly all of them came with constipation and showing evidences of toxic trouble and very often the condition was relieved as soon as the bowels were thoroughly opened.

It is not necessary to go over the matter of diet and habit, as Doctor McLester has already discussed that thoroughly, and I agree with him in regard to it, excepting that I have never been able to get around Stefannson's experience.

Dr. H. M. Folkes (Biloxi): I regard this as one of the most important papers that I have heard before the Medical Association, and it was presented in Doctor McLester's usual scholarly and scientific manner. From my own experience extending over 32 years, I believe one of the most important factors in the treatment of constipation is the question of regularity of habit, and in my opinion the best way to treat constipation is to prevent it by training children properly. So far as diet and medicine and water are concerned, it depends entirely upon the individual's disposition and habit. The truth is that constipation is one of the most frequent causes of bringing people to the doctor's office, and it is a thing to which the average physician pays too little attention. I will not discuss the scientific phase of it, because I do not think anybody knows anything about it scientifically. From a practical point, I think we are largely to blame in failing to give these patients all the attention and time they deserve, studying each case from its own particular angle, because each of these cases is a law unto himself. These points have been brought out, but I wish to drive home the fact that constipation is an extremely important condition in the doctor's every day practice.

Dr. W. A. Dearman (Long Beach): This is a very interesting and timely paper on the subject of the close relationship that exists between so-called auto-intoxication and constipation, and there is a close relationship. Doctor Folkes says we do not train our children as to regularity of bowel movement, but though some of them are well trained, it is the adult constipation that we have to deal with principally.

In regard to constipation in women, I think women are more constipated than men, because of lack of regularity of habit. I have never seen a case of constipation in an adult where it could not be traced back to irregularity of bowel movement, you would not find that the man ate his breakfast in a hurry, grabbed his lunch basket and ran to catch a car, and to this time you could trace back his constipation.

As far as auto-intoxication is concerned, I still believe, in spite of the lack of scientific evidence, that may be brought forth, that there is unquestionably a disturbed condition in the small intestine, that there is a disturbed condition of protein decomposition. I believe that the small intestine can become foul, that all kinds of poisons are being absorbed, postcervical headaches occur, the patient has nausea and vomiting, he is depressed in spirits, his efficiency is reduced in many ways and he is a sick man. He has low blood pressure and every cell in his body is below par; therefore a purge will relieve him and he will feel better, but still he puts in more proteins, an intoxication takes place, and finally he has a high temperature and then evacuation probably will not relieve him.

I think every case of constipation should be treated by dietetic measures and also by inducing regularly of habit. *Acidophilus* milk plays its part, diet surely plays a very important part, as well as regularity. I believe the proper explanation and persistence in carrying out these fundamental principles will overcome constipation and in time to come will restore the patient.

Dr. James S. McLester (closing): I did not wish to create the impression that poisons are not absorbed from the intestinal tract. I merely wanted to remind you that we have never been able through animal experiment to identify any such poison as the cause of definite disease. The thing which I wanted most to emphasize is the role played by actual bacterial invasion through the intestinal wall and the reflex influence of an over loaded intestine.

THE RELATION OF THE SURGEON TO THE FAMILY PHYSICIAN.*

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Relativity—nearly all things in nature are more or less relative, and interdependence is one of the most usual relations. Your experience and observation will teach

or has taught you that absolute independence is to a large degree impossible for it matters not what position one may occupy or what one's possessions, there is a dependence which is inescapable.

There recently came to the attention of the reader, a rich family, the members of which were ill with influenza; the nurses in town were all busy—there was not one to prepare food and give attention to those people but the cook, and when the cook went down they were left with no one to look after them, and their money, for twelve to eighteen hours availed them little.

There is probably no human relations so interdependent as the surgeon and family physician, and the object of this missive has an educational rather than a critical mission. Ignorance is the great bugbear and hinderer of effort and in many instances handicaps the proper solution of problems, and it is doubtful if there are any more difficult problems to unravel than those of diseases affecting the complex human economy, and the more intimate ones knowledge of the host the more readily can the invader be detected; therefore the family physician, if he be an observant person, will essentially be in a better position than anyone else properly to interpret symptoms in a person whom he has observed over a period of years than the one who has contact for the first time.

The family physician is usually acquainted with the idiosyncracies and peculiarities of these people, which acquaintance is only gained by long observation. Anaphylaxis to certain drugs is one point worth knowing relative to anyone. The surgeon who may be ever so careful in obtaining a history, may miss some important detail which would be of considerable importance if known, and which is often found out too late to be of the same value as if known earlier in the case; therefore a letter from or an interview with the family physician by the surgeon relative to a referred case could largely aid the surgeon in the best man-

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

agement of the patient—a goal to which the patient is entitled and to which we all aim. The patient's welfare should be first, last and always uppermost in the mind of the family physician and the surgeon.

The family physician when he refers his patient to the surgeon loses the good will and confidence of that particular case and possibly the entire family and connections, due to some inadvertent and possibly unintentional remarks reflecting on his ability or alertness in handling the case. A surgeon should be very careful of his speech in the presence of a layman relative to a case referred by the family physician for often a wrong interpretation is placed on his remarks and great harm results. If he should have any criticism to make it should be made by letter or in person to the family physician himself and vice versa when the patient returns to the family physician, if all is not well, the matter should be taken up with the surgeon, in person or by letter and the proper adjustment made. It is the opinion of the writer that the increasing anti-medical and surgical cults could, to some extent, be traced to this tendency to unfair criticism of physician by surgeon and surgeon by physician to laymen which falls on ignorant but willing ears.

In the matter of diagnosis of a referred case we will grant the value of the family physicians' knowledge of the person and with a knowledge of symptomatology he should be in a position to make an approximately correct estimation of what is wrong, but often in remote places where the aid of the laboratory is not available, he may, and possibly does, err in his or her estimation, but that is unfortunately a situation that the surgeon also meets, with all possible apparatus and aids at his disposal. Now, it would seem that if the surgeon would invite the physician who referred the case, to witness the operation, should one be performed, so that he could see why he referred the case and its pathology, or in the event of his inability to attend the operation, that the surgeon

should write him in detail the pathology found, what was done and the expected results; such procedure would be of considerable educational benefit.

In this day of economical organization co-operation is essential to success, and fair co-operation between the surgeon and the family physician with a mutual consideration of the difficulties which each encounter, would no doubt, redound to the benefit of both and go a long way towards increasing the respect and rewards to which they are entitled, as individuals, and which also aid in maintaining the high position which organized medicine should hold in public opinion. Any unfair criticism on the part of either party, in the presence of the laymen would indicate ignorance, lack of consideration and would be little short of criminal, for its effect in destroying the respect of the greatest of all professions.

The family physician is as important as the surgeon, the surgeon is as important as the family physician. Both are extremely important to the welfare of humanity. Permit the writer to implore you not to break down that halo of confidence and goodwill that surround the family physician or the surgeon, unless for special reason, by some remark or suggestion made, in the presence of the patient, some relative or friend, for it may mean a complete change of attitude toward the entire profession. Far be it from the writer to condone or protect the ignorant, grossly careless or criminal surgeon or physician.

DISCUSSION.

Dr. J. E. Knighton (Shreveport): I think this is a very timely paper that Dr. Kemp has brought to our attention. Certainly we must not lose sight of the fact that we as physicians and surgeons must co-operate with each other in our dealings with our patients. First of all, we must be doctors, we must be physicians, whether we are surgeons or specialists along any other line, we must first be physicians and to be physicians in the highest sense of the word we must first be gentlemen. If we maintain the proper relationship between ourselves, certainly we will never lost sight of that fact.

I do not think there is any special reason for prolonging discussion along this line, although I do think it is proper that from time to time we should consider just such subjects as the Doctor has brought before us. I think frequently misunderstandings occur for the simple reason that the layman, the members of the family, or the patient, misinterpret what has been really said either by the surgeon or by the general practitioner—the family physician. Frequently that occurs where there are several physicians in consultation in connection with one case. For that reason I think that instruction should be given to the family, any reports with reference to the patient's condition, should always be put up to one man who assumes the responsibility of the patient. Frequently two doctors will make reports on a patient meaning exactly the same thing, but expressed in somewhat different language, and the layman interprets it as being two different things entirely and gets the wrong idea. For that reason the closer the co-operation that exists between the physician and the surgeon, the better it is for the patient, for the family, and for all concerned.

PRIMARY SARCOMA OF THE INTESTINES.*

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NEW ORLEANS.

Through the kind courtesy of Dr. Peter Graffagnino, whom I assisted in the operation of the case to be presented, I have been given the opportunity of studying a condition that is a rarity in medical literature. This case has prompted me to study the literature for the purpose of making a statistical report as well as to dwell somewhat upon the etiology and treatment. The report shall be confined to those cases whose origin has been in that portion of the gastro-intestinal tract lying between the pylorus and rectum, and excluding these two latter regions.

REPORT OF CASE.

The case is that of a male child 3 years of age who, after having been ill a week, was brought to the Charity Hospital. Prior to this period of illness the child was said to have been in perfect health. The onset was noticed as a general bad appearance of the child. A few days later he developed a diarrhea, having from five to six stools

daily that were more or less scanty, watery, and containing mucus, but no blood. He rapidly grew worse. On the day of admission he developed fever and vomited for the first time. A mass observed in his abdomen was the signal for his immediate conveyance to the hospital. While not weighed in a long time he was thought to have lost considerably in weight. The past history showed that he had been born of a normal labor at full term; had been artificially fed; and that he began walking at nine months. The present was the child's first illness. Three months previously he had fallen and struck the left side of his abdomen against the handle of a wheel-borrow; but this did not seem to give him any trouble. The family history was negative for the usual chronic diseases.

Physical examination showed a fairly well developed and nourished male child that appeared acutely ill, toxic, and anemic. Nothing of any significance was found anywhere except in his abdomen. The left half of this region presented a rather large and firm mass, about the size of a cocoon, that appeared to lie free and was somewhat movable. It filled the entire left side. There was but little pain and only a slight amount of rigidity.

The temperature on admission was 103.4 F., pulse 116, and respiration 24. A specimen of urine could not be obtained. The blood showed a hyperleucocytosis of 35,000 with a neutrophilic percentage of 76.

Under ether anesthesia a left rectus incision showed the presence of pus in the peritoneal cavity. The mass filled the entire left side of the abdomen. From its position and appearance this mass was recognized to be the descending colon. It was bound down quite firmly to the posterior abdominal wall, and gave the impression of being very friable. The remainder of the intestines were examined and another mass, similar in nature, was found to involve the ileum about two feet (60 cm.) from the ileo-caecal junction. The lymph nodes in the mesentery of this latter mass were fairly well enlarged. This ileal mass was about eight inches (14 cm.) in length and was quite easily distinguishable by the thickness and firmness of the intestinal wall.

General peritonitis had set in. A clinical diagnosis of malignancy was made, and as the child was doing badly, the abdomen was closed without attempting further exploration. The patient died nine hours later.

A partial autopsy showed the liver, spleen, kidneys, pancreas, etc., of about normal size and consistency. The pelvic organs were negative. The small intestinal mass was re-examined and the operative findings confirmed. The entire cavity was filled with a flaky and purulent material.

*Read before the Orleans Parish Medical Society, June 22nd, 1925.

Beginning adhesions were fairly numerous. The appendix appeared normal. The descending colon was removed between ligatures; and the mesenteric infiltration was found to be so extensive that the whole posterior surface—on being pulled away—appeared very broad and ragged—the lymph nodes being very much enlarged.

The gross specimen was a mass about 14 cm. in length and about 6 cm. in width and thickness. The posterior—mesenteric—surface was irregular and more or less nodular. The peritoneal surface was smooth with an almost entire absence of the longitudinal bands, which in reality had been so stretched that they could not be distinguished from the peritoneum. The mass was largest at the splenic end; but it tapered into the normal intestine above and below. Cross sections showed the intestinal lumen as a small slit-like opening. The thickness of the wall ranged from 1 to 1.5 cm. In consistency the mass was very friable. A longitudinal incision showed the mucus membrane to be fairly well intact except for two very large ulcers—one slightly larger than a twenty-five cents piece—and oval in shape; and the other about the size of a five cents piece. These were both near the splenic end.

Microscopically, the entire intestinal wall, from mucosa to serosa, was found infiltrated with a type of small lymphoid cells. These cells were so numerous that only a thin reticulum of connective tissue could be made out as the supporting element. The submucosa, very much thickened, was practically one mass of small round cells among which were found numerous small and large congested blood vessels. An occasional endothelial cell was seen. The mucosa and muscularis mucosa were found to be in fairly good condition. However, ulceration of the former was noted in some places.

The muscularis was entirely invaded and its fibers of muscle separated and broken up by the infiltrating growth. The subserosa—as the submucosa—was thickened and infiltrated. The serosa was intact and perhaps somewhat thinner than usual. Large and small blood vessels were in abundance throughout the section.

The tumor cells were very closely packed together. Occasionally, what seemed to be lymph follicles were seen; and it appeared that from these as centers infiltrating extensions were projected. The cell itself was of the lymph type. It contained a large vesicular nucleus and a relatively small amount of cytoplasm. In size it varied from about 3 to 7 microns. While mitotic figures were unmistakably present they were not very numerous. A diagnosis of intestinal lymphosarcoma was made.

In addition to the above described case this paper is based upon 115 other cases. Until the year 1900, when Libman(1) made a thorough study and report of this condition in the small intestines, the subject was unsystematically and incompletely covered in the literature. In 1901 Jopson and White(2) reported all the cases whose origin was in the large intestines; so that, between these latter authors and Libman the subject was pretty well covered. Corner and Fairbanks(3) in 1904, collected all cases that involved any portion of the gastro-intestinal tract. This is the most comprehensive statistical report of this subject on record. These authors collected 96 cases of sarcoma involving the intestines proper; and these are divided according to the segment of the bowels attacked and the type found. Since then isolated cases have been reported from time to time but no attempt has been made at a collection and classification.

The rarity of primary sarcoma of the intestines is well illustrated by the fact that from 1859 to 1875 no cases of intestinal sarcoma were observed in the Berlin Pathological Institute.(1)

Smoler(2) reported 13 cases of primary sarcoma of the small intestine found in 13,036 autopsies between the years 1883 and 1898. In spite of this it appears that the condition is perhaps a little more frequent than these reports would lead us to believe. From 1914 to 1923 inclusive the Charity Hospital records show that 7 cases were diagnosed. Foreman(4) says that sarcoma of the intestinal tract is more frequent than is usually thought.

As compared to primary carcinoma of the intestines sarcoma certainly occurs much less frequently. The seat of preference between the two conditions appears to be reversed. While carcinoma has a tendency to occur more often in the large bowel sarcoma seems to prefer the small intestines. Libman(1) collected 59 cases of sarcoma of the small intestines whilst Jopson and White(2) could only collect 22 cases

involving the large intestines; and, the greatest number of these occurred in the ileo-caecal region—the line of division between the large and small intestines. From this alone it would appear that the proportion is practically 3 to 1. In the group of 116 cases 78 occurred in the small and 36 in the large bowel. In two instances the exact location was not obtainable. Nothnagel(1) found only 3 cases of sarcoma of the bowel in 274 cases of sarcomata from 1882 to 1893. In the same period of 2125 cancer cases—243 were of the bowel. Of 102 cases of sarcomata Muller(2) found but one in the intestines; and of 521 cancer cases 41 were of the intestines. From 1914 to 1923 inclusive the Charity Hospital records show 44 cases of intestinal carcinoma occurring among 1817 carcinomata cases (excluding gynecological carcinomata). During this same time of 431 cases of sarcomata 7 occurred in the intestines. A survey of these figures shows that if everything were equal carcinoma would appear to occur six times more frequently than sarcoma.

The number of cases involving the various groups are as follows:

Duodenum	9	cases
Jejunum	24	"
Ileum	33	"
Ileo-caecal regions	21	"
Ascending colon	4	"
Transverse colon	1	"
Descending colon	5	"
Sigmoid colon	2	"
Small intestines (location not specified).....	11	"
Large intestines (location not specified).....	2	"
Small and large intestines	1	"
Location not specified	2	"

From this it would appear that the ileum, jejunum, and ileo-caecal regions are involved most frequently; and in the order named. The transverse colon shows, apparently, the least susceptibility. A few cases where practically the entire intestines were involved have been reported. In one instance the entire stomach, small, and large bowels were involved.(5)

Etiology.

Sarcoma of the intestines has been found from the new born (Stein) to the age of 70 years. As sarcoma elsewhere in the body, the condition is usually found in the earlier years of life. The greatest number of cases have occurred between the 30th and 40th years; the next greatest between 20 and 30 years; and this is followed by the 0 to 10 years group. Of the 116 cases gathered the age was given in 102. A grouping of these show the following:

0 to 10 years	16	cases
10 to 20 years	9	"
20 to 30 years	24	"
30 to 40 years	29	"
40 to 50 years	12	"
50 to 70 years	10	"

As in the case of cancer the etiology of intestinal sarcoma is unknown. In carcinoma of the bowel—most of the cases developing in the large intestines—the responsibility is usually placed on the fecal impactions and stases, which brings us to the chronic irritation theory. However, as most cases of sarcoma develop in the small intestines this theory has to be placed further down the list of probable causes. In several instances the disease appears to be associated with previous trauma.(1) Various chronic diseases of the intestines—as syphilis, tuberculosis, etc.—have at one time or another been blamed. In 1893 Flexnor reported the finding of small oval protozoal bodies in the two cases which he reported. The recent work of Bunting and Huston(7) shows that of the 3,300,000,000 lymphocytes that enter the blood stream in 24 hours, most of them are thrown out into the lumen of the intestines. DeNoyelles(8) and Kelley(9) believe this may go far toward an explanation for the incipency of this disease. It certainly seems quite possible that among such a great number of cells—in a fertile field—a few might be activated to an abnormal proliferative process, which ends in the beginning of a sarcomatous new growth. In most of the cases collected no attempt was made to give the etiology.

The case herewith presented shows a history of trauma in the region of what appeared to be the primary growth some three months previous to the patient's death. This may or may not have had something to do with the development of the disease. Nothing else in the history or physical findings gives any idea as to any other cause in this case.

In Libman's 59 cases 35 occurred in males and 14 in females. Jopson and White's cases show 12 in males and 10 in females. Of the 116 cases collected 72 occurred in males and 34 in females. From these figures it appears that the male is about twice as frequently attacked as the female. The figures of Corner and Fairbank tally very closely, as they report 59 in males and 28 in females.

Pathology.

Practically every type of sarcoma has been found in the intestines. Every layer of the intestinal wall has at one time or another been the starting ground of a new sarcomatous—growth. The serosa has been the place of origin in several instances. The subserosa, muscularis, muscularis mucosa, and submucosa have all had their share. It appears that the closer to the intestinal lumen the greater the chances for affection. The submucosa has been the seat of origin in the greatest number of cases. This is substantiated by the fact that approximately 78% of the collected cases were either round-celled or lymphosarcomata; and it is the general belief that these types have their incipency in the submucosa. As they grow in this layer the tendency is to dissect longitudinally along the intestinal wall. Infiltration of the muscularis takes place; the latter layer is paralyzed; the bowel dilates; and diarrhea is the usual sequence. This is more true if the growth is in the large bowel. In the small intestines, while the same thing usually occurs, intussusception and obstruction not infrequently complicate the pathological picture. The freer mobility of the small intestines seems to be the explanation

of this. Ulceration of the mucosa is less frequently seen than in carcinoma. It is most often found in the large than in the small bowels.

The types of growth found in the intestines have been quite numerous. Most important among them are round-celled sarcomata, lymphosarcomata, spindle-celled and mixed-celled sarcomata. Those which occur less frequently are myosarcomata, melano and adenosarcomata.

It is very difficult to differentiate between round-celled and lymphosarcomata in this region. The former is probably the most malignant in the intestines as it seems to be complicated by more frequent metastases. As a matter of fact the lymphosarcomata grow more by infiltration and metastasize less frequently than any other growth.

Metastasis may occur to any region of the body. The liver seems to be most frequently affected; then the lungs, kidneys, various portions of the intestines, stomach, brain, and lymph nodes. Metastasis⁽¹⁰⁾ is not as frequent as in carcinoma of the bowel.

When the growth involves the large intestines peritonitis has been a very frequent complication. If this is not found at operation it almost invariably develops after the exploration.

Symptoms.

The symptomatology of this disease necessarily varies with the portion of the bowel affected and the type of growth present. Ochsner⁽¹¹⁾ describes the early symptoms as being indefinite abdominal pain, persistent and unrelieved by rest and starvation, colicky and not particularly well localized, often associated with anemia and cachexia. If the duodenum is the seat of the lesion symptoms of dyspepsia will manifest themselves. Ordinarily these would simulate the symptoms of gastric ulcer or gall-bladder disease. Because of the anatomy in this region obstruction or intussusception would only be a remote possibility.

Unless the growth is into the lumen, no symptoms of obstruction will occur. The X-ray will show practically nothing definite. A tumor in this region—unless quite large—would be difficult to palpate. The cases of duodenal sarcomata reported have all practically been discovered as the result of explorations for suspected ulcer or gall-bladder trouble. If the jejunum or the ileum is involved almost the same symptoms result. However, here there is the added danger of intussusception, and obstruction as the result of this. Tumors of the intestines are a frequent cause of intussusception in adults but rarely in infants and children.⁽¹¹⁾ A tumor mass in these regions would also be felt earlier, and would—as a rule—be found quite movable. In the large intestines it appears that obstipation is more frequent when infants and children are concerned. This, too, may come on as the result of an intussusception. Usually the same symptoms are otherwise found for this portion as in the others, except that intussusception practically never occurs in adults. However, the added danger is general peritonitis. Pain is only occasionally present.

In the light of our present knowledge it is practically impossible to distinguish, clinically, between carcinoma and sarcoma of the bowels. Stenosis is rare in sarcoma while it is frequent in carcinoma. However, this is not necessarily always true. DeNoyelles reported two cases in one of which there was almost complete obstruction. Bloody stools are only rarely seen in sarcoma, whilst they are almost always present in carcinoma. The younger the individual, too, the greater the chances in favor of sarcoma.

In addition to the above symptoms the general picture of the individual will tell us that a malignant growth should be suspected. Rapid loss in weight and strength with an otherwise unexplained anemia adds strength to a diagnosis of malignancy.

Diagnosis.

Sarcoma of the intestines must be differentiated from any tumor that may be found in the abdomen. The location of the tumor and the various other features all determine the possible diseases from which an intestinal sarcomatous growth must be differentiated. Needless to say, an exploratory laparotomy—as in many another abdominal disease—is the only means by which a diagnosis can be cleared up. Tumors involving the pancreas, spleen, kidneys, mesenteric lymph nodes, and the mesentery itself may all more or less simulate the disease. Ordinarily a malignant tumor can pretty well be diagnosed or ruled out by an intelligent history as well as by the laboratory and physical findings. Cysts of the pancreas, mesentery, ovaries, and hydronephrotic kidneys are thus more or less ruled out. Occasionally a pedunculated cyst of the liver may very closely simulate sarcoma of the bowels. Because of the tendency to grow longitudinally along the intestinal wall it is very difficult to pick the place of origin of these tumors.

The X-ray has been found to be of very little or no value in these cases. Loss of muscle tone and consequent dilatation is the usual picture.

Prognosis and Treatment.

As in other malignant diseases the prognosis is always bad. The type of growth found has much to do with the outlook. Ordinarily practically all cases will end fatally. However, encapsulated lymphosarcomata have been removed with a very long time cure.

The treatment of this condition, as in all other malignancies, depends largely upon the time of diagnosis. Several cases have been reported in which resection of the portion of the intestine involved, with its corresponding mesentery has resulted in a long time cure. Most of these have been in cases of lymphosarcoma, many of which have been found fairly well encapsulated. In the 96 cases collected by Corner and Fairbank 31 resections were

performed. Of these twenty survived the operation. Among them three died of metastases within eight weeks; two were alive and well one year later; one was alive and well eight years later; seven were reported as being alive in periods of from three to eight weeks after operation; and, two died after excision of the diseased area. Thus, it appears possible that an early diagnosis in favorable cases may lead to a complete cure.

In addition to resection operations enterostomy may be found of value in some cases: and still in others lateral anastomosis would serve of some benefit. However, it is almost invariably best to perform resection unless the involved area is too extensive. X-ray and radium may be used as in other malignant diseases.

Conclusions.

1. One hundred and sixteen cases of sarcoma involving the intestines have been collected. These have been classified according to the regions attacked and the type found.

2. The disease is probably more frequent than this number would lead us to believe.

3. The disease occurs more frequently in the small intestines—in a proportion of about 3 to 1. Excluding the ileo-caecal region only 12 cases can strictly be said to have involved the large intestines. More cases have been reported in the ileum than in any other division, the jejunum coming next in frequency.

(4) Nothing definite is known about the etiology. Lymphocytes thrown into the intestinal lumen may have much to do with the incipency of this disease. As sarcoma elsewhere it is found in the earlier years of life.

5. Practically all types of sarcoma have been found as primary in the intestines. About 78% have been round-celled and lymphosarcomata.

6. Metastasis may occur to any region of the body, but more especially to the abdominal viscera.

7. The disease is practically never diagnosed clinically. It must be differentiated from the many other conditions found in the abdomen.

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DISCUSSION.

Dr. Rudolph Matas (New Orleans): Dr. Loria in his excellent presentation of the subject of sarcoma as it affects the intestinal tract has not only contributed a valuable case report to the literature of the subject, but has demonstrated by his analysis of the statistics of the Charity Hospital that this disease is relatively very rare in our local and regional experience. In this conclusion he is in thorough accord with all the pathologists and surgeons who have written on the subject. It is to be regretted that the latest and most comprehensive treatise on "Neoplasms of the Intestine," in which sarcoma of the bowel tract is considered with great thoroughness by Dr. Martin Staemmler, of the Chemnitz Pathological Institute, should have reached us too late to utilize the rich store of new data which it contains in the preparation of Dr. Loria's paper.

As this subject is one of more than academic interest and presents practical phases of importance to the clinician and operating surgeon, I will endeavor to supplement some of Dr. Loria's observations by quoting from Staemmler's exceptionally large pathologic experience, his materly monograph embracing practically everything of

*"Leutsche Chirurgie," edited by Kuettner, vol. XLVI, Chap. V, pp. 284-342, to which is appended a bibliography of over 425 references up to 1925.

importance that has been published on the subject. He has been able to collect the reports of three hundred and ninety (390) sarcomata of the intestinal tract, to which he has added ten (10) personal observations from the laboratory of the Chemnitz Pathological Institute; in all four hundred (400) well authenticated cases that are available for study. He concludes from this research that the proportion of sarcomata to carcinomata of the bowel as established at the post-mortem table is about one (1) sarcoma to sixteen (16) carcinomas, while in surgical practice (biopsies), chiefly based on the statistics of German and Austrian surgeons, it is about one (1) sarcoma to one hundred (100) carcinomas.

Carcinoma of the intestines is found in one per cent of all autopsies (ten per cent of all carcinomata occur on the intestinal tract). On the other hand, he found, after the compilation and analysis of a grand total of 54,000 autopsy protocols, chiefly obtained from the combined records of the German and Austrian Hospitals, that sarcoma of the intestines was registered in only thirty-three (33) cases, which establishes a rate of 0.06% as the incidence of these tumors at autopsy. Staemmler in a tabulation of three hundred and ninety-four (394) cases of well authenticated intestinal sarcoma found them distributed as follows:

Duodenum	34
Jejunum	44
Ileum	79
Small intestine	61
Caecum and ileocaecal coil	45
Appendix	12
Colon	16
Sigmoid	4
Rectum	91
"Large gut"	8
Total	394

The relative frequency of the intestinal sarcomata according to histological type, as studied in 152 cases, is stated as follows:

Round-celled	61
Lympho-sarcoma	44
Spindle-celled	19
Myosarcoma	7
Myxosarcoma	4
Fibro-sarcoma	4
Polymorph-celled	4
Alveolar	4
Melanotic	2
Endothelioma	2
Angiosarcoma	1
Total	152

Sarcoma of the bowel may be single or multiple; it may appear as a single projecting well defined tumor, or as a diffuse infiltrating tumor, or as a pedunculated polypoid growth projecting into the intestinal lumen. The diffuse infiltrating form is by far the most frequent. These tumors may attain large size, the size of an adult head (Westermarck, Cuneo, Baginsky), but as a rule they are not larger than a hen's egg or a man's fist. These tumors involve the circumference of the bowel, causing great thickening of the intestinal wall with dilatation of the lumen. Hence the clinical comparison to an aneurysmal dilation or sac, which is peculiar to these growths and also accounts for the lack of obstructive symptoms.

In regard to age and sex, at one time sarcoma of the intestines was supposed to be a disease of infancy and youth. At present, we know that while this tumor is more common in early and middle age, it may make its appearance at extremes of life: in the new born infant (embryonal sarcoma, Stern) and in a woman seventy-six years old (Rüder). It was also supposed at one time to be more frequent in woman—now it is apparent that it appears with practically equal frequency in both sexes. In connection with the etiology, opinions still differ as to the exciting causes. According to Libman of Mt. Sinai, N. Y., who represents the American School, chrome infections, including syphilis and tuberculosis, play an important part in the causation. According to the German authorities, following the leading Billroth, direct traumatism, bowel injuries from contusions, falls, blows, are the most frequent exciting causes, differing in this was from cancers in the fact that these most often appear at the seat of chronic irritation, at friction points in the intestinal canal (cardia, pylorus, ileo-caecal coil, flexures of colon, rectum anus, etc.).

The most interesting clinical and pathologic-anatomical features of the sarcomata that differentiate them from the carcinomata, is the relative infrequency of intestinal obstruction and hemorrhage. The sarcomata more often advance to multiple metastases, cachexia, and fatal toxemia causing death without obstruction even after the development of large tumors. This is accounted for by the diffusion of the sarcomatous growth in the lymphoid and submucous layers which may cause polypoid formations but more often a diffuse infiltration of the intestinal walls which spreads cylindrically and longitudinally, forming long, tubular, sausage like or elongated, spindle shaped pouches, constricted at each end; in this way the sarcomata do not encroach upon the lumen of the bowel sufficiently to obstruct, but cause dilations that give the affected intestine the appearance of an aneurysmal pouch. Another feature which is peculiar and distinctive of the

intestinal sarcomata is the alternating constipation and diarrhea, that becomes more marked as the disease advances. This is accounted for by the accumulation and stagnation of the fecal contents in the dilated pouches which are paralyzed and are incapable of peristalsis until the acrid, toxic contents of the pouch excite the movements of the bowel above it and force the contents out the gut below, where they appear as fetid diarrheal stools.

There are many points of great interest suggested by Dr. Loria's paper which could be discussed profitably and at great length in the light of the immense histological and pathological research that is brought out in Staemmler's monograph. In conclusion, it is regrettable that owing to the insidious nature of the disease, the absence of early obstructive signs and the frequency of a deceptive diarrhea alternating with constipation, the diagnosis usually is arrived at too late to allow of radical surgical treatment. In this respect the early tendency of carcinoma to obstruct the bowel is of diagnostic and therapeutic advantage. The hope of recovery lies in early exploratory laparotomy, especially when a permanent fusiform or cylindrical dilation of the bowels can be demonstrated radiologically, and a characteristic alternating diarrhea and constipation have set in. In spite of the discouraging frequency of inoperability due to the existence of metastases in the mesentery and viscera, when operation is undertaken there are a sufficient number of well advanced cases in which patients have survived resection three, four and more years, to prove that surgery can cure if only applied early enough, when the condition of the patient, and the early stage of the disease will justify a radical operation. Comfort may also be given and life prolonged by such palliative procedure as short-circuiting the bowel, anastomosis, by entero-ostomy, ileo-colostomy and ileo-sigmoidostomy, or artificial anus, even when a radical operation is impossible. Deep X-ray therapy and radium have proved unavailing in the treatment of these cases.

Dr. P. Graffagnino, New Orleans: My intention is not to discuss the subject which has been so well covered by Dr. Loria's Paper and Dr. Matas' Discussion, but to express appreciation of the presentation. It is only by such thorough study and the presenting of these unusually rare cases that we enable others to recognize a similar condition when encountered. Prior to operating on the case mentioned by Dr. Loria, I had never heard of one in the Hospital. In all there have been seven.

I thank Dr. Loria for this account.

Dr. Loria (closing): I wish to extend my sincere thanks to this audience for the kind reception of this paper; and to Dr. Matas for his discussion of this subject. While Dr. Matas has presented us

with probably the true figures in this condition, I wish only to say that after careful searching through the various index catalogues, I thought I had gotten out most of the cases. Because of the length of this paper, I realize I shall probably have to leave out of the publication the various illustrations which I am about to present. (Slides shown.)

POST-OPERATIVE INFECTIONS OF THE ABDOMINAL WALL.*

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GREENVILLE, MISS.

The subject of this paper, "Post-Operative Infections of the Abdominal Wall," is one upon which there is a marked paucity of literature. In a fairly extensive search of the current literature for the past several years I have only been able to find two articles dealing with the subject, and am at a loss to understand why more attention is not paid to its prevention and cure. Judging from our experience in emergency surgery one daily comes into contact with cases in which it is manifestly impossible to prevent some wound contamination regardless of the technique employed. In such conditions as perforations of the viscera, ruptured gall-bladders, ruptured appendices, gangrenous or suppurative appendicitis, and general peritonitis from whatever cause, regardless of the most rigid technique the wound becomes contaminated, and in a considerable proportion of cases this infection leads to necrosis, suppuration or gangrene with sloughing of the wound in the closed part of the incision.

As just said, these emergency cases are relatively common. For instance, from Jan. 1st, 1924, to date, we have seen 238 operative cases of appendicitis, 92 of which had present a pathological condition which necessitated drainage being instituted, and each of which was doubtless infected at the time of dealing with the pathology present. These data represent only a relatively small

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

phase of the subject, and I feel safe in asserting that in any large series of cases of the type mentioned there will develop a considerable number of severe wound infections involving the parities extensively, not to mention those causing only localized symptoms.

Before taking up the pathology, symptomatology and treatment I want to cite three of the severer grades of this type of case that have come under my observation during the past year:

Case 1. W. H., male, white, 28 years of age, admitted Nov. 2, 1923; physically perfect; height 5 ft. 8 inches, weight 165 pounds. Has had diseases of childhood but no serious illness. Sick 36 hours; taken with severe pains around umbilicus. When first examined had a well defined localized appendicitis with white blood count of 19,000, 87% polynuclears.

Immediate operation was done, the approach being through a right rectus incision, the wound edges being protected by moist gauze sponges, the appendix which was gangrenous being removed, the stump was cauterized and dropped back, a large cigarette drain being introduced. Having in view a possibility of post-operative infection, gloves were changed, all instruments used discarded, and fresh linen arranged. The peritoneum was sutured with No. 2 catgut, the wound being then washed out with ether, figure 8 silkworm gut stitches were used for the skin, fascia and muscles, being reinforced in the fascial layer with interrupted No. 2 catgut. It will be noted that the interrupted sutures were used to facilitate further drainage of the wound, should it become necessary. Convalescence was devoid of incident until the morning of the sixth day, when temperature was 100° F., but wound had a healthy appearance; at 6 P. M. temperature was 101° F., pulse 110, and good volume. Two stitches were removed from the wound and a wet antiseptic dressing applied. Depth of wound black and necrotic. At 6 A. M. was called and found patient with temperature 103.4, barely perceptible, pulse of 160, and in a state of profound collapse. All stitches were removed, the skin wound laid open, and under a local anesthetic a crucial incision about 8" long made outward and posteriorly as far as the infection extended, which while not discernible from the surface could easily be followed by the greenish discoloration in the plane between the fat and the fascia. These flaps were dissected externally as far as the discoloration extended and the wound kept open with a gauze pack. A crib was placed over the patient with a 32 candle

power electric light kept burning under it. No dressing was applied to the wound. Culture showed a pure staphylococcus infection. Within 12 hours temperature was 100, pulse 100, and further convalescence uncomplicated.

Case No. 2. E. J. W. Admitted Jan. 27th, 1924. White, male, age 62. Admitted because of appendicitis of one week's duration. Symptoms however were mild and subsiding. On account of a history of a long standing diabetes, it was decided to attempt to improve his condition before resorting to surgical measures. Blood sugar at this time was 263 mg. per 100 c.c. of blood. On the morning of Feb. 5th there was a local flare up with a blood count of 15,000, with 87% polynuclears. Under spinal anesthesia a small peri-appendicular abscess was evacuated and drained. Patient stood the operation well, but 48 hours later began to suffer from an intractable hic-cough. On the fourth day because of this and other toxemic symptoms two stitches were removed and the deeper tissues found to be gangrenous, the process extending upward and inward for a short distance between the fat and the fascia, this was opened freely. However the gangrenous process practically continued to spread in the plane designated until the whole abdominal wall was involved. The patient dying on the 14th day after operation. Of course one realizes that the resistance in this type of case was very much lowered, but the pathological process from a clinical standpoint was similar in its pathology and method of extension to other cases of the same character with greater physical resistance.

Case No. 3. D. K. Admitted March 7th, 1924. White, male. Age 57. Single.

Sick one week with pain over gall-bladder and rigors. Has always been healthy. A diagnosis of acute cholecystitis was made, and operation performed the morning of admission, gall-bladder found acutely inflamed and deeply placed pus and stones were evacuated, one rubber drain placed in gall-bladder and one in Morrison's pouch. Wound closed in layers. Patient stood the operation well. However, for the first four days there were toxemic symptoms of a mild character, a little hic-cough, drowsiness, flushed cheeks and moist skin, most of which were attributed to the original condition. On account of patient complaining of pain to the outer side of wound on fourth day two stitches were removed and the wound explored. The deeper tissues next to the fascia were greenish black and gangrenous. All superficial stiches were removed, the skin wound being opened up freely, and under a local anesthetic the diseased process followed outward and backward for a distance of 6 to 8 inches. The flaps were elevated above and below as far as the greenish discoloration extended. The wound was packed

with gauze, no dressing applied, adhesive plaster applied across abdomen to support wound, crib with light placed over patient. Later the deeper tissues became gangrenous and the wound opened to its full depth. Ultimately the patient made a good recovery except for a large ventral hernia which was later repaired.

The three cases above detailed were selected because of their being outstanding examples of this condition. Repeatedly have we opened a much less aggravated condition following particularly operation upon gangrenous gall-bladders and appendices, in which the deeper tissues had become necrotic necessitating opening of the wound.

As to the type of infection present, to my surprise it has always been almost a pure staphylococcus. Personally I have always believed and still do, although laboratory findings do not bear me out, that the infection is anaerobic in character which influences materially the measures adapted for its control.

The pathology present from the mildest to the most severe type has always shown some degree of tissue necrosis and gangrene. In the mild cases, local in character, in the severe cases spreading and fulminating in type. I wish to call particular attention to the observation that in all cases for several days the superficial tissues present a healthy appearance, and that in all cases not strictly localized the diseased area of spreading infection lay in the plane between the subcutaneous fat and the fascia of the abdominal muscles. This latter observation is of material importance in the treatment.

The symptoms at the onset are more constitutional than local, being of a toxemic character and occurring on the heels of an abdominal catastrophe, one is very liable to ascribe them to the original disease rather than to a secondary complication in the wound. The patient may be flushed, with a slight icteroid hue, the skin moist and he exhibit a decided mental hebetude. Hiccough is ordinarily a very early and prominent symptom, and in our own expe-

rience when present is more apt to be caused by a severe toxemia than by any local irritation of the diaphragm or stomach. The blood count is usually high but the appearance of the wound superficially is misleading. With the above enumerated symptoms following an operation upon an acute abdomen we never feel any hesitancy about exploring the wound.

It has been our observation that many of the symptoms that we are prone to ascribe to peritonitis following an operation are due so frequently to an entirely separate and distinct entity, that I believe that more people die postoperatively from a fulminating wound infection than from a pre-existing peritonitis. The peritoneum is far more resistant and able to take care of itself than are the soft tissues of the abdominal wall.

The treatment should be mainly prophylactic. Once the condition develops the primal indications are to open the wound freely and to follow up with free incisions all areas to which the infection has spread. Believing, as I do, that the infection is usually anaerobic in character we discard all dressing, leaving the wound exposed to the air and the rays of an electric light.

In addition, whatever supportive measures such as glucose intravenously, blood transfusions, etc., as are indicated, are employed.

For years we have been searching for some means by which these infections could be prevented, and with indifferent success. We have used the stab drain at another point, have irrigated the wound with ether and other antiseptics, have employed drainage at both angles, have adopted methods of suturing that would facilitate drainage in case of the development of infection, and far more frequently than otherwise when dealing with potentially infected wounds we would have to open the wound allowing it to heal by granulation. We believe now that prophylactically we can prevent the complications described by treating all wounds following

operations for septic conditions as potentially infected.

Keeping in mind the fact that the infection starts on the fascial layer and always spreads along the plane between the fascia and the subcutaneous fat, we have adopted the following as a routine technique in the closure of all potentially infected wounds of the abdominal wall. Any drains are either brought out at the most dependent angle or through a separate stab wound, the peritoneum closed with usual running stitch or catgut, figure 8 silk worm guts introduced through skin, fascia, muscle and peritoneum, reinforced in the fascial layer by interrupted catgut. The skin and fat wound are left open and a gauze pack slightly longer than the wound and 1" or 1½" thick saturated with a 1% mercurochrome solution is laid on the fascia and between the skin margins, the silk worm gut being tied in slip knots over the gauze. After 96 hours they are untied, the gauze removed and usually a healthy granulating surface which walls off our danger zone is exposed. If such is the case the stitches are retied. If the wound should not appear perfectly healthy the skin wound is left open without dressings and exposed to the air and light. When we first devised this procedure we employed plain sterile gauze but believe that the mercurochrome gives better results.

The rationale of the above depends upon the antiseptic action of the mercurochrome and the fact that the plans along which the infection spreads is not under tension and is freely drained until nature has thrown up a wall of granulation tissue.

The procedure is so simple and the results so gratifying that if any one of you had a similar experience to myself in the treatment of these potentially infected wounds, it will repay you to give this method a trial.

To recapitulate, provide for necessary drainage, close the wound with interrupted suture through the outer fascial layer,

leave the fat and skin unsutured, pack the open wound with a 17, mercurochrome gauze over which tie your silk worm gut, do away with pus poultices, and have the wound exposed to the air and light.

DISCUSSION.

Dr. R. L. Turner (Meridian): I think Doctor Gamble has presented a very excellent paper, and anything that can be done to prevent the bad effects of post-operative conditions will certainly be a great benefit to us in the way of shortening the length of stay in the hospital for the patient, as well as the distressing scar tissue resulting from abscess. His idea is somewhat new and progressive and I cannot add much except to endorse him in his idea of free drainage. In the first case reported he used a cigarette drain and had a bad infection. I think he would have had less infection with two or three large rubber tissue drains. I have not used the methods he suggested, but I shall certainly try them. I have not tried anything except free drainage, but I think where we close the incision line too tightly we are more apt to have trouble—intra-abdominal infection or extra-peritoneal infection. Of course we dread post-operative abscess and infection of the abdominal wall. I think the Doctor has given us a very excellent paper which I know will benefit all of us.

Dr. E. C. Palker (Gulfport): Doctor Gamble has brought very many forcible truths home to every man who does abdominal surgery. In all these drainage cases we dread infections that travel along the fascia. For several years I have adopted something that I got from Doctor Moorehead of New York. For traumatic surgery he used a common pipe cleaner as a drain. Following that up in infected cases, I have my pipe cleaner and lay it right on top of the fascia, between the fascia and the fat, and I usually cut so that they meet in the middle and have the ends sticking out of each end of the wound. Let us stay there for 36 hours and you will find it will drain out the infection in most cases. I would like some you to try it. For me, it is an ideal small drain.

Dr. J. S. Ullman (Natchez): This paper is a most practical one and should interest every man who is doing any abdominal surgery. One point I would like to mention is: I think we are inclined to lay too much stress on the use of ether as an antiseptic. So far as I know the use of ether was first introduced in surgery for cleansing the wound by French surgeons during the great war, and I think their idea in using it was for its hemostatic effect rather than as an antiseptic. I think it would be of great interest to have some

bacteriological experiments carried out in which a quantity of ether small enough to evaporate in the same length of time as that quantity poured into a wound usually evaporates, should be put on to a culture plate and see what effect it has on the bacteria. If we are going to use an antiseptic in cleansing the wound margin at the time of operation, I think we should use something more efficient than ether. In our own experience most of us use mercurochrome with more satisfactory results.

As to the anaerobic infection, of course it is possible to have anaerobes introduced into the tissues, but I think Dr. Gamble's method of laying the wound widely open and permitting free drainage would naturally clear up any infection in a short time. His packing of mercurochrome placed in the wound afterward is a most excellent idea and I think all of us would do well to try it in these badly infected cases.

Dr. A. E. Gordin (Jackson): The seriousness of an infected abdomen was forcibly brought to my own knowledge about two months ago. A man, a simple gall-bladder case, developed a temperature of 105 within a few hours after he was operated. In consultation with the best men in the hospital we could not find anything to account for it. His lungs were normal, his kidneys were normal, etc. There was no pain in the wound at all. About two or three days elapsed in which his temperature kept up and yet he had no pain or symptoms that would suggest an infection in the wound itself. About a day later he developed a reddening in the lumbar regions which was the first signs of any local infections. We opened the lumbar region and drained out quite a bit of pus which seemed to have come from the lower part of the wound. This incision and drainage and subsequent ones did not stop the infection and the patient developed a severe cellulitis which extended as high as the shoulder and as low as his knee and he finally died from this infection. If we had drained this case at first probably there would have been no trouble.

As to the value of mercurochrome, of which we have heard so much talk recently, my experience has been limited, but it has been very disappointing, especially by the intravenous method. For instance, mercurochrome intravenously is supposed to be the treatment for furunculosis, but in one case after using mercurochrome for four days, a woman developed a severe furunculosis over the abdomen.

The glucose drip over several days certainly supports these severe cases very well.

Dr. C. Jeff Miller (New Orleans): There are one or two points to which I wish to take excep-

tion in Dr. Gamble's excellent paper. I believe that some of his infections may be due to the complete closure of the wound. I am, of course, not questioning his technique, but I think we are inclined to close too many incisions in the presence of an acute infection. I formerly had experiences similar to his, but recently I have been following the suggestions advanced in a series of cases reported from the New York Hospital surgical services where they have been handling gangrenous appendices by making a McBirney incision and leaving the wound open. In these cases the rest of the abdomen is of course not explored and we endeavor to do our work within as small an area as possible, so that we shall not disturb nature's effort to wall off the infection. The appendix is easily removed through the small incision, and then two drains, a short and a long, are inserted into the wound. The short one is removed within 24 hours and the long one may be removed within 48 hours and its place taken by another short one. It has been the experience of the New York Hospital surgeons that their percentage of infected wounds has been greatly reduced by this method and that fewer herniae have followed.

I also differ from Dr. Gamble on the question of removing all the sutures from the wound as soon as evidence of infection develops. In the ordinary mid-line incision for pelvic work I have in recent years followed the technique of the late Dr. Watkins of Chicago. A small opening is made in the line of the incision to allow of the discharge of pus, then hot compresses are applied to the wound, and the stitches are only removed when indicated. Most of the cases so handled will heal without the secondary operation which was necessary when the older method was employed.

Dr. H. A. Gamble (closing): There is little more to say with reference to treatment of wounds, but there are certain points of the discussion to bring out. The first is the question that one doctor brought out, and that is that we would not have abdominal infections had more drains been placed in the abdomen. The infection is not in the abdomen; the infection was in the abdominal wound in the layer between the fascia and the fat.

Ether is used as an antiseptic. I have adopted practically every method I have seen described for preventing infection. I used ether and I did not see that it did any good. I have used other antiseptics and I do not see that they did any good. As to the value of mercurochrome, I can only say that primarily we use plain sterile gauze, and I think if we can keep the wound drained for a few hours until it is walled off, the spread of infection is prevented. However, at times, there is slight

discoloration of the fascia after the gauze is removed, but since we use mercurochrome we do not have that. Therefore, I believe it has some effect as an antiseptic.

In regard to closure of the wound, I can remember an article by one doctor, one of the older doctors, who advocated leaving the wound open, and I have seen the whole wound margin black—fat and muscle and fascia and everything. It was superficial and being exposed to the light and air cleared up, but what I was after was the wound which would heal by granulation and it took me quite a while to do it. What I was after was to devise some means by which we could cut down the prolonged hospital stay.

Doctor Miller spoke of abdominal abscess. I agree with him fully as to the treatment, but I do not believe that would be classified under the same category as wound infection. These infections are malignant and you find them in a large number of cases in ruptured appendix and gall bladder and if you are not on your guard you will have a patient in extremis before you know it.

I believe if you will try this method you will be very much gratified with your results.

FINDINGS IN 733 CONSECUTIVE UROLOGICAL CASES SEEN IN CONSULTATION.*

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AND
C. L. PEACOCK, M. D.,
NEW ORLEANS.

The present review comprises a series of cases observed during a three-year period, from January 1, 1922, to January 1, 1925, and embraces seven hundred and thirty-three consecutive cystoscopic investigations made at the request of the attending physician. In these instances we acted merely as consultant. No cases in our private practice are included in the series. We feel that a compilation such as this can furnish the general practitioner with a fair estimate of the relative frequency with which he will encounter the different urinary ailments and by directing attention to the ultimate findings he can be appraised of the value such examinations may hold

in arriving at a correct diagnosis. The data must necessarily be incomplete as the duration of illness, age of patient and tentative diagnosis were not always recorded. Many of the cases were out-of-town patients brought in by their family physician, and not infrequently cystoscoped "between trains." This necessitated working expeditiously, and did not allow the urologist much time for obtaining a complete history of the case. But the main features of such examinations were recorded and the material was considered of sufficient clinical value to present at this time.

The findings in the series are grouped under three heads for convenience of study, viz., upper urinary tract, lower urinary tract, and hematuria. We deem this latter symptom (hematuria) worthy of separate consideration in order that we might bring, more forcibly, this all important finding to the attention of our listeners. While the total number of examinations are listed as seven hundred and thirty-three, the grand total number of findings are somewhat larger due to the listing of certain complications in their respective columns: for example, we may have noted a renal calculus with hematuria, pyelonephritis and cystitis. This would give us, under our classification, three separate findings in the same case. We have purposely omitted the "complaint" and "symptomology" and confined ourselves, with few exceptions, to the pathological condition. Treatment is considered in certain cases where it was thought to be of sufficient interest to comment upon.

While it is not our intention to minimize the importance of complete urological examinations, yet a careful analysis of this series reveals sixty-six cases cystoscoped with negative findings. The reasons for demanding instrumental investigations were: obscure abdominal pain, vague X-ray findings, giving a history of some former urological condition, hematuria and pyuria. These two last named conditions (hematuria and pyuria) call for a word of caution regarding the importance of properly col-

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lecting and examining specimens of urine from female patients. Because of the risk of contamination from the urethra and external genitals, the voided specimens being simply a washing of these organs plus some of the dirt from the vessels into which it is passed, *one must always catheterize females* under aseptic conditions, centrifugalize the urine, stain some of the sediment and examine microscopically. Numerous cases come to us simply with a diagnosis of pyuria or with a report from some laboratory that pus was found in the urine. A careful examination by the urologist of a catheterized specimen fails to show pus or other abnormal constituent; a visual examination of the patients' external genitals reveals a urethritis or other infection of the parts. True, it proves to be a urological condition, but not one for cystoscopy. Yet the patient has been sent in expressly for that purpose. Upon questioning the patient we find that she was not catheterized; that her physician requested that she pass some urine in a vessel and send it to him for examination. It may be difficult for the general practitioner to get the consent of some of his patients to be catheterized, but we believe that if the situation is carefully explained, this feeling of false modesty can be overcome. The more educated patients become to the importance of such procedures, and the more insistent doctors are in practicing scientific medicine, just so much better will be the results achieved. It is little compliment to the physicians' ability to have a case sent back to him with negative findings after his telling the patient that she had pus in her urine and needed a cystoscopy. A female catheter is as much a necessity in the equipment of the physician as the thermometer or the stethoscope. Explain to your patient what happens to a voided specimen, and the importance of a catheterized one. Either do not ask for their consent to catheterization or refuse an opinion if they demure.

Pyuria may or may not be a symptom of grave importance, but it certainly calls for all the resources at our command to deter-

mine the cause and the location of the same. Smears from the urethra, massage of the prostate and vesicles and an examination of these secretions, cystoscopy, ureteral catheterization (with a microscopic examination of a stained urine sediment)—all these, separate or collectively furnish the necessary data upon which we base a diagnosis. Hematuria as a clinical entity does not exist but it is always a symptom of some serious pathology that requires immediate attention. Bloody urine must always be looked upon as a dangerous symptom until proven otherwise.

Benign papilloma of the female urethra (caruncle) were diagnosed in twenty-one cases. These small growths are seldom recognized, and when they are the physicians usually passes them by as a matter of no consequence, yet trivial as might be the pain, discomfort and embarrassment to the patient, with a conversion from a benign to a malignant state, it becomes a matter that must demand most serious consideration. These tumors occur just external to, or within, the urinary meatus as small papilloma or hemangioma. Microscopically they are very much like the ordinary seed warts seen on the extremities. Pain, frequency, burning and difficult urination are the symptoms most often complained of. There is usually an associated urethritis and these patients will remark that they suffer no little embarrassment from frequency—that they are unable to attend any social function whatever without this most annoying occurrence. The treatment is simple. A small needle electrode, connected to a diathermy machine, is inserted directly into the growth and with a moderate amount of current the destruction is completed usually at one sitting.

Primary carcinoma of the female urethra were observed in two cases. The diagnosis was made by palpation and careful sectioning. The abundant lymphatic supply of this area provides an excellent means of dissemination of cancer cells and if allowed to reach the stage of metastasis there is little

or no hope for recovery. When the condition is recognized early it can be completely destroyed by diathermy. Only such strictures of the female urethra that required attention prior to cystoscopy are noted here. The adult female urethra should easily accommodate a 24 F. cystoscope and, as stated by many authorities, should take a 30 F. sound. Thirty-three cases received treatment for this condition before cystoscopy. The symptoms here are very similar to those enumerated under papilloma and are, as in the male, a frequent cause of persistent urethral discharge. The treatment is one of gradual dilatation up to 30 F. or higher if advisable. As a complication cystitis and trigonitis was found in 260 or 35 per cent of cases and was usually accompanied by urethritis.

Multiple papilloma of the male urethra occurred in two cases. These patients complained of burning, frequency and inability to completely empty the bladder. They were removed under cocaine anesthesia through the cysto-urethroscope by diathermy. Only such cases of prostatic hypertrophy in which other examinations proved less accurate are mentioned in the table. Median and lateral lobe enlargements cannot be accurately diagnosed by rectal palpation.

Calculi, papilloma, papillary and scirrhous carcinoma of the bladder were found equally among males and females; frequency occurred in the same ratio also. The seriousness of this trio recalls the grave significance that attaches itself to hematuria. All of the cases observed presented marked hematuria, with one exception. This was in a case of a calculus about the size of a walnut, observed in a young adult male who came for examination complaining of acute pain in the lower part of the abdomen, the same radiating down the right thigh and to the lumbo-sacral region. He had been treated for two years for a Neisserian infection. The stone was in the bladder and was removed by suprapubic cystotomy.

Urethritis in the female and posterior urethritis associated with prostatitis in the male are not listed in the table as they are considered complication or extensions of infections from sources not belonging to this particular group of cases.

A diagnosis of pyelonephritis was made in 221 or 30 per cent of cases in this series. It was found to be more frequent in women; a preponderance of infections were in the right kidney. Under this heading we have grouped all infections of the renal pelvis and that part of the kidney tissue so closely associated with urinary excretion. From this study it appears that women are more susceptible to disease in the urinary tract than men. This may be accounted for the natural tendency of the female to modesty, which frequently leads to over-distention of the bladder and the resultant injurious effects as are caused by: back pressure on the ureters and kidneys; pregnancy with its interference of drainage; sedentary habits and enteropneumosis.

Ureteral calculi were found in about equal numbers in the right and left sides. The obstructed ureter cases include those where neither catheters nor bougies would pass to kidney at the sitting, and which could not be classified under any definite heading in the table. They were most probably due to spasm, kink, ultra X-ray calculi, or, last but not least, faulty technique.

The x-ray diagnosed 18 cases of renal calculi. Combined x-ray and cystoscopic examination revealed 23 cases of pyonephrosis 18 cases of hydronephrosis and 10 cases of pyo-hydro-nephrosis. We have included the nephrectomized cases to show their relative frequency. None of the conditions in Table No. 1, with the exception of renal and ureteral calculi, could have been diagnosed without the aid of the cystoscope and few without the x-ray and the microscope.

CONCLUSIONS.

1. Cystoscopy is not demanded in the routine examination of every urological case.

The employment of the procedure should be left to the discretion of the urologist.

2. More care should be exercised in collecting specimens of urine in suspected cases of pyuria and hematuria in women. When positive findings prevail cystoscopy should be done immediately, the cause demonstrated and treatment promptly instituted.

3. Cases that present clinical evidence of stone, tumor, pain referable to the kidney or ureter, obstruction or stricture of the ureter should receive a most painstaking examination including urograms.

4. The advent of the cystoscope and the x-ray, and their scientific application to the study of the urinary tract, brings urology to the forefront as an agent whose acumen will obviate the necessity of many needless exploratory surgical procedures.

TABLE NO. 1.
UPPER URINARY TRACT CASES.

	Right	Left	Bilateral	Total	Grand Total
Pyelonephritis					221
(a) Male	21	24	50	95	
(b) Female	41	31	54	126	
Ureteral Calculi					54
(a) Male	13	13	0	26	
(b) Female	13	14	1	28	
Obstructed Ureter					29
(a) Male	6	5	1	12	
(b) Female	9	6	2	17	
Pyonephrosis					23
(a) Male	7	3	0	10	
(b) Female	6	7	0	13	
Stricture Ureter					19
(a) Male	3	0	0	3	
(b) Female	7	9	0	16	
Renal Calculi					19
(a) Male	2	3	0	5	
(b) Female	10	2	2	14	
Hydronephrosis					18
(a) Male	5	3	0	8	
(b) Female	3	7	0	10	
Ptosed Kidney					15
(a) Male	4	5	3	12	
(b) Female	2	1	0	3	
Nephrectomized Cases					10
(a) Male	3	1	0	4	
(b) Female	4	2	0	6	
Pyohydronephrosis					10
(a) Male	1	3	0	4	
(b) Female	2	4	0	6	
Perinephritic Abscess					8
(a) Male	3	0	0	3	
(b) Female	3	2	0	5	
Tuberculous Kidney					6
(a) Male	1	0	0	1	
(b) Female	2	2	1	5	
Double Ureters					2
(a) Male	0	0	0	0	
(b) Female	0	1	1	2	

TABLE NO. 2.
LOWER URINARY TRACT CASES.

	Male	Female	Total
Cystitis	114	146	260
Nephritis, chronic	29	46	75
Negative findings	14	52	66
Stricture Urethra, female	—	33	33
Hypertrophy Prostrate	24	—	24
Papilloma Urethra	2	21	23
Papillary Carcinoma Bladder	4	11	15
Papilloma Bladder	5	6	11
Scirrhous Carcinoma Bladder	6	5	11
Calculi Bladder	6	4	10
Carcinoma Prostrate	9	—	9
Vesticovaginal Fistulae	—	8	8
Syphilis Bladder	3	1	4
Diverticulae Bladder	3	1	4
Hunner Ulcer	0	2	2
Tuberculous Bladder	0	2	2
Carcinoma Urethra, primary	0	2	2

DISCUSSION.

Dr. W. A. Reed (New Orleans): Those of you who are not doing urology as a specialty, I am sure, are not able to appreciate the amount of study that the paper of Doctors Walther and Peacock entailed. They report 733 cases in this article, and I am positive that it represents more than 733 hours of painstaking work. For that reason I believe we ought to appreciate what they have done in giving this interesting data to us so massed that it can be read to us in a short time. Any small part of this paper could easily be taken as the subject for many other interesting articles.

There are several points that might be brought out. The fact that 66 cases showed negative findings is certainly significant, and means that the catheter should be a part of the physician's armamentarium. However, I think that there has been a great improvement among the general practitioners in this respect. A few years ago we would have found many more cases with negative findings than that. I believe that the physician of today is realizing the necessity of the employment of the catheter, the use of which may bring out several things. For example, we immediately note the presence of any urethritis, and the fact that the catheter, even though not a small one, is partially obstructed in its passage through the urethra, shows at once that a stricture is present. Many time we meet cases having urethral strictures that are not recognized by the passage of a small catheter. A No. 24 F. cystoscope may even be passed into the urethra without difficulty, and a stricture still be present. It is here that a No. 26 or 28 olive will demonstrate the true condition present. If a glass catheter is used, although today their use is forbidden in many of the hospitals, one may clearly bring out the presence of stones in the bladder. In office practice we find that the employment of a catheter is not at all difficult; simply tell the patient that you are going to secure a specimen of urine by catheter,

TABLE NO. 3.
HEMATURIA CASES.

Hematuria (Male)	Right Kidney.....	{ Pyelonephritis 2 }	Total 7
		{ Calculi 2 }	
		{ Unknown 3 }	
	Bilateral.....	{ Pyelonephritis 2 }	Total 5
{ Calculi 2 }			
{ Syphilis 1 }			
Left Kidney.....	{ Calculi 1 }	Total 6	
	{ Unknown 5 }		
Bladder.....	{ Carcinoma Postate 5 }	Total 29	
	{ Papilloma 5 }		
	{ Papillary Carcinoma 9 }		
	{ Hypertrophy Prostate 5 }		
	{ Calculi 5 }		
Hematuria (Female)	Right Kidney.....	{ Calculi 1 }	Total 2
		{ Tuberculosis 1 }	
	Bilateral.....	{ Calculi 1 }	Total 2
		{ Unknown 1 }	
Left Kidney.....	{ Pyelonephritis 1 }	Total 7	
	{ Calculi 2 }		
	{ Unknown 4 }		
Bladder.....	{ Papillary Carcinoma 17 }	Total 33	
	{ Papilloma 4 }		
	{ Calculi 4 }		
	{ Polypi 3 }		
	{ Urethritis 3 }		
	{ Ulcers 2 }		

and as a rule you do not have to explain why; they all appreciate the fact that you are trying to help them.

Hematuria has been properly grouped under a special heading. When one speaks of hematuria it brings up eight or nine interesting and at times serious possibilities. A case of hematuria must be examined immediately, to eliminate one by one those things that have to be considered in making a diagnosis. Nephritis, of course, is the principal cause of hematuria. Then we have to consider calculi, malignancy, hydronephrosis, tuberculosis, caruncles in the female, and prostatic and urethral trouble in the male.

It is interesting to note that out of the 733 cases there were 23 urethral caruncle found. This again shows the painstaking work of the investigators, because it is only by the most careful inspection and examination of the urethra that caruncles are found. Aside from the fact that they can cause the most distressing symptoms, there is no doubt that malignancy does develop where caruncles are present more quickly than otherwise, and for this reason should be destroyed immediately.

Dr. Abraham Mattes (New Orleans): This paper does prove the value of the cystoscope. As a matter of fact, if the cystoscope were used more frequently, the diagnosis would reach a level commensurate with the diagnosis in other branches of medicine. The reasons for using the cystoscope can be grouped under four heads: first, pain in some locality of the urinary tract; second, frequency of urination; but the two major causes are the presence of blood or pus in the urine. The persistent presence of blood or pus in the urine very many times drives cases from the general man to the specialist, before even a consultation can be requested.

Finding 66 cases with no lesions in the urinary tract in a series of 733 cases does prove that when these cases come to the specialist most of the diagnosis can be proved, but I believe the number of negative findings in these cases could be reduced by closer examination and greater attention paid to the neck of the bladder.

A large number of cases consult the urologist for frequency, having a clear urine. It puzzles the general man and the surgeon and at times the urologist to know what to do with a case that is passing urine every few minutes. In a large per-

centage of these cases, if examined with the cystourethroscope or posterior urethroscope there will be disclosed some lesion of the neck of the bladder or posterior urethra, that will come around with very simple treatment—as cauterization of an edematous area; the use of silver nitrate to destroy and flatten out small projections as well as to destroy vascular anomalies. Fibrous papilloma of the neck of the bladder is met with more frequently than we think and certainly accounts for the symptoms in a fair number of cases.

The question of chronic appendicitis versus right urethral conditions—Doctor Walther could not stress everything in his paper, but I think it is the proper time to bring this subject to your attention. In 40 percent of cases operated on for chronic appendicitis there is no relief as a result of the operation: symptoms persist. In a fair percentage of cases this is true also of some so called ulcers of the stomach and duodenum, as well as gall bladder diseases. These, at times, give rise to identical symptoms on the right side, but proper urological examination would eliminate them and appropriate treatment cure the patient. I have on record the history of 25 cases operated on in the last year for appendicitis or gall bladder disease with no relief symptoms. The cause was in the right ureter or kidney and included ureteral strictures, angulations, kinks, dilatations, ureteral calculi, ptosed kidneys and renal conditions. They were finally cured by reteral dilatation and other urological measures. As we are not all equipped with diathermy machines a simple treatment within the province of every practitioner is suggested. The treatment is injection of one or more drops of one to ten per cent silver nitrate into the caruncle. It does relieve the sense of burning and pain with cessation of symptoms.

The subject of obscure signs and symptoms in the aged—Occasionally in the aged you will have a case with clear urine, but in which you have symptoms on one side or another, requiring cystoscopic examination definitely to exclude a silent pyonephrosis—or blocked kidney. It should be remembered that often in the aged the symptoms are there and in spite of the fact that urinalysis gives negative findings cystoscopic examination with urethral catheterization will avoid an unwarranted exploratory and reward us with definite information involving the kidney and ureter.

Dr. M. H. Foster (Alexandria): Doctor Walther mentioned the fact that cases were referred to him where it was expected that he would carry out cystoscopic procedure and make a report between trains. That same thing has happened to me, and I have gotten into the habit of telling my friends who send work in that way, that if we were deal-

ing with boiler iron we might do it, but since we are dealing with human tissue we must have some consideration for the material.

With regard to catheterization of the female, for obtaining a reliable specimen, there can be no argument because I think every one appreciates the necessity of this procedure for diagnosing conditions of the upper urinary tract. In urethritis, however, exactly the reverse obtains. In this case we must have the specimens pass through the urethra, in order that it may reveal the evidence of involvement of that canal. In this connection, Kidd, of London, calls attention to the fact that we can obtain a specimen for that purpose by having the urine passed while the patient is in a stooped-over position, with feet wide apart—“Arabian fashion,” as Kidd says. We do not pay sufficient attention to the manner of obtaining a specimen of urine from the female patient suitable to the purpose for which we wish it.

I would like to have every one appreciate definitely that hematuria is no ordinary condition, and remember that it can, and sometimes does, mean malignancy. We, as urologists, are not prone any more to treat hematuria symptomatically. Day before yesterday I had a case referred for hematuria with the expectation that it was a unilateral, renal hemorrhage. The cystoscope corroborated this. The man was unwilling to submit to X-ray in addition to the cystoscopy. He consented to the cystoscopy and I was obliged to treat the case symptomatically against my wishes, stopping the hemorrhage at least temporarily.

In regard to diathermy, I am not willing to give up my cystoscope and ureteral catheters for any other instrument, but in addition to that I think the urological surgeon's equipment is not complete without a good diathermy outfit.

I would like to emphasize another point. We who are urologists appreciate very positively that an adequate estimation of the extent and degree of prostatic hypertrophy cannot be determined by rectal palpation alone. The urological surgeon has proven that it is by the use of the cystoscope and the cystoscope alone, that we get this accurate information.

Another thing is that we should no longer regard an infection of the kidney as pyelitis simply. That is the reason it is emphasized by Keyes and Cabot in *Modern Urology*, that we discontinue using the term “pyelitis,” because we always have a pyelonephritis rather than a simple pyelitis.

Finally, I would like to suggest the more general use of the term “uronephrosis,” when we are discussing so-called hydronephrosis.

TREATMENT OF OBSTRUCTIVE JAUNDICE*

S. H. HAIRSTON, M. D.,
MERIDIAN, MISS.

Obstructive jaundice is produced, as you know, by some obstruction of the common or hepatic duct. The bile is re-absorbed and deposited in the tissues. This obstruction is produced by a cholangitis, stone in the common or hepatic duct, a tumor or adhesions in this region, injury of these parts, or certain diseases of the pancreas.

It is not the purpose of this paper to go at length the causes of obstructive jaundice as I feel quite sure these have been thoroughly worked out and are laid down in text-books on the subject. It is my purpose to lay stress on the pre-operative and post-operative treatment and give you a brief discussion of the operative procedure. The mortality of surgery for the relief of this condition is high. The operative technique has been well worked out. It is the pre-operative and post-operative treatment that counts most in these cases. It is the thorough understanding of the patient's condition and it requires the best judgment at our command to determine whether they can withstand the ordeal through which they are to go. It behooves us to apply every test known to us to see if the patient has a chance. As I said before, the mortality is high, the patient's life is at stake, and he or she is looking to us and trusting us and God for relief.

These are bad surgical risks. The patient tries to act wisely and thinks it is death without operation and maybe death with it. The fatal cases usually die of post-operative intra-abdominal hemorrhage. In most cases this is only found out at post-mortem. The patient is treated for shock when to our sorrow and chagrin, we find an abdomen full of blood.

When these cases come to the surgeon, it is after long delay, having been treated by many hands and with six months of spinal adjustments. By this time they are exhausted of body and purse. Others may have had one or more operations before without relief.

The post-operative intra-abdominal hemorrhage is attributed largely to a delay in the coagulating time of the blood. Lee and Vincent have demonstrated that this delay is due to a deficiency of calcium in the blood and at the coagulating time this can be decreased by taking calcium lactate by mouth or better calcium chloride by the vein. If five c.c. of a 10% solution of calcium chloride is given by vein each for three days, the coagulating time can be brought within safe limits. After this simple procedure, many cases can undergo a successful operation without the loss of much blood, whereas death may ensue without it. The coagulating time should be reduced to less than nine minutes and all operations should be postponed until this is done. Again, on account of long continued absorption of bile the glycogenic function of the liver has been interfered with. Besides calcium chloride large quantities of water and carbohydrates by mouth are indicated. One thousand c.c. of a 5% glucose solution should be given daily for three days. This is best given as an intravenous drip according to the method suggested by Matas. This increases the glycogen to the tissues and is a great stimulus to kidney function. Parham has pointed out that the bile has a destructive effect on the kidneys and the patient often dies from toxic nephritis.

The treatment of jaundice itself is medical and surgical. From the medical side many remedies have been tried. Jaundice from a simple cholangitis may be treated with medicine, but most cases will clear up if left alone. The diagnosis of a simple cholangitis can not be made, so why temporize? A diagnosis of gall stones can not be made with X-ray unless the stone contains as much as 1.5% of lime salts. Uro-

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

tropin, turpentine, fresh apple cider, Sherman's Thirty-Six, and other remedies have been tried and have their advocates. Lyon's non-surgical drainage with a Jette tube still has followers principally among specialists in internal medicine. Hugh Young's hexyl-resorcinal promises greater hope than any drug from a medical standpoint. Any of these drugs for any other causes of jaundice other than simple cholangitis is useless.

The operative procedure in these cases is often very difficult. They are almost ready for the undertaker rather than the surgeon. Many cases have been operated on before and are what has been termed "surgical junk". Adhesions are often encountered and the operative field is usually flooded with blood. All bleeding vessels should be clamped and tied as you go. This not only saves blood for the patient but a vessel securely tied is not going to bleed thereafter. On account of blood and adhesions the common duct is hard to locate. Almost all inflamed tissues lock alike and a mistake may mean serious results. If you are not sure you have located the common duct a small aspirating needle on a glass barrel syringe will help you and it will do no harm if you puncture some other organ or vessel. After the common duct has been located, which you will find to be distended, it is now time to locate the cause of the obstruction. Stone in the common or hepatic duct is the greatest cause of obstruction. Jaundice following gall bladder operations is due mostly to injuries to the bile duct. This is done by clamping the duct in grabbing for a bleeding vessel, or, extending the forceps too far when clamping the cystic duct. If a stone is in the common or cystic duct, a simple removal with drainage of same will usually suffice. Before this is done, however, it is to be ascertained if the common duct opening into the duodenum is patulous. This can be found out by passing a flexible probe through the common duct into the duodenum. If this opening is obliterated and can not be opened with a probe or dilating forcep, some reconstruc-

tion operation is in order. If the obstruction is in the common duct and no disease of the gall bladder or cystic duct an anastomoses of fundus of gall bladder can be made with the duodenum. Right here, I want to say that it is my opinion that all gall bladders should be removed in the presence of an obstructive jaundice. Also all gall bladders should be removed that are diseased either with or without stones except those acutely inflamed and containing pus with high fever. The same contra indications hold for removal of an abscessed appendix that endangers a patient's life. Removal of the gall bladder at this time often prevents a subsequent operation. Where the common duct has to be resected, the duodenal flap recommended by Walton and the end to end anastomoses by Sullivan can be used. The Mayos use a short rubber tube extending from the common duct to the duodenum and burying this with no external drainage. This is covered over with two layers of cat gut sutures and is anchored above with same. As soon as the cat gut is absorbed, the tube passes into the intestine. In my hands this has given me the most satisfactory results. It is claimed that the stricture will reform after this tube passes. I have been on the lookout for just such a condition and it has now been five years since my first operation of this kind. I have five such cases with no bad results of this kind so far. The T-shaped tube is used by some but has been discarded by me on account of a long period of convalescence. In my series of twelve cases of obstructive jaundice five were cared for by simple drainage after the cause was removed and five had to be re-opened and some form of re-construction operation performed. Only one case out of twelve died. Post-mortem showed this case died from a post-operative intra-abdominal hemorrhage. I feel sure this case was lost on account of the lack of a proper pre-operative preparation.

Where the patient has had a pre-operative calcium chloride treatment, I make it a rule to repeat the dose once after operation, provided the patient is not in too pro-

found a shock. If the patient has lost a great deal of blood and is still losing it, there is no treatment to my mind that takes the place of a blood transfusion. On account of the low vitality of the patient, these cases always suffer more or less shock. The intravenous 5% glucose solution given by the drip method is the ideal treatment. If they do not react soon and if there is any acetone or diacetic acid still in the urine, it is well to give in connection with the glucose solution twenty units of insulin, for two reasons: First, if the urine shows diacetic acid, acetone, or oxybuteric acid, there is evidently only a partial metabolism of fat going on because the tissues are unable to burn carbohydrates. Now, under such circumstances, the insulin will immediately create a hot carbohydrate fire, so to speak, which will completely burn the fat, leaving as in products of this combustion CO₂ and water. Second, with accumulation of sugar in the blood stream due to a failure of the tissues to properly burn this element, the excess is eliminated by the kidney as glycosuria. This high blood sugar creates an excessive activity of the kidney structures thereby depriving the tissues of precious fluids so necessary in the control of shock. A polyuria can be immediately controlled by the administration of insulin, properly guarded with a sufficient carbohydrate intake, thus contributing specifically to the control of shock. Shock in cases showing no ketosis and is accompanied by polyuria or high blood sugar could not rationally be treated by insulin.

THE DENTAL X-RAY PICTURE*

W. A. LURIE, M. D.,

NEW ORLEANS.

In presenting the subject of the dental roentgenogram for your consideration, I do so with the firm conviction that you are one and all interested in preventive medicine. Feeling thus assured, I am confident that since the practice of the theory

of focal infection, the mouth has found a prominent place in your opinions, as being the source of many of these foci. With the development of the prominence of the mouth, the importance of the dental roentgenogram has kept pace. The question of our knowledge of what is a picture and its relation to various symptoms and conditions is the subject of this paper. In the brief time allotted, I must therefore be general in my comments rather than specific.

The dental roentgenogram is necessary in our present day search for foci of infection. Paradoxically, instead of explaining many conditions and preventing a useless loss of teeth, the dental roentgenogram seems to have become the cause of the discovery of many more foci about the mouth than it was thought had existed. It pictures many conditions about the teeth which were not suspected and decidedly unlooked for. In the role of disease prevention, the visualization of the dental areas is imperative. It is necessary to gain an intimate knowledge of the condition of the apical and periapical areas about teeth, and the condition of the alveolar process. The dental x-ray picture therein develops its greatest necessity, as a means of diagnosis, in the field of prevention.

Through the commercialism of the x-ray equipment manufacturers many machines have been installed to take dental x-ray pictures, so that to-day such service is within the reach of almost any patient who may require it. There are countless numbers of expert x-ray machine operators, who take excellent pictures. There still remain however, a very limited few who can read these pictures, yet still less who understand the value of the conditions which they see pictured. There are a very limited number who are capable of interpreting the dental x-ray findings as the causative factor in a diseased condition or who can intelligently tell what conditions may result from the pictured findings. The relation of x-ray find-

*Read before the Orleans Parish Medical Society, May 25th, 1925.

ings to the associated symptomatology is not understood.

To the patient, the x-ray picture is valueless unless a competent understanding of it is possible. Such reading is a rarity rather than a common practice. For the most part all that is known by the vast majority of the dental profession is what has been taught them by the manufacturers who sell them their machines. They learn to recognize what appears to be an area of absorption and then deduct from such findings that infection exists. They learn to recognize conditions some of which are termed apical infections and some termed pyorrhetic conditions. Most often the picture is used only to prove that a root canal is or is not properly filled.

The vast majority of physicians are less trained in the interpretation of the dental roentgenogram than are dentists. However the dental roentgenogram and its proper interpretation form an important part of their diagnosis in seeking foci of infection.

The status of the perfection of the interpretation of the dental roentgenogram has not risen to the standard of that of the interpretation of the x-ray picture of other portions of body, as the gall-bladder, gastro-intestinal tract or pleural cavity. Neither has it kept pace with our knowledge of mouth conditions. As a matter of fact I believe the oral cavity is pictured, examined and treated more often than any other part of the body, so why this discrepancy and lack of knowledge of so much treated and easily pictured an area?

The answer no doubt can be found in the fact that there are so many operators, each using his own technic and having his own idea of interpretations. This prevents a classification of pictured conditions and a determination of their pathological significance, or, association with a definite symptomatology. In a few words it can be said to be due to a lack of standardization, such as has developed in the study of pic-

tures and association of symptoms elsewhere about the body.

The dental x-ray picture can and does portray more than is usually read in it. The greatest of error in the use of the dental x-ray picture, as a means of diagnosis, is that it is too often used to confirm or disprove what are the more easily recognized conditions and rarely intelligently used to complete a diagnosis. The dental roentgenogram outlines conditions as they exist beyond the surface and out of sight just as x-ray pictures anywhere do. It should be used for such determinations, and its importance should not be minimized. The greatest field for the dental roentgenogram is in the determination of foci of infection and irritation. In this direction also, lies the greatest field for possible error.

One must never lose sight of the fact that the dental roentgenogram, like roentgenograms of any other portion of the body, has no value except as the findings there on can be associated with the clinical facts and findings in the case. I refer to the often made mistake of the unnecessary loss of teeth for the cure of a toxic condition which has its origin elsewhere and in which some minor local secondary condition about the mouth is pictured. The local condition is often of coincident rather than of significant pathology. In many cases of pyorrhea, teeth are removed with no benefit to the general symptoms in the case. The pyorrhea was only a local manifestation of a general condition. After the extraction of the teeth, the degeneration of the alveolar process continues and likewise the toxicity. Properly taken and properly interpreted dental roentgenograms can determine which of such teeth, if any should be sacrificed, and details why.

As physicians, we recognize that under varying conditions a person may react differently to a given source of irritation or infections. Under normal conditions of resistance a patient may be capable of car-

ing for a great amount of infection. The advent of some change in habit or an accident might alter the physical resistance generally, and prove the spark sufficient to light into activity a dormant area of infection or toxicity.

It is the part of wisdom to be prepared by knowing where infections are, and the degree of possible toxicity an individual is subjecting himself to. It is an important point in the prevention of many of the degenerative diseases and in the prevention of cardiac changes. Therefore it is important in any suspicious case, or where the mouth is to be excluded as a possible source of infection, to have a set of well taken and properly interpreted roentgenograms of the teeth, and alveolar process.

The time of pregnancy is the time of an alteration in the resistance of the patient generally. This reduction of resistance is lowered equally against bacterial and chemical toxicities. At such times all foci of bacterial or chemical origin should be sought out. The dental roentgenograms portray them. By the proper interpretation of the pictures they can be discovered.

In cases of pregnancy in which an examination of the condition of the mouth is made, through the dental x-ray one may be able to discover the reason for the increase of toxicity from old infections. Many times during pregnancy, an area which had been previously pictured as infected yet in an inactive or walled off state may become actively infective. This is a warning of trouble and can be discovered. The dental x-ray properly taken, gives warning of the possibility of the approach of such disasters. What obstetrician does not feel safer over his patient when he knows that all avenues of infection are removed or at least such as may occur have been definitely found, so as to be under immediate control. By immediate control I mean so that they may be given attention in whatever direction may be necessary.

At this time I want to emphasize the fact that during pregnancy there is no difference pictured roentgenographically about the mouth which could be considered an indication against oral surgery or tooth removal. There is no difference in the patient's oral condition as a surgical risk than exists anywhere else about the body at such times. If infection is present about the mouth during pregnancy, and surgery is indicated, and it often is, it should be done, not put off.

In tuberculosis, secondary infection and all forms of toxicity are to be avoided. The patient's resistance is to be conserved and if possible bettered. What case therefore, could not be benefitted by the discovery and removal of sources of toxicity or irritation? In tubercular cases the appearance of the alveolar process is important. The necessity for calcium through a systemic drainage of that element causes a depletion of that salt in the alveolar process, and instead of a process pictured with heavily indicated interstitial bone, the intercellular wall seems thinned out and picture less resistance. Perhaps because of a comparatively greater loss of calcium and bone salts in the oral areas, infections pictured during tuberculosis are often found to cover a larger area and appear not so well walled off. This is in contradistinction to infections at times when there is a greater local as well as general resistance, than is the rule in tuberculosis. The inference is obvious. Find infections about the mouth by means of the dental roentgenogram, and remove such foci of infection as are found.

The teeth are blamed for rheumatic conditions and in many instances justly so. No doubt many of you have had such patients in whom teeth and other organs harboring infection have been sacrificed. In many of these cases dental roentgenograms taken before surgery was done, may or may not have pictured pathology. Through a lack of authoritative knowledge of interpretations by the medical or den-

tal attendant the patient submitted to the loss of his teeth in the hope of cure. After such sacrifice the patient often has not been benefitted. I am not holding the dental roentgenogram as a panacea for the discovery of toxic foci and the directing of their cure, I do say however that the careful picturing of the dental areas will often discover instances in which teeth should *NOT* be extracted. On the other hand there may be discovered old infections remaining after tooth removal, or during removal, roots may be broken and left in position to continue the infection. A tooth with an unsuspected putrid pulp may be pictured. Foci such as these should be removed.

Often there are pictured in the dental areas, teeth with greatly enlarged roots. This condition is not an exostosis but a general and symmetrical enlargement. In these teeth there is no disturbance of the size nor shape of the root canal nor the pulp chamber. These teeth retain their vitality. The periodontal membrane is pictured normally surrounding the enlarged root. The condition I describe and which I hope to show you later is a secondary condition and incapable of causing symptoms except by pressure. Such teeth may be noted in cases which medically are considered as having an acid diathesis or are of gouty type. They are pictured in cases of arthritis deformans rather than rheumatism. They are also found in cases of migrain and gouty headache. This condition is a local change the result of a toxamia of other than oral origin. The condition pictured about the teeth is similar to the condition about the smaller joints often seen in such diseases. This similarity in the pictured conditions and the associated finding in teeth and joints in these cases is further recognizable when one considers that the tooth and tooth socket bear a relation to one another similar to that which the bony parts and membranes of a joint bear to one another. It is obvious that the removal of teeth such as just

described will not cure arthritis deformans nor gout nor gouty headache any more than does the amputation of such an affected joint aid in the cure of these conditions.

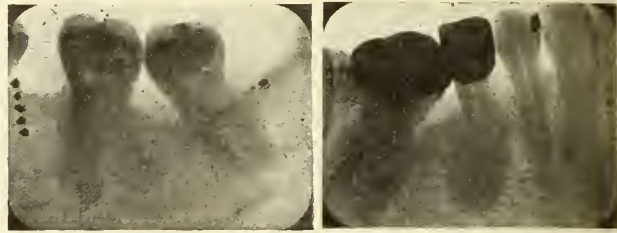


Fig. I.—In illustration of condition described in paper. Note normal root canal shadow and lack of break in outline of Lamina Dura.

Time will not permit the discussion nor the explanation of many of the errors that are being made in the interpretation of the dental roentgenogram, nor the detailing of all the conditions in which the dental roentgenogram may prove helpful. Therefore in closing only a few of the most frequent errors will be mentioned.

Of common errors in pictures of the dental area, might be cited the inability to locate the tooth pictured when such a picture is indiscriminately picked up. The mistaking of normal bone canals and foramina for pathological conditions. Among these the mental foramen and inferior dental canal in the lower jaws are the most often confused while in the upper jaws the incisor foramina, opening back of the upper central incisor teeth are most often mistaken for toxic areas. The maxillary sinus which is of indefinite size is variously pictured and causes much confusion. However much information of that area can be had from a well taken dental roentgenogram.

To summarize I wish to say that a great amount of good can result from the proper interpretation of a dental roentgenogram. The greatest part of this benefit being along lines of prevention rather than cure. In my opinion there are too few dental pictures being taken, yet too many for the general understanding of the med-

ical and dental profession. There should be some standardization of our knowledge on the subject. An examination of the mouth for the purpose of finding possible foci of infection, or irritation is never complete without a full set of dental roentgenograms and an intelligent reading of them. The edentulous jaw is no contra-indication to dental roentgenography for all too often broken and forgotten roots, residual infection or improperly healed alveolar process can be found. Many times all the teeth, none of which were the seat of trouble are sacrificed only to leave an unruptured tooth or an unsuspected cyst to continue irritation or toxicity. The careful interpretation of pictures taken before

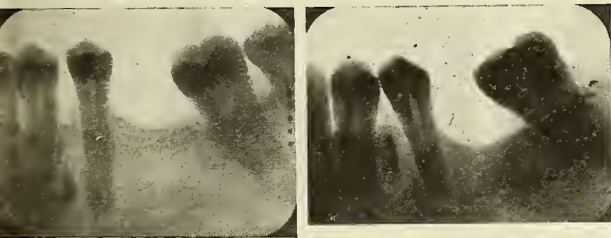


Fig. II—Irritation suspected of being pyorrhetic, caused by foreign bodies which proved to be parts of deciduous teeth.

extraction, with an authoritative opinion often prevents useless tooth sacrifice, while pictures taken after extractions show what errors of omission and commission have been committed.

DISCUSSION.

Dr. H. B. Gessner (New Orleans): The part of Dr. Lurie's interesting paper which appeals to me most is the reference to the importance of checking up, having a proper check up between the laboratory and the physical findings. It is evident that if a man makes a picture, interprets it and does not find out his mistakes he is not going to improve. As Dr. Lurie states, a great many teeth have been uselessly extracted, creating a somewhat unfavorable impression on the one who lost his teeth and continued to suffer without being benefited. Dr. Kells, one of the local pioneers in dental radiography, who through his writings has contributed much valuable information on this subject, on the fact that changes about the teeth, in the alveoli and apices, sometimes interpreted as causes, or foci, of infections, are infections due to foci elsewhere, so it is quite easy for those who do not question to believe they see the cause of

infection when they really see the result. In New Orleans we do not have the check up between the laboratory and the X-ray workers that we ought to have. Dr. Donald interpreted a picture that he made of a patient in my service at Charity Hospital; at the time I told him in jest that if my findings did not tally with his he would surely hear of it. He said that was his usual experience; when the X-ray findings and interpretations were correct they heard nothing about it; if at fault, the reverse obtained. At the Rochester Clinic there is a prompt report to the Roentgenologist of the findings in all cases where X-ray pictures have been taken. In the case of gastrointestinal series a prompt report goes to the Radiologist and he finds out just how far he is right, and how far wrong. Neither at Touro Infirmary or at Charity Hospital is there the proper checking up between the laboratory and the clinician.

I will pass from the question of dental foci to the question of foci in general. My opinion, based solely on my own experience, is that only in the minority of cases do patients have foci definitely determined. In tonsillitis and sinusitis we discover foci for arthritis, pyelitis or other conditions with comparative ease, removing the cause by surgical treatment, but where the infections are deep-seated, only in a few cases are we successful in locating the cause. If time permits, a comparison of notes from my colleagues in the audience here tonight will be appreciated.

In a case where the gall-bladder is suspected as responsible for the symptoms, although the patient presents none of the clinical symptoms of gall-bladder pathology, we hesitate to open the abdomen and do a cholecystectomy, or drain, in the hope of removing a focus of arthritis.

I would like to know if I am exceptional in being successful in the minority of cases only?

Dr. E. A. Ficklin (New Orleans): Removal of the original focus of infection is not always curative. An article appeared several years ago which offered a plausible explanation of this occurrence. In cases of arthritis, and especially of endocarditis, bacteria are carried from the original focus and develop secondary foci in the joints or in the endocardium. In such cases the patient's powers of resistance may be raised by the removal of the primary focus so that the secondary manifestations may be overcome, but in the majority of cases a low grade infection persists in distant parts of the body. This seems to be a logical explanation of the discouraging results that often follow extensive extractions and tonsilectomies.

Dr. C. C. Bass (New Orleans): I have no desire to detract from the value of the X-ray in diagnosis of foci of infection in the mouth—it is

certainly of great value. I would call attention, however, to the fact that most of the pictures that Dr. Lurie showed are the end or advanced stage of a disease of long existence and usually the conditions present are demonstrable without the use of the X-ray. Of course, as far as diseased roots are concerned, they can be demonstrated better with the X-ray, but for ordinary purposes this is not necessary to demonstrate the existence of pyorrhea or focal infections.

I also wish to point out the fact that focal infections in the mouth are a part of the usual condition of adults and of old people. It is a well established fact that all people lose their teeth with pyorrhea sooner or later if they live long enough. Although the X-ray is of great value, it is not at all necessary to show the existence of this disease, especially in the very late stages. In such cases the teeth are slanted or entirely out of position and it is certainly easy to make a diagnosis by ordinary examination with proper instruments, or even by observation only.

Dr. R. S. Crichlow (New Orleans): There is an interesting point that has come to my observation recently in regard to the unerupted teeth nerve symptoms that have been experienced by patients. A short time back a patient came to me. She had been examined by quite a number of eminent physicians. There was no fault to find with the examinations at all, but in the radiographs of teeth there were but two made, a bicuspid in each instance. I had several complete radiographs made and found that she had four unerupted molars pressing on the second molar and causing considerable discomfort. After the

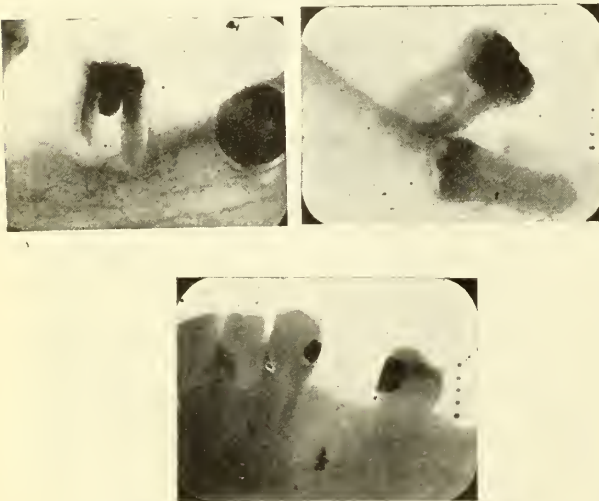


Fig. III—Unsuspected irritants disclosed by x-ray. Two are impacted unerupted teeth and third is a piece of filling which was broken off at time of extraction and remained in tooth socket.

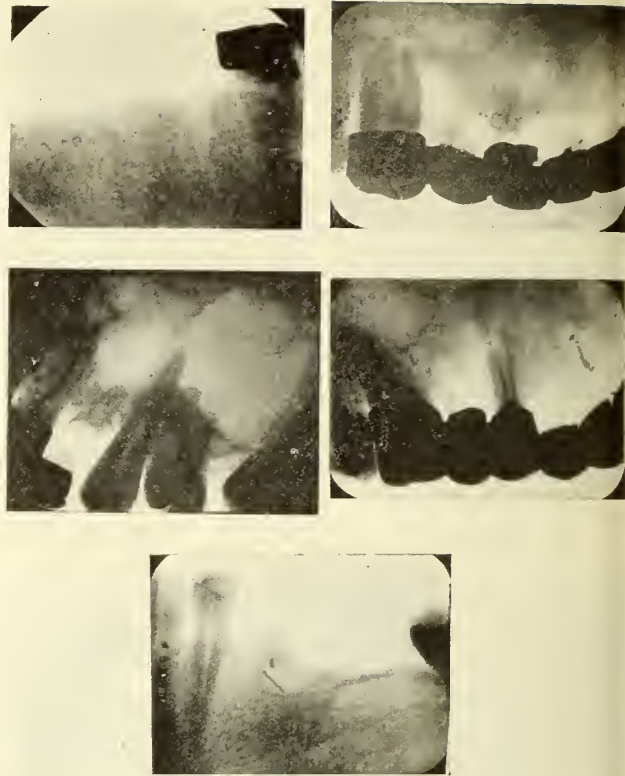


Fig. IV—Conditions impossible of diagnosis except by x-ray. Infected alveolar process remaining after extraction, broken roots and root canal fillings and parts of instruments remaining under bridges continue irritation. Failure to remove encysted infected root permitted extension of necrosis.

operation had been done she experienced considerable relief from her nervous symptoms and has been gradually getting better and better.

With reference to co-operation between clinician and roentgenologist. In the Veterans' Bureau we have had a world of opportunity in checking up along that line. In practically all the government work we have the X-rays of the teeth made and we check these up with the radiologist; we have facilities for it and it is quite interesting to note that when the teeth are extracted or treated there is a second check up and the radiologist knows if his interpretation has been correct, knows exactly what work was done by the dentist and the results obtained therefrom.

Dr. William A. Lurie (closing): I want to thank you for the rather general discussion of my paper.

With reference to Dr. Bass' comments. I thought I had made it clear that, rather than a cure, the dental X-ray picture has a place in preventive medicine. It is of diagnostic value, rather

than curative. Dr. Clarence O. Simpson of St. Louis, Mo., at the Indiana State Dental Association meeting, May, 1924, makes this point: "More than one-half of the conditions in the mouth cannot be observed without the aid of the X-ray, and the part that is hidden is most important because it is the source of systematic disturbance." "The patient with a number of plupless teeth and ex-

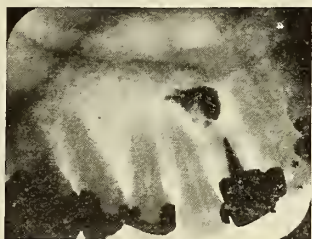


Fig. V—Bismuth paste injected into infected area. Note area of alveolar absorption greater than size of shadow of paste.

tensive restoration should have a general radiographic examination each year, because during that time important changes may occur which require correction." Now, it is true that those cases shown on the sides are end results, but where one is dealing with toxic foci or infection, and teeth are removed, if pictures had not been previously made, there are liable to be cysts or unerupted teeth left behind to continue the trouble. Most of those pictures were in illustration of what one may unsuspectingly find.

I have in mind a very interesting incident that happened recently. A lady was referred to me by an internist and she failed to come. More recently she was referred by a dentist. I X-rayed several of her teeth and found an unerupted bicuspid in the long axis of the jaw under a molar, which was causing her trouble. This patient had a rather persistent gastric condition that had continued up to the time she came under my observation. I suggested that the unerupted tooth be removed and called up the internist. He said: "If you stir up that woman's gastric condition you are going to give me some trouble." The teeth were removed and ten days after, the gastric disturbance had entirely cleared up, and up

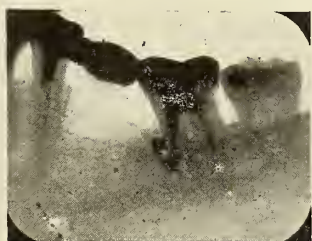


Fig. VI—Sterile root canal filling in alveolar process forced through lateral puncture in root. No alveolar absorption pictured.

to the present, which is several months, it has not returned.

Now a common misnomer or diagnosis that is usually made, that of "a granuloma at the apex of the tooth." The granuloma is only a local condition. It does not indicate the amount of intoxication that is taking place. Changes take place somewhere else and are of greater importance than the local manifestation. I do not believe a diagnosis of granuloma should be made. In describing such a finding it is perhaps better to say that an area of alveolar absorption is discovered, rather than to try to differentiate between the activity or inactivity of a process, from the X-ray finding. Its potency as a source of toxicity cannot be unerringly determined.

An English Government Report of September 15, 1923, makes point of the fact that one-third of the cardio-vascular diseases of that country are related to conditions of the oral cavity. It would indeed be a bad thing for the human race if, on the strength of such a report, we went ahead without X-ray assistance and removed all the teeth instead of trying to save some that did not have any infection.

A TECHNIQUE FOR ETHMOIDECTOMY*

J. R. HUME, M. D.,

NEW ORLEANS.

The nearest approach to a complete enteration of the ethmoidial labyrinth with the minimum amount of danger to the patient is the ideal sought for by all operators in this field. The many and widely varying techniques described in the literature for this operation would indicate a lack of unanimity of opinion, as to the proper method necessary to fulfill the above essential requirements.

No claim is made for originality of the technique, I wish to describe, as it is based in some essential details on the well known Sluder operation, but with the belief that it is equally safe and less difficult of execution, I am prompted to describe a departure from the above mentioned classic.

A local anesthetic, preceded by a hypodermic of from 1-6 to 1-4 grain of mor-

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

phine sulphate has been used in all but a few cases. Two small cotton tipped applicators saturated in a 10% solution of cocaine are employed. One is inserted between the middle turbinate and septum in the region of the Spheno Palatine Ganglion; the other between the overhang of the turbinate and the lateral wall. At the end of fifteen minutes they are removed and the entire region of the middle and superior meati mopped with solution of Adrenalin Chloride 1-1000. Another five minutes is allowed to elapse before beginning the operative procedure.

The knives with which the major part of the work is done are of the Sluder type, but with the cutting surface extended down the shaft for an additional 15 millimeters.

With the region well exposed between the blades of a long speculum, the knife with its cutting surface turned toward the septum hook up, is introduced beneath the overhang of the middle turbinate and sufficiently high that the first cut which is made forward, and slightly downward, will sever this body just below its cribriform attachment.

The blades are now changed and the knife with cutting surface downward reinserted to a location immediately below the starting point of the first cut. We now break through the anterior group of cells and make the cut downward and backward along the body of the turbinate until the anterior wall of the Sphenoid is reached. From this point the cuts are made forward and downward, until the knife penetrates the floor of the posterior cells and is free in the middle meatus.

The blade used for the first cut is reinserted, and the handle rotated toward the septum until it approximates the horizontal position, with a gentle pull the easily-broken-down ethmo-orbital cells are opened. A Wright snare is now introduced with the canula held firmly in the upper limits of the first cut, and the turbinate with attached cell remnants are removed.

A Knight forcep is used to complete the operation, being a convenient and safe instrument for removal of the loosened cells resulting from the earlier steps of the technique. If it seems desirable the Sphenoid Sinus may be opened or its anterior wall removed, as it is plainly visible in the posterior limits of the field.

Being careful to observe that no ragged edges of membrane are remaining in the field to produce undue bleeding, the exposed surfaces are lightly mopped with Tincture Benzoin Compound and the operation is complete.

After the patient has returned to the room, cold compresses are applied to the nose and frequent spraying with Sol. Adrenalin Chloride 1-10,000 is maintained for a few hours. After the third day 10 c.c. of Liq. Petrolati is instilled in nostrils daily with a medicine dropper.

Healing is usually complete within two weeks.

REFERENCE.

1. Greenèeld Sluder. Headaches and Eye Disorders of Nasal Origin.

SOME PRACTICAL OBSERVATIONS ON GALL-BLADDER DISEASE*

C. JEFF MILLER, M. D.,

NEW ORLEANS.

The only way in which the ultimate results of surgical intervention can be rightfully measured is by the patient's own view of the end results. He wishes relief, he wishes to be restored to full working capacity, and provided that result be obtained, the means to him is a matter of little consequence. Much of the discussion, it seems to me, which has raged around the subject of gall-bladder disease in recent years could have been eliminated if this simple point had been born in mind; whether drainage or removal is the better operation theoretically or technically is not

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

nearly so important as what procedure gives better results for the patient. With this in mind I have investigated 128 recent operations for gall-duct disease in my private work, and the conclusions set forth in this paper are based upon the patient's own views of the end results in 108 of the series.

The limitations of space and time do not permit of a discussion of the physiology and pathology of the gall-bladder, but I would remind you that if we exclude new growths, practically all gall-bladder disease is primarily infectious in character, and that cholecystitis, the inflammatory process, is always preliminary to cholelithiasis, the terminal result, although it in turn may be merely an incident in the myriad pathological changes which may involve the smaller radicals of the bile ducts, the pancreas, or even the cells of the liver itself. All treatment, therefore, should be based upon the general principles which govern bacteriological invasion and infection elsewhere in the body.

From a procedure which in the beginning carried with it so high a mortality that it could be considered only as an emergency, life-saving measure, surgery of the gall-bladder has now evolved to the stage where it may be proposed with comparative safety for early manifestations of the disease, for the recognition of which, however, considerable diagnostic acumen is frequently necessary. The syndrome of gall-bladder disease, particularly in acute cases or in gall-stone colic, is fortunately very definite, and in no other condition is a carefully interpreted history of more value. Our endeavor, however, should be to recognize the early phases of the condition, and I know of no better rehearsal of the inaugural symptoms than is to be found in Sir Berkeley Moynihan's paper of that title. You will recollect his emphasis on the history of persistent digestive disturbances, the fullness, weight and distention in the epigastrium appearing with regularity after meals and practically always after certain

articles of diet and relieved by eructation or dismissed instantly by vomiting, the acidity and heartburn, the sense of tightness which if unrelieved by posture or loosening of clothing becomes acutely painful, and finally the typical attacks of pain which make the diagnosis definite. Such a history in whole or in part can be elicited in every case of gall-bladder disease, and to it even the most carefully worked out laboratory methods must always be subsidiary.

Second in importance to a properly taken and interpreted history comes X-ray investigation, though its results have not been as helpful as it was once thought they would be. In detecting stones, for instance, its efficiency naturally increases with the percentage of calcium salts present and a stone composed largely of cholesterolin may not show up at all. In the hands of the experienced radiologist, however, the so-called "negative shadows" are full of meaning, and the various shades of gall-bladder opacity, the position of the organ in relation to adjacent structures, and the presence of adhesions, especially about the duodenum, are all of diagnostic value. I might say in passing that the new method recently published by Evarts Graham, of outlining the gall-bladder after the intravenous use of sodium tetraiodophenolphthalein, has apparently given excellent results in his hands, if we are to judge by his report of a 96 per cent incidence of correct diagnosis as confirmed at operation, and if it can be put into general use it will mark a distinct advance in the radiological investigation of the gall-bladder.

Blood chemistry is also of diagnostic value, particularly studies of the cholesterol content. Moynihan has recently reported a series of cases of cholelithiasis in which 88 per cent showed either a hypercholesterolemia or values considerably higher than the normal blood content. But again this is a method only for the experienced laboratory worker and it can never take the place of a detailed history and careful clinical observation.

Medical treatment has a distinct place in vague digestive disturbances if gall-duct involvement is suspected but I can see no justification for its continued employment after a definite diagnosis has been made. Prolonged treatment with duodenal taps, stomach washings, restricted diet, etc, may produce the "degree of clinical silence" so aptly described by Moynihan but it cannot retard a steadily progressing pathology, and a cure by such methods will very frequently be found to coincide with the period of rest which in the very nature of the disease follows some acute manifestation, in exactly the same manner in which gastric or duodenal ulcer is so many times "medically cured" before the ultimate and inevitable operation.

Since surgery, then, is admittedly the logical treatment for gall-bladder disease it is equally logical to assume that the earlier the operation is done the simpler the procedure and the more successful the end results are likely to be, exactly as in the case of an interval and an emergency operation for a diseased appendix. Operation in the pre-calculus stage is desirable whenever possible; the surgical procedure entails a certain inevitable amount of pain and discomfort and nervous shock, but on the other hand the agonies of hepatic colic are not soon forgotten by those who have endured them. Again, as we have already pointed out, long continued infection is bound ultimately to result in an involvement of neighboring structures so that a deferred operation may not be curative or even palliative. And lastly, repeated attacks of severe pain and long-standing infection may so lower the patient's vitality and sap his resistance that any surgical procedure may eventually be a very serious affair.

As a general rule, operation in the acute stage is seldom desirable if the patient can be carried through the attack, although in the presence of urgent symptoms this rule must be disregarded. Surgical procedures can now be carried out with relative safety on patients who even a few years ago were

considered hopeless risks because of cardio-renal or other constitutional conditions or the concomitant diseases of advancing years. Rehabilitation of these cases by pre-operative measures such as rest, restricted diet, the administration of intravenous glucose solution, the use of calcium in instances of jaundice, has made many patients safe operative risks who would have died under the methods formerly employed. These measures are, of course, applicable to any debilitated patient, but they are particularly helpful in serious gall-bladder infections, in which they parallel the new safety of surgery of diabetics since the introduction of glucose and insulin.

The storm center of the whole argument in gall-bladder surgery is the question of cholecystectomy versus cholecystostomy and present day statistics show exactly the reverse of the conditions of 10 or 15 years ago, when the latter was the favored procedure. In the hands of a competent surgeon the primary mortality does not differ greatly, though in the hands of the inexperienced man simple drainage is unquestionably the safer procedure. Again there can be no question but that cholecystostomy is the better operation under certain circumstances, as when there is a possibility that some secondary operation such as cholecystoduodenostomy may be required at a later date; in long-standing obstruction of the common duct with jaundice, when hemorrhage due to delayed coagulation of the blood may be a serious complication; when the patient's condition is so precarious because of age, the acute nature of the disease or the presence of pus that the simplest procedure is a risk in itself and even the prolongation of the anesthetic is a grave consideration; or when the obesity of the patient or distortion of the anatomical relations would make the radical operation difficult and tedious.

Cholecystectomy, on the other hand, should always be done in the presence of disease of the gall-bladder, as evidenced by loss of normal color and tone, fibrous tissue formation or fat deposits, glandular

changes or the presence of adhesions. In addition to these definite indications of disease there is also to be considered the gall-bladder which has unquestionably produced clinical symptoms in the past but which at the time of operation looks normal. Lampsom suggests that such gall-bladders should be removed as a routine, since they certainly harbor bacteria, and that gross evidence of disease is lacking only because the operation is of the interval type. I am rather inclined to agree with him. A gall-bladder which is once infected has notoriously poor powers of recuperation and is always a potential hotbed of bacteria.

Of late years it has been my policy to do cholecystectomy in all cases in which there is no definite contra-indication, and in the series on which this paper is based the ratio is 4 to 1. My final decision is, of course, never made until the peritoneum is opened and the gall-bladder is in my hand, but, other things being equal, cholecystectomy is with me the procedure of choice. Moreover, for the last few years I have not used an abdominal drain after the removal of the gall-bladder as often as I once did, unless serious pathology of the gall-ducts demanded such a procedure. My results, both immediate and ultimate, have been decidedly improved, but I would emphasize that unless the technique is flawless and there has been no soiling of the operative field the omission of drainage cannot be considered.

Except for the general principle that the presence of infection in either area definitely contra-indicates combined operations or even exploration, the question of operation on other organs of the abdominal cavity in combination with gall-bladder surgery should be settled entirely upon the merits of the individual case. If the patient is in good condition and the first operation has been done smoothly and rapidly I can see no reason for not completing the work at a single sitting, if for no other reason than the bad effect the apprehension of a second ordeal is likely to produce on the patient. In the series I am reporting

other operations included appendectomy in 53 instances, gastro-enterostomy for pyloric or duodenal ulcer in 2, and pelvic operations in 29 instances, varying in severity from simple curettages and plastic work to complete removal of the uterus and adnexa. There were no untoward results in any instance nor was any convalescence unduly prolonged.

In the series of 108 cases, 19 men and 85 women, the ages ranged from 14 to 73 years, nearly two-thirds of the patients being over 40. Twenty-two cholecystostomies were done and 86 cholecystectomies, a respective incidence of 20.4 and 79.6 per cent. Of the 22 cholecystostomies 15, 68.2 per cent, report complete relief, and 2 more consider themselves cured except for dietary restrictions necessary to avoid flatulence and constipation. Two were relieved for varying periods of time, in one of whom cholecystectomy later gave complete relief. One patient was not relieved at all, and I am mentioning her case in detail because she well illustrates a point I wish to stress, that these patients should be carefully watched after they leave the hospital. She was given the usual routine instructions as to diet, exercise and bowel function, but I am a surgeon, not an internist, therefore I could not attempt to keep in close touch with her and I saw nothing of her for several years. When she consulted me again I found that she weighed more than she did at the time of operation—she then weighed 220, that she led an absolutely sedentary life that she drank practically no water, and that her diet was both unbalanced and excessive. The bad results in this instance need no further analysis.

Of the 86 cholecystectomies, 58, 67.5 per cent, report themselves cured, although in some instances dietary restrictions are necessary to avoid flatulence and constipation. Seventeen, 19.5 per cent, report marked improvement both of symptoms and of general health. Three report temporary improvement for varying periods of time, and 7 report no relief at all. All of the latter were women. Three have continued

under the direction of a gastro-enterologist and have had repeated duodenal drainages, in one instance 72 times. One at the time of operation showed a thickened pancreas and had had her symptoms for 35 years, while another showed a marked glandular involvement and gave a history of digestive disturbances for 10 years. In another instance the poor results are directly attributable to an entire disregard of directions as to diet, exercise and bowel function. In the last case the patient showed a cholangitis and pancreatitis at operation. Cholecystectomy relieved her for 6 months, after which her symptoms recurred with progressive severity; common duct drainage relieved her for another 4 months, since which time she has grown steadily worse. There were 29 cases of cholelithiasis in the entire series.

These results are in no sense scientific. They are merely the patient's own opinion of what was achieved. Some who term themselves cured to my mind belong in the improved classification, others who consider themselves rather badly off present no symptoms at all referable to the gall-bladder, but I am giving you the results as they themselves state them, for that, after all, is the true index of our success or failure.

There were 2 deaths, a mortality for the entire series of 128 cases of 1.6 per cent. One was a woman of 73 with a history of illness extending over a long period of years, on whom cholecystostomy was done during an acute attack because of the urgency of her symptoms. She died of peritonitis on the fifth day after a secondary enterostomy. The other was a man of 45 with carcinoma of the liver, in whom the gall-bladder was anastomosed to the ascending colon as a temporary measure of relief; he died on the third day and perhaps does not properly belong in this series as the condition was not primarily one of gall-bladder disease. This unusually low mortality does not in any way prove that gall-bladder surgery is not inherently serious. These patients were all carefully pre-

pared for operation, drainage was done in several instances in which the more radical operation, although theoretically better, would probably have been a dangerous procedure, and through a series of fortunate chances not a single case developed any post-operative complication.

In conclusion, success in gall-bladder surgery would seem to hinge upon diagnosis of the condition in its early stages, operation as soon as practicable thereafter, careful preparation of the patient beforehand, the selection of the operation according to the needs of the individual patient rather than according to a rigid theory that either drainage or removal is the preferable procedure, and last and perhaps most important, the co-operation of the internist for a long period after the surgeon's work is done in the interests of hygienic living.

THE CONSERVATIVE TREATMENT OF ECLAMPSIA*

E. L. KING, M. D.,
NEW ORLEANS.

The frequency with which eclampsia occurs as a complication of pregnancy is variously estimated. Williams states that it occurs about once in every five hundred labors, but that in maternity hospitals it is encountered in a trifle less than 1% of the cases admitted. McPherson reports a frequency of one in sixty in the wards of the New York Lying-In Hospital, but states that in the out-patient department the incidence is only one in 1075 cases. He notes that the cases of eclampsia are especially common in the early spring, notably in April, and this coincides with our experience. Stroganoff states that the mortality from this disease is about one to each one thousand deaths amongst women in Paris, Berlin, Budapest, and Milan, while in Chicago this proportion is

*From the Department of Obstetrics and Clinical Gynecology, Tulane University of Louisiana.

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

1.9, in San Francisco it is 2.9, and in New Orleans it rises to 6.4 among the whites and 3.4 in the colored. In the Charity Hospital of New Orleans during the years 1919-1924, inclusive, there were 97 cases; during this time, 5516 patients were delivered in its wards. Regardless of figures, we all know that it is of common occurrence, and that every physician handling obstetrical patients may at any time be called upon to deal with this rather terrifying complication. The etiology of eclampsia is unknown, but as it is a complication of pregnancy it appears logical to treat it by terminating the pregnancy as soon as possible. This is the theory by which we have been guided in the past, but the results of its application have been far from satisfactory. A maternal mortality of from 20 to 40%, with a fetal death rate of from 40 to 50%, is not a record which we can view with any degree of pride.

Is it not possible that, throughout the world, obstetricians have been treating eclamptic patients too vigorously, in their attempts to relieve them? Let us see what has transpired, and what is now going on in the system of a patient with eclampsia. The history will almost always tell us of a gradually developing toxemia, with headaches, dizziness, ocular disturbances, epigastric pain, and generally edema as the distinguishing features. The blood pressure, which as a rule has not been taken, has been high for several days, and the urine has been scanty and albuminous. In other words, the toxemia has been at work for days or weeks before the crisis of convulsions develops. What do the convulsions signify? The actual, fundamental cause of these seizures is not known; we cannot say that they are due directly to the toxin, or that they are initiated by a secondary toxin which has developed, or that the edema of the brain is responsible. We do know that the development of convulsions signifies an increasing severity of the toxemia, and that the more fre-

quently they occur and the greater the total number, the graver is the prognosis. Whether death is due chiefly to the convulsions and to the changes they occasion, or mainly to the underlying toxemia, is a point concerning which there is some difference of opinion, but it appears logical to conclude that both factors are at work. Certainly the nervous system is seriously affected, and it is questionably whether the infliction of further traumatism, such as is consequent upon operative delivery, is the proper procedure. Stronganoff was the first to raise this question, and to work out a systematic scheme of conservative treatment. His results, substantiated by those of many others, appear to bear out the truth of his contentions. A case of eclampsia may be likened to one of tetanus, and in the latter instance we are all agreed that every possible traumatism is to be avoided. Carrying the analogy further, we may say that in eclampsia, as in tetanus, the treatment of the original focus (i e., the pregnant uterus), is for the moment of secondary importance, our chief concern being the lessening of the toxemia and the control of the convulsions.

However, the authorities are divided into opposing camps, one group advocating radical treatment as soon as possible after the first convulsion, another championing sedative and eliminative measures, and a third claiming that best results are obtained by pursuing a course intermediate between the two extremes. The radical advocates claim, with truth, that the convulsions cease in the great majority of cases soon after the uterus is emptied. They also contend that the earlier this emptying is accomplished, the lower is the mortality rate, both maternal and fetal. But the advocates of conservatism present figures showing a maternal mortality much lower than the best obtained by operative measures, and claim a lower fetal mortality as well. The members of the middle group prefer to individualize their cases, and in the main lean toward the conservative side;

DeLee, however, though in this class, is inclined to prefer operative measures.

Let us investigate these claims a little. Williams, in 85 ante- and intra-partum cases, treated radically, had a maternal mortality of 24.7%. Ross McPherson, in 1909, reported 250 cases with a maternal mortality of 30.8% and a fetal death rate of 44%. DeLee, in the 1921 edition of his textbook, states that "the mortality of eclampsia is still from 20 to 45% for the mother and 30 to 60% for the child", Stroganoff states that in Great Britain the maternal mortality is 22.5% and the fetal 47.8%. Peterson, in a study of 500 cases treated by Cesarean section by 259 different operators, found that in the cases operated upon prior to 1913 the maternal mortality was 47.9%, but that it dropped to 25.79% after 1913, due to a better appreciation of the operation and its limitations. In the Charity Hospital, in the six years 1919-1924, inclusive, 62 cases were treated by various operative measures, with 24 maternal deaths, a mortality of 38.8%.

Turning to the records of the advocates of conservatism, we find that Stroganoff, in 1923, reported that in his last 253 cases there were only six deaths, or 2.4%. Of these deaths, three were hopeless when first seen, two patients with mild eclampsia died of pneumonia and septicemia, and one died because no chloral hydrate was obtainable. The fetal mortality was 20.1%; excluding the premature children and those dead on admission, it was 6%. In 1918 he collected from the literature 2208 cases with a maternal mortality of 9.8%, and a fetal death rate 12% lower than that obtained by operative measures. McPherson was converted to conservatism in 1916, and in 1922 reported 890 cases treated in the New York Lying-In Hospital with a maternal mortality of 17.4%; in 104 of these cases the fetal death rate was 25.4%. In his two series, the maternal mortality was thus reduced from 30.8% to 17.4%, and the fetal from 44% to 25.4%. Williams, in 92 ante- and intrapartum cases treated conservatively, reports a maternal mortality

of 13%, in contrast to his death rate of 24.7% following radical treatment. He quotes Engelman as reporting a mortality of 26, 13.6, and 6.7%, respectively, depending upon his employment of radical, intermediate, or conservative measures. Fitzgibbon and Solomons report 204 cases treated by the Dublin method, with a mortality of 10.3%.

In considering the statistics of eclampsia, Eden raises the point that the mortality rate varies according to the severity of the case, and lays down the dictum, that a case is severe if any two of the following symptoms are present: (1) Coma; (2) pulse rate above 120; (3) temperature of 103 or higher; (4) blood pressure above 200; (5) more than ten convulsions; (6) enough albumen in the urine to cause it to turn solid on boiling; (7) extensive edema. Stroganoff proposes two additional criteria as to severity, viz., nephritis of long duration, and convulsions recurring four or more times in two hours. Stander, of Johns Hopkins, who recently visited the clinics of Stroganoff in Russia, states that from the records it appears that the majority of the latter's cases are of the mild type, but that even after making all allowances his results challenge our attention.

As noted above, the results obtained by the various radical measures in the wards of the Charity Hospital have been about the same as those reported from similar clinics elsewhere. As is true of the other methods, abdominal Cesarean section has been given a thorough trial. Since 1909 it has been resorted to in 69 cases, with 25 maternal and 14 fetal deaths, giving mortality rates of 36.23% and 20.3%, respectively. As the maternal death rate in Peterson's series was 34.8%, and was still 15% in the milder cases of this series, which were not complicated by potential infection, it appears that this treatment has not lessened the mortality. Williams, in the latest revision of his textbook, condemns the operation unqualifiedly; DeLee, however, still feels that in skilled hands it is at times the treatment of choice. Admit-

ting the reasonableness of this contention, it would seem best to restrict the operation to the occasional primipara, at or near term, in whom labor has not begun, with a long, undilated cervix, and a living child. Even under such conditions, we can hardly hope to reduce the maternal mortality much below 20 or 25%, granting that one might be more fortunate in a few successive instances.

As the results obtained by us in the employment of radical measures were by no means satisfactory, we decided to try the conservative method in our service at the Charity Hospital, but our early attempts were not particularly successful, as we adopted at first an intermediate plan of treatment. For the past fifteen months, however, we have followed the conservative method rigidly, with most excellent results. During this time, I have treated eight cases, and at least five others have been cared for on other services. Of these thirteen patients, all the mothers recovered from the eclampsia, but one died subsequently from infection, a most regrettable occurrence, due to some undiscovered slip in our technique. She was a very sick woman, with a profound toxemia; labor was induced with a bag, her pains were slow and inefficient, and much vaginal manipulation was entailed. Of the babies, four were premature and stillborn, two near term were dead on admission, and seven were delivered alive, either spontaneously or by easy forceps operations. During this period of fifteen months, only one other maternal death occurred; this patient was a colored woman, moribund and comatose on admission, who died three hours later. Her baby was saved by a low forceps operation shortly after reaching the hospital. In comparison with our previous record of a maternal mortality of 38.8% in cases treated radically, this is a most satisfactory achievement, and is only equalled by the record of the year 1923, when eight cases were treated along intermediate lines, with no maternal and five fetal deaths. We are continuing to work along these lines, and are

now adhering rather strictly to the Stroganoff plan of treatment, with the expectation of equally good results in the future.

It is essential that a well-thought-out method of treatment be adopted, as half-way measures will prove unsatisfactory. Hence, I may be pardoned for going into details. Stroganoff's directions are as follows:

(1) Absolute quiet, with a minimum of examinations and manipulations.

(2) Morphia, gr. $\frac{1}{4}$, by hypodermic.

(3) One hour later, Chloral Hydrate, 30 grains, in 100 c.c. of milk by mouth, or in milk and normal salt solution by rectum if unconscious.

(4) Three hours from the beginning of treatment, morphia gr. $\frac{1}{6}$ to $\frac{1}{3}$, generally $\frac{1}{4}$, by hypodermic.

(5) Seven hours from beginning of treatment, Chloral Hydrate, gr. 30, by mouth or by rectum, as above.

(6) Thirteen hours from beginning of treatment, Chloral Hydrate, gr. 15 to 30, generally gr. 22.

(7) Twenty-one hours from beginning of treatment, repeat the Chloral Hydrate gr. 15 to 30, generally using 22 grains.

The dosage is increased in severe eclampsia in strong patients, and is diminished in the mild form. At first, chloroform, 10 to 20 minims, may be given by inhalation if convulsions appear imminent. On the second day undelivered patients receive 15 to 22 grains of Chloral Hydrate t. i. d. If there are no convulsions for 14 hours, and the patient is in good condition, the dose may be diminished. If the convulsions recur two or three times, if she has had six or more before admission, or even one in a severe case (see Eden's criteria above), 400 c.c. of blood are removed by venesection. This is not done if delivery is expected within one or two hours. As soon as the patient can be delivered without harm to herself and child, delivery is un-

dertaken, either with forceps, by extraction in breech cases, or, rarely by version. In the absence of contraindications, Stroganoff ruptures the membranes when the os is two fingers dilated in multiparae and three fingers dilated in primiparae. The patient is kept warm, hot tea diluted with milk is given; in case she is unconscious, she receives 1000 c.c. each of milk and normal salt solution by rectum per diem. Oxygen may be given after the convulsions, and plenty of fresh air is essential. If she is unconscious she is kept chiefly on the right side, and vomited mater, mucus, and blood are sponged from the mouth when necessary. Digitalis is given if the pulse is 110 or over, supplemented at times by camphor or caffeine. Note that Stroganoff does not purge, does not wash the stomach, and does not give enemata or rectal flushes.

In the Dublin method, employed at the Rotunda Hospital, stress is laid upon elimination. Morphine, chloral, venesection, and chloroform are not used, and delivery is effected only when the cervix has become completely dilated. McPherson uses morphia gr. $\frac{1}{2}$ at the outset, and gives gr. $\frac{1}{4}$ every hour thereafter until the respirations are reduced to eight per minute. He also employs free elimination. In our cases, we administered morphia, gr. $\frac{1}{2}$, at the start, removed 500 to 800 c.c. of blood by venesection, gave 1000 c.c. of 5% glucose (with or without insulin) intravenously, and repeated the morphia in $\frac{1}{4}$ grain doses every two to four hours, as appeared necessary. In some cases, as much as a grain or a grain and a quarter was given in twelve hours, in addition to sodium bromide and chloral hydrate, sixty and thirty grains, respectively, by rectum every three or four hours. If labor did not develop spontaneously, it was induced by a bag *after* the convulsions had ceased. It has been our conviction, and still is, that induction of labor, or some other method of artificial termination, is indicated at this stage. The *eclamptic* stage is over, at least for the present, but the toxemia persists as long as the patient is pregnant. This is well

exemplified by a recent experience of Dr. G. A. Mayer, under whose direction a patient was successfully carried through the eclamptic seizures by this conservative treatment, but labor failed to develop spontaneously. After a wait of two or three days, a bag was introduced, and she had another convulsion during the ensuing labor. There were no further attacks, however, and a living baby was later on delivered by forceps. It has occurred to me that in this quiescent stage delivery in some cases by vaginal or abdominal Cesarean section might be safe and expedient.

The dosages of these sedative drugs recommended by some writers may appear to be unsafe, but it seems that these patients can tolerate amounts that would be toxic to a normal person. For example, a colored patient in another service received during the first ten and one-half hours of her stay in the hospital a total of one grain of morphine, sixty-five grains of chloral hydrate, one hundred and ninety grains of sodium bromide, and three and one-half grains of sodium luminal, together with whiffs of chloroform to control the eight convulsions which she had in spite of the drugs. Her convulsions ceased, and she delivered a living baby eighteen hours later, during which time she received $\frac{3}{4}$ of a grain of morphine, sixty grains of chloral, and one hundred and sixty grains of sodium bromide for good measure. Another patient, however, who died five hours after admission, received one and one-half grains of morphine during that time. It is possible that the opiate in this dosage contributed to the fatal issue.

To sum up, I can state confidently that the conservative method is more efficient than the radical treatment as far as the mother is concerned, and just as safe for the baby. It possesses a great advantage in that it can be employed anywhere by any physician, no matter how handicapped he may be by lack of hospital facilities or by surgical dexterity. I therefore recommend it for your earnest consideration, and feel

sure that, if you employ it properly, your results will be most gratifying.

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DISCUSSION.

Dr. Lucien LeDoux (New Orleans): Doctor King has added evidence in favor of conservatism in eclampsia. Conservatism has long been advocated by Stroganoff, and locally by Doctor C. Jeff Miller, but in spite of these excellent recommendations, up to two years ago we were treating these cases in our service at the Charity Hospital with a minimum of conservatism and a maximum of interference. The plan that we have used follows closely the general outlines given by Doctor King, only that we individualize our cases a little more closely and give a preliminary injection of morphine, one quarter grain, followed quickly afterwards by venesection. If the blood pressure is over 150 we follow Polak's plan of holding 150 cystolic pressure as a margin of safety, and using preferably normal saline instead of glucose solution after venesection. Chloral and Bromides are used together for the synergistic effect—20 grains of the former and 40 of the latter by mouth or rectum, gallon rectum flushes, and a diet exclusively of milk. The purpose of this treatment is essentially one of control. We endeavor to improve the general condition of the mother and spend little or no time in worrying about the fetus. These cases within 24 to 48 or 72 hours, depending upon their severity, will be brought up to the best possible condition and then labor is usually induced and in approximately 60 per cent. of the cases which are not premature, the delivery is spontaneous.

In the past two years my results in 27 cases were as follows: Six cases treated by interference, with 3 maternal deaths and 6 fetal deaths; by conservatism, 21 cases, with 3 maternal deaths and 12 fetal. The fetal deaths appear high, but I would like to point out that many of these cases are in convulsion or in coma, and the toxemia has been of long standing and the fetus has been injured as a result. I wish to add these figures to Doctor King's, and I strongly recommend them to you for your consideration.

It seems then that by careful and intelligent pre-natal care, and the application of conservatism, we can reduce the maternal hazard to a

minimum and the result to the fetus, especially regarding mortality, will be placed somewhere between these two.

Finally, I wish to emphasize what Doctor King has said, because we have found that our results by interference are very unsatisfactory, and the results by conservatism hold much promise for the future.

Dr. W. E. Levy (New Orleans): Eclampsia is without doubt the bugbear of the obstetrician. It is really a more serious complication than hemorrhage or infection. I would most heartily subscribe to all that has been brought out by Doctor King as to the efficacy of conservative treatment in eclampsia. Radical treatment is absolutely contra-indicated except in the exceptional case.

One point I wish Doctor King had stressed, not so much as regards treatment, but as regards prognosis, and that is the differentiation between eclampsia and the nephritis of pregnancy. They are two distinct entities. The mother naturally wants to know what are her ultimate chances of bearing children with freedom from danger. This means very careful tests. One is the blood chemistry test, which is practically negative in eclampsia, but which shows nitrogen retention in nephritis. It means the distatic activity will show an increase above the normal point in eclampsia and very low in nephritis. It also means the differentiation between serum globulin and serum albumen, the serum globulin being increased in the eclamptic type, and the serum albumin being increased in the nephritic. The phenolsulphophthalein test in the average eclamptic is practically normal, whereas in the nephritic type we find it lowered. What is the prognosis then? A woman usually has eclampsia with her first baby, but it very seldom repeats. The repeating type is really nephritic and the succeeding pregnancies of that woman should be watched very carefully.

The energetic treatment of eclampsia is absolutely contra-indicated for two other reasons. These patients are very poor subjects as regards infection. If we manipulate them either from below, or from above by Cesaria section, they are prone to develop an infection and die as a result. Furthermore, they are bad subjects on account of shock.

Without doubt the best treatment of eclampsia is its prevention and very often careful pre-natal work will obviate the necessity of treating eclampsia. I like to differentiate between the pre-eclamptic and the eclamptic. We treat the pre-eclamptic and the treatment is one of elimination, low protein diet, rest, and so forth.

Where we see fit to bring on labor, we usually use the medical induction of labor with castor oil,

quinine and pituitrin. If we fail we have lost nothing. All cases are given the expectant treatment first. When Doctor Hirst was here, in discussing eclampsia, he said that those cases which are given expectant treatment are in better shape to stand forcible measures should the necessity for them arise. The mortality will surely be lowered by stricter adherence to the expectant line. Further, the fact that the child is out of the uterus does not mean that the danger of convulsions from eclampsia is past. We had one case of post partum eclampsia four days after delivery, showing that emptying the uterus does not remove the danger of eclampsia.

Dr. A. A. Herold (Shreveport): While we are all deeply grateful to Doctor King for bringing this matter again to our attention, I simply rise to call attention to the fact that there is nothing new under the sun. When I was an interne in Charity Hospital 20 years ago accouchement force was the invariable rule, so that I thought there was no other procedure justified, until my attention was called to Dr. Whitridge Williams' book, wherein, even at that time, he stated that, as a general proposition, in these cases, we should ignore the pregnancy and treat the eclampsia.

Dr. Jacob W. Newman (New Orleans): The underlying cause of the Toxemia of Pregnancy is, as you know, still an unsolved problem. It is indeed most unfortunate that our entire line of treatment today is purely empirical. Although the results of thousands of blood examinations have been reported showing conclusively that we are not dealing with an acidosis, our whole routine treatment is still founded upon an existing acidosis as evidenced by the use of alkaline and glucose solutions. We suspect, and the therapeutic tests have almost convinced us, that eclampsia is invariably accompanied by endocrine changes, but, here too, we unfortunately have no way of demonstrating the presence or lack of endocrines in the blood current. We have unquestionably achieved somewhat favorable results with the use of endocrines in the pre-eclamptic stage, but these results are far from satisfactory. We are obtaining much better results along this line of treatment today, because we have realized that we must deal with each case individually and not set up any hard and fast rules for the treatment of all cases alike.

We must from a study of the individual case decide whether we are dealing with the individual, where the supply of endocrines is nearly totally lacking and therefore require large doses to replace the lack of same; or are we dealing with the individual, where the glands are functioning, but not secreting the amount of substance required, and all that is needed in this case would be minute doses of the glandular tissues for the

purpose of stimulating these glands and not to supply internal secretion for those glands that have ceased to function.

A careful study of the condition of hypertension and its sequelae especially in Para-Thyroidectomized dogs (Barker, Baltimore) convinces me that we are dealing with a similar condition as exists in pre-eclamptic women. Favorable results have been achieved in these experimental cases from the use of Para-Thyroid extract and Calcium. There is no doubt in my mind that the good results achieved in these cases have been due to the fact that Calcium Metabolism has been stimulated. I have searched the literature diligently to find out whether any cases are recorded where Calcium alone has been used in these cases. I failed to find any references and am therefore bringing this matter before you at this time for two purposes. First, to acquaint you with the results achieved, and secondly, to solicit your co-operation in experimenting along these lines. If the principal function of the para-thyroid gland is to stimulate calcium metabolism, why should it be necessary to attempt to stimulate the para-thyroid when the same end results can be achieved by direct calcium administration?

We therefore treat our cases of pre-eclampsia today in the following manner: Every case with blood pressure above 130 is given 10 grains of Lactate of Calcium, T. I. D. If the blood pressure is very high, *i. e.*, above 160, we give 20 grains of chloride of calcium intravenously. The dosage and method of administering same is varied according to the results produced within the first few days. Up to date we have treated 31 cases with blood pressure ranging from 140 to 220 and in only one case have we been unable to relieve the condition, and this was because of an ignorant negro, who has failed to co-operate with us on previous occasions. I have been unfortunate enough to treat a large number of cases of Eclampsia and I have only seen one case where the patient was treated so successfully that she was allowed to carry for an entire fortnight following the convulsions; this case I saw last month and she was treated with Calcium and no other medication. Our results, of course, cannot be taken as final. The number of cases handled so far is too small, nor have our blood examinations been sufficiently conclusive.

I feel that in the treatment of such a serious condition as Eclampsia we cannot afford to lose any time before accepting reasonable suggestions, the employment of which will only tend to rid us of this dreadful menace. I bespeak for this method of treatment your co-operation and welcome any suggestions, favorable or unfavorable.

Dr. Joseph S. Hebert (New Orleans): I wish to congratulate Doctor King on the positive stand he has taken in the treatment of eclampsia at Charity Hospital. We are glad to encourage him in his further work. For those of us who read the *American Journal of Obstetrics and Gynecology*, we must certainly have been convinced that the treatment of eclampsia has not shifted from radicalism to absolute conservatism. For detailed information on the subject, I would suggest that the last four or five issues of the above named *Journal* be procured. We must remember that eclampsia has been called the disease of theories, and if we look back as far as Hippocrates, we find that he mentioned convulsions in the pregnant woman. He knew that these women had headaches, they were tired and there was a tendency to sleep. I would like to emphasize the one outstanding fact in the disease and that is that regardless of the treatment pursued the mortality rate in the mother has remained around 20 percent.

With the exception of a few cases when a Caesarian Section is indicated, I believe every eclamptic should be given the benefit of such a treatment as outlined by Doctor King.

Dr. E. L. King (closing): As you will note in the paper, the author was somewhat positive on the question of venesection. It is possible that the employment of morphine and chloral, according to Stroganoff, will control the majority of cases, but I believe we have gotten very striking results from venesection. It is a perfectly simple proposition, particularly if the blood pressure is high. Williams in his last edition states that he bleeds until the blood pressure drops to 100 systolic, or until he has taken out 1,000 c.c. of blood. That is radical, because we have observed that in some cases after the bleeding stops the blood pressure keeps on dropping, so we stop at 130. Possibly in handling cases in private work you might eliminate the venesection, although it is perfectly simple.

The cases of fetal death are manifold. Many are premature, and many die from toxemia, even before the uterus is emptied. Some of course would be lost by operative delivery.

I did not go into the differentiation between eclampsia and nephritis because this is aside from the question, but I would say that the presence of high blood pressure and a persistent albuminuria more than three weeks after the patient has recovered, would point to a nephritic type rather than an eclamptic, and in the nephritic type the toxemia is liable to develop in subsequent pregnancies. We have a patient at the hospital now who had toxemia a year ago after labor was induced; and she came back pregnant

again, and we found it necessary to induce labor yesterday. I believe that case is nephritic rather than pre-eclamptic. The men at Hopkins bring out the fact that many of these cases are found a year or more later to have definite chronic nephritic symptoms.

Prophylaxis, of course, lies in taking better care of the patient. One patient had been seen every two weeks in a clinic. She developed eclampsia 10 days after her last visit although her blood pressure and urine were found to be normal at this visit. We insist in private and clinic work on seeing these patients every two weeks until the seventh month, and after that every week. I have seen eclampsia develop between Thursday and Sunday. We will get better results if we have a blood pressure and urine examination every week in the last two months of pregnancy.

In regard to the endocrines, that subject of course is as yet an undetermined question. We know nothing about the cause of eclampsia, except that it is a toxemia of pregnancy. The calcium metabolism will have to be determined by careful chemical study, and if it is a calcium deficiency, why do not men and non-pregnant women have it?

THE CHRONIC APPENDIX.*

CHAS. T. CHAMBERLAIN, M. D.

NATCHEZ, MISS.

Much has been written on this subject and I fear it may be considered time worn. There are, however, some interesting points that may be brought out and I believe it well worth our while to consider these points.

Is there such a disease entity as chronic appendicitis? There is, without doubt, a chronic form of appendicitis, and there are chronic types of appendicitis which apparently have never passed through an acute stage and which either continue indefinitely in the chronic form or finally, through faulty drainage and augmentation of bacterial agents with lessened resistance, develop the phenomena of acute infection. It is possible, however, that some of these apparently purely chronic forms result

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from light clinically overlooked acute attacks, especially during early childhood.

For some years, I was of the opinion that chronic appendicitis "per se," did not exist; that all chronic appendicitis were the result of previous acute attacks. My experience in recent years and more especially in the last few months, has caused me to change my opinion. Few, indeed, will subscribe to the statement that chronic appendicitis does not exist at all. The element of danger lies in the contention that chronic appendicitis is rare, that it is a non-surgical condition, and that normal appendices are being removed by surgeons everywhere in great numbers.

Naturally, sensible surgery in chronic appendicitis presupposes intelligent diagnosis and careful exclusion of pyelitis, kidney or ureteral lesions, tuberculosis, infections of the reproductive organs, neoplasms and neurasthenia. In establishing a diagnosis of chronic appendicitis, it is best to take up the subjects in sequence:

- (1st) The congenital or embryonic aspect;
- (2nd) The Roentgenologic aspect;
- (3rd) The clinical or physical findings.

(1st) As is well known, a common site of congenital defunctionalizing adhesions is about the caecum. Up to the fourth month of embryonic life, this, like other parts of the large intestine, hangs by an ample meso-colon. Subsequently, however, this mobility becomes lost owing to the fusion between the outer lamina of the meso-colon and the neighboring mural peritoneum. This fusion takes place in varying degrees. After normal fusion the mural serosa becomes continuous with the tunica serosa of the ascending colon. The fused layers behind the colon disappear as such and the posterior wall of the colon no longer has a peritoneal covering. Instances of retro-caecal and retro-peritoneal appendices can be rationally explained by assuming that before fusion occurs the appendix becomes caught between the coalescing peritoneal surfaces. In this manner a true congenital retro-peritoneal position is de-

veloped. The appendix is buried under a membrane made by adhesion of smaller folds about the ileo-caecal region. Such a lodgment of the appendix may clearly lead to serious and intractable disturbance of colon functions, and moreover, sectioning would perhaps reveal little or no pathology in its walls.

(2nd) The Roentgenologic Aspect: This we may consider briefly as follows: Let me say first, however, that it is needless to state that roentgenology is never wise and rarely necessary in acute appendicitis.

(A) Congenital anomalies in position such as transposition of viscera and failure of complete rotation of the caecum when the demonstration of anomalous position will be an aid in diagnosis.

(B) Data obtainable from observation of the visualized appendix. Unfortunately, this does not occur in every instance and is better obtainable with a bismuth or barium meal than with an enema. At first visualization was regarded as evidence of disease, but this view was soon discarded. The study of the visualized appendix must be mainly fluoroscopic. The diagnosis of disease is based on many appearances. Adhesions to caecum, pelvic colon, ilium, or other structures. The emptying time of a visualized appendix is an important consideration. Another important observation is the relation of the visualized appendix to pain on pressure.

(C) Abnormal appearances in other structures suggesting appendiceal origin when the appendix is not visualized. The most important finding is the presence of adhesion especially in connection with the terminal ilium. With the absence of pelvic inflammatory disease, the appendix is probably the offending organ. Definite pyloro-spasm is an evidence of appendiceal trouble. In a paper before this association two years ago, I called attention to pyloro-spasm caused by the chronic appendices.

(3rd) Clinical or Physical Findings: In an article published in "The Practi-

tioner," 1922, one author states his conclusions as follows: "In the interest of surgeons and patients, the diagnosis of chronic inflammations of the appendix as a condition requiring operation should be abandoned." With this dictum I do not agree. Pain as a symptom in appendicitis is found in a majority of cases in the right iliac fossa, but it is not constant in that location. In chronic latent appendicitis, it may be absent. When present, the local pain changes its position, character and time of appearance. The initial pain is usually paroxysmal or cramp like and referred to the epigastrium. If pyloro-spasm exists, nausea and vomiting ensues. Chronic recurrent appendicitis has a pain referred to the epigastric region due to reflex pyloro-spasm. Existing appendicitis may not be diagnosed by a mere pain in the right lower quadrant since pain in this region may occur as in lobar pneumonia, calculus in, or stricture of the ureter and pelvic inflammation. A certain number of cases characterized by transient tenderness and pain in the appendiceal region may, by absence of other signs and symptoms of appendicitis, occur sometimes in the course of some infectious disease such as acute rheumatism and tonsillitis. These unquestionably are due to toxic substances in the blood stream which stimulate and irritates the nerves of the appendix. The term appendicodynia may be used to indicate this group. Where the history and physical findings are not typical, the diagnosis is made by exclusion plus direct evidence of diseased appendix. It is in neurotic cases that our failures, both in diagnosis and the giving of relief, are chiefly found. In neurotic patients complaining of vague pains in right lower quadrant, the diagnosis of chronic appendicitis may often be made when it is not present. Operations on such patients are very likely to disappoint in the amount of improvement, and they may fail to receive any relief whatever. Neurotics, especially those with colitis or visceroptosis, should not be advised operation except after extra care and con-

sideration. After careful examination, a diagnosis of chronic appendicitis is arrived at, a cure may be accomplished in ninety-five percent of your cases. Deaver goes as high as ninety-nine per cent. Chronic appendicitis is as typical as any other abdominal affection. Therefore, neither pain nor tenderness, nausea or vomiting, fever or leucocytosis are to be considered as pathognomonic symptoms, but the discrimination of these fundamental symptoms and signs and the comprehension of their development are sufficient evidence to warrant a positive diagnosis and surgical treatment. After a carefully made diagnosis, it is surely unwise to attach too much value to the view held by some that in lower right sided pain, the appendix as a casual factor stands very low in point of frequency. For the appendix can give rise to a serious train of symptoms through mal-position, adhesions, etcetera, without in itself being the seat of active inflammation. The cautious surgeon will continue to find, after careful differential diagnosis, chronic appendicitis is a rather common condition, whereas, the unscrupulous may continue to remove them needlessly.

DISCUSSION.

Dr. J. S. Ullman (Natchez): Doctor Chamberlain's paper has covered this subject thoroughly and it hardly seems necessary to emphasize any point or to offer any other argument in support of his thesis. It is true that the removal of the so-called chronic appendix in the past has been abused. We are all familiar with the old story of the young surgeon who asked an older surgeon what he operated upon a certain patient for, and the older surgeon replied, "\$300," but the young man said, "What did he have?" And the older man replied again, "\$300."

Seriously speaking, I do not think there can be any doubt whatsoever of the existence of many a chronic appendix. In days gone by when it was considered good practice to wait for the interval operation, what was the pathological condition existing in that appendix after the acute inflammatory symptoms had subsided, if it was not a chronic inflammation of a mucous membrane? We know we have chornic conditions existing in the mucous membrane of other parts of the body, and if we have more routine pathological examinations of the removed appendices, we would find

enough evidence to refute the contention that there is no such thing as chronic appendix. Another point that is interesting if we need any further evidence is this, that many a person who gives all the so-called classical symptoms of gastric or duodenal ulcer have been relieved by the removal of the appendix which did not show acute inflammatory conditions. An examination of some of these appendices that have been removed in these so-called ulcer cases has shown strictures and other definite pathological conditions.

Dr. J. M. Acker (Aberdeen): The object of my discussion of this paper will not be to add anything to it, but to express a few personal thoughts. The way to cure chronic appendicitis in my experience is to make an early diagnosis of it. There may be some cases of chronic appendicitis, as the Doctor says, that have never had any acute attacks. I do not know whether that is so or not, it probably is; but the point I want to make is that I think we doctors have been, and may still be, the cause of a great deal of chronic appendicitis. It used to be the teaching to wait until the cold stage to operate, and I think probably in my part of the state there are some still clinging to that idea, because the majority of cases of appendicitis that I have had have been pus cases. I believe if these cases were diagnosed in the beginning we would have a simple operation to perform, whereas they are sent in later as pus cases. The thing the laity wants is to have the doctor tell them that they have a simple case of appendicitis, but that it may never cause them any further trouble and that it will be perfectly safe to wait. The doctor says he wants to be conservative. My idea of being conservative is to operate immediately. I would rather cut open five or six abdomens and find a normal appendix than to wait 36 hours and cut down and find a belly full of pus. Conservatism means early operation and not too much watchful waiting. Of course the treatment for chronic appendicitis is operation.

Dr. L. B. Hudson (Hattiesburg): Just one point sustaining Doctor Acker; that the treatment of chronic appendicitis is diagnosis. I think very often in chronic appendix cases there will be pain elicited by pressure on the left side of the abdomen opposite the appendix. This was brought out by Dr. Murphy some years ago—that you would not find this in acute attacks, because it is obscured by the peritoneal reaction in the acute appendix.

Last fall I attended the Tri-State Medical Meeting in Milwaukee, and there Sir Henry Gray, of the Royal Victoria Hospital of Montreal, brought out the point that I have tried several times since and have found it to be correct. Lay the left hand, palm up, on the right side

of the abdomen on the left side with the right hand and with the left hand press gently but firmly over the appendix region and then palpate on the left side of the abdomen with the right hand and you will find the patient will say he does not feel pain. Release the left hand and press on the right side and you will have pain at once. I give you this for what it is worth.

Dr. C. A. Sheeley (Gulfport): There are no more city doctors—they are all from the city. But nevertheless, I think appendicitis still remains in those dangerous intra-abdominal conditions that we have, and while all intra-abdominal conditions are extremely difficult to diagnose, it seems to me that if a patient has pain in the belly, it becomes the doctor's duty, unless he can hold up his right hand as if it were his brother or his sister—to get that patient into the hospital where an intensive study can be carried on as to what is really causing that pain. If he cannot diagnose the case how can he treat it? If he gives a hypodermic, before he is called back to that patient the appendix may rupture. So with the Fords all over the country and with hospitals in Mississippi within two hours of everybody, it is our duty to get these patients into the hospital where an intensive study can be made of the condition. It is too dangerous to wait and watch a case, and the longer you wait, the more injury the patient is likely to receive.

Dr. Charles T. Chamberlain (closing): I do not know of anything further to say except that I wish to stress the point that in my opinion such a disease entity as chronic appendicitis does exist. Sometimes in opening up abdomens for appendicitis we find some other condition, especially ureteral lesions, Hunner's strictures, and so forth, and in neuropaths we are liable to err in that respect. I simply want to stress the fact that in these conditions the proper diagnosis is essential, saving the patient possibly a needless abdominal operation.

UNRECOGNIZED PELLAGRA, A SERIOUS SURGICAL HANDICAP.*

L. B. HUDSON, M. M.
HATTIESBURG, MISS.

In presenting this paper, I realize that I am invading deep water and may fail to put my idea across. I hope no surgeon

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

within the sound of my voice has stumbled into the same pitfall, but cannot believe it to be true. However, in saying this, I am aware of the fact that such a statement is equivalent to pointing an accusing finger. A drunken man will often think those about him are drunk and that he is the only sober man in the crowd. Perhaps that is my predicament. Suffice it to say, that since 1917, I have lost three patients, all women, in whom I failed to recognize pellagra before I operated, and who died undoubtedly of pellagra, never developed skin manifestations, and did not give symptoms prior to operation that would lead one to suspect pellagra. I console myself with the thought that they would have succumbed without operation, but I certainly would have shunned them as poor operative risks, had I recognized the cases before operating.

Case No. 1. Mrs. J. H. B., age 28, married 4 years, never been pregnant. For several years had suffered with menstrual cramps, very severe the first day and very scanty flow. Seven years before she had a D. & C. with no improvement. P. I. Began about three months before with backache, leukorrhea, painful menstruation and cramp very painful at menstruation and some headache. She had a sensation of pelvis dragging, was very nervous and had some nausea and vomiting and constipation. During these three months she was bed-ridden most of the time.

Physical examination, made in consultation with Dr. S. S. Turner of Hattiesburg, who had been treating her, showed a spare little woman, weight about 100 (normal) at this about 90. Head, neck, chest, negative; abdomen, pain on deep pressure over both ovaries; somewhat acutely sensitive over McBurney's point. Vaginal examination showed uterus completely retroverted, both ovaries slightly enlarged. Uterus could not be replaced without anesthesia. Cervix small and canal stenosed. After full discussion, operation was advised on account of constipation, backache, headache, dragging sensation in pelvis, leukorrhea, and painful menstruation. Incidentally pellagra was not considered as she did not evidence the nervous, mental, digestive, mucous membrane and skin manifestations. March 6, 1918, abdomen opened under ether anesthesia. Congested, kinked appendix removed; both ovaries found about twice normal size, both were punctured and left without further disturbance; uterus found in Douglas sac. Abdomen explored

and no other pathology found. Uterus suspended by the Baldy-Webster round ligament, shortening operation. For 6 or 8 days she did well, wound healing by first intention. About the eighth day she began to have nausea, vomiting, burning sensation in the region of the stomach, typically red mouth and tongue, vaginitis, undoubted mental and nervous phases of pellagra. These symptoms persisted in spite of the use of balanced diet, tonics, arsenic intravenously, intramuscularly and per orem. She died six weeks later, undoubtedly of pellagra. Not a single sign on the skin.

Case No. 2. Mrs. C. G. M., married, mother of 5 children. P. I. For about a year before operation patient had suffered with headache, backache, dragging pains in pelvis, prolonged menstruation, menorrhagia, persistent leukorrhea, obstinate constipation, some nausea, vomiting and indigestion. At times patient referred to pain in right lower abdomen. Examination: Head, neck, chest all negative. Abdomen, gall-bladder and kidneys negative; pain on deep pressure over McBurney's point, otherwise negative. Vaginal: Large eroded, soft cervix with bilateral laceration, uterus about $2\frac{1}{2}$ or 3 times normal size and very boggy. Diagnosis: Chronic endometritis and metritis, potential malignancy of body of uterus. Patient was admitted to hospital April 9, 1919 and remained in hospital under observation until April 27th, when the abdomen was opened and a supravaginal hysterectomy, with removal of left tube, ovary and appendix, was done. Patient had rather a stormy post-operative convalescence despite the fact that the wound healed by primary union. On May 3rd, 8 days after operation, she began to show marked gastric disturbance, associated with mucous membrane disturbance of mouth, extreme nervousness and apathy for foods. This continued more or less marked until her discharge from the hospital May 14. I continued to treat her at her residence until her death July 6, 1919. About three weeks before she died I called Dr. J. A. Storeck, gastroenterologist from New Orleans, and he concurred with me that she showed unmistakable symptoms of pellagra, without skin manifestations.

Case No. 3. Mrs. W. A., age 52, married, mother of 3 children living and well. Had two abortions. Had usual disease of childhood. For several years has been very nervous. Had menopause at 42. Three weeks before my first examination, October 6, 1924, she began to have a yellowish discharge from vagina; a week before it became bloody and continued up to the time of the examination. Vaginal examination showed cauliflower like excrescence on lower lip of cervix, about the size of a five-cent piece. No

infiltration of vaginal wall or adnexa. Other findings negative. Diagnosis: Early carcinoma of cervix uteri. October 13th, hysterectomy and appendectomy was done. Patient did very well until October 15th, when wound had to be opened on account of serum accumulation. A few days later all stitches were removed, as it was realized that free drainage was necessary. Patient never did show a responsive granulation in wound in spite of aggressive measures, tonics, heliotherapy, etc. I realize now that heliotherapy was contra-indicated. December 8th, nearly two months later, wound was pared, under local anesthesia, and stitched. After two weeks these stitches were removed and wound gaped as before. A blood Wasserman was taken, which proved negative. In spite of this January 13th, she was given 0.3gm neosalvarsan, intravenously, and mercury and iodides given by mouth. During this time she showed no response and began developing unmistakable signs of pellagra, viz. red tongue, sore mouth, nervous and mental phases and general picture of pellagra without skin manifestations. Four more intravenous doses of 0.6gm each of neosalvarsan were administered without effect. Patient died February 9, 1925.

A brief reference to the etiology and symptomology of pellagra is proper. While I personally subscribe to the unbalanced ration as the chief etiological factor in the causation of pellagra, I hold no brief for those who differ with me and will dismiss further consideration of the etiology.

Symptomology.

Alimentary—scarlet red tongue, intensely red and sometime excoriated muccus membrane of mouth; patient describes sensation as of burning after drinking coffee too hot.

Gastro-intestinal—hyperchloridia or nervous dyspepsia, frequent heartburn, pain in chest due to esophagitis. Gaseous and acid eructations, nausea and vomiting not infrequent, anorexia sometimes, constipation at first and in late stages diarrhea with excoriations about anus, this due to proctitis.

Genitals—vaginitis in the female is usually present. Women, by the way, being more often affected than men by pellagra.

Nephritis, mild or severe, is claimed by some in over 80% of cases.

Dermatitis, claimed to be present in the hot months, on exposed parts of the body, in well over 80% of all cases, consists of varying degrees of erythema to exfoliating dermatitis. The backs of the hands and lower forearms being usually pathognomonic. Sometimes the back of the neck, elbows and dorsum of feet show the dermal signs.

Mental and nervous, varying from mild hallucinations to grave mental depression or excitation, often requiring asylum treatment.

In a paper by Dr. R. M. Harbin,⁽¹⁾ Rome, Ga., reviewing 500 selected laparotomies from 1050 miscellaneous abdominal operations, occurring in 3050 case records, errors in diagnosis occurred as follows: Appendicitis, 3; gall-bladder disease, 2; tubal pregnancy, 2; tuberculosis of intestines, 2; tuberculosis of spine, 1; Meckel's diverticulum, 1; duo-denal ulcer, 1; acute pancreatitis, 1; perforated typhoid ulcer, 1; carcinoma of liver, 1; cyst of mesentery, 1; pyosalpinx, 1. Not a case of pellagra has been recorded as the cause of death following surgical operation in all the textbooks and literature that I have reviewed, and this includes several of the leading medical and surgical journals for three years back. Can it be possible that I am alone in having had this tragic experience?

Since writing this paper, I have read an article in the April 25, 1925, issue of the Journal of the A. M. A., entitled "Pellagra, Secondary to Lesions of the Stomach Interfering with Nutrition," by William L. Bender, San Francisco.⁽²⁾ This being the most lucid article on this subject, that I have found, as I said, reviewing the journals at my command for over three years back, I feel that in justice to the subject, and to the writer of this article, which appeared three months after I had determined to write on this subject, and after I thought I had completed my paper, I am prompted to quote verbatim the text of this article:

¹—S. G. & O., February 1925.

²—Journal A. M. A., April 25, 1925.

"An interesting side light is thrown on the subject of pellagra by the occasional appearance of the disease in patients with faulty food utilization due to some gastrointestinal lesion.

The observation in the last three years of such cases has prompted this report and a review of the subject. Pellagra developed in one of these patients during a period of jejunal feeding necessitated by deformity of the stomach by a benign ulcer, and in the other two during progressive carcinomatous pyloric obstruction. Only two similar reports have been found in the literature.

Rolph saw a skin eruption, glossitis, pharyngitis and mental symptoms considered typical of pellagra coming on four months before death, in a woman who died after seven months of excessive expectoration, with increasing dysphagia, vomiting and emaciation. Postmortem examination revealed a carcinoma of the stomach, which involved the cardia, and, acting as a valve, mechanically interfered with the passage of food from the esophagus into the stomach. Since the increased expectoration was an early symptom, and possibly one either of pellagra or of the stomach lesion, Rolph was unable to settle the priority of the two diseases. In this connection, however, he mentioned the rarity of pellagra in Canada, where the patient had lived for twenty-four years preceding her illness. This throws the evidence in favor of the priority of the growth, and suggests the nutritional disturbance produced mechanically by it as the cause of skin and nervous system changes of pellagra, which occurred late in the patient's illness. A more convincing report is that of Bryan, whose patient had had symptoms of peptic ulcer for twenty years with increasing vomiting, very little food having been retained for four months, during which he developed the typical dermatitis and stomatitis of pellagra. Operation revealed a carcinoma of the stomach, which was resected and gastroduodenostomy performed. Recovery from gastric symptoms

was good, and in two months both the skin and mouth lesions had completely disappeared. Three cases of acute pellagra following operations for suspected gastric ulcer, in two of which 'large ulcers' were found, are mentioned by Graves in discussing a paper by Roberts. Unfortunately he does not mention whether definite symptoms of pellagra preceded the operations, whether the lesions were causing gastric retention, and what the final outcome of the pellagrous symptoms were; so these cases can not be rightfully included in this group.

The paucity of mention of pellagra, in conjunction with lesions of the stomach interfering with the normal passage of food, suggests, in the light of this report, that the condition has been overlooked or disregarded rather than being one of such extreme rarity. In each of these three cases, pellagra developed after the stomach lesion had been seriously interfered with the passage of food for some time. In Case I the disease developed during the course of duodenal feedings with good animal protein content, improved when this was increased, and disappeared on a general diet by mouth. Surgically relieving gastric retention in Case II, and permitting a full diet resulted in improvement of the pellagrous condition, though the patient was dying of cancer. The trial of improving the diet was impossible with patient III, who died two weeks after operation.

These observations seem to be of some significance concerning the etiology of pellagra, which is still unsettled. There are two main opposing views, the infectious and the dietary, of which a good account is given by Wood. In brief, in later years the infection theory has been advocated chiefly by the Robert M. Thompson Pellagra Commission, and the dietary deficiency theory by Goldberger of the Public Health Service and his co-workers, who hold that the cause of pellagra lies in a deficiency in the protein content of the diet. The weight of evidence is decidedly in favor of the latter view.

More recently, Goldberger and Tanner have reported experiments to show that they have narrowed the etiology factor down to an amino-acid deficiency. Exception has been taken to the protein fault theory by Jobling and Arnold, who record experiments to show that pellagra may be the result of absorption from the intestinal tract of photodynamic substances produced by certain fungi when the diet consists largely of carbohydrates. This view would reconcile the infection and faulty diet theories.

An observation remarkably similar to Case I is reported by Goldberger and Tanner. Their patient, on account of prolonged stupor, was fed by tube wholly or partially for months, receiving about 29 gm. of protein daily solely from the milk in the formula. Four days after a modification of diet, which reduced the amount of milk so that the total protein intake fell to 24 gm. (about 0.5 gm. per kilogram of body weight), pellagra appeared and progressed for three weeks, until the diet was increased by the addition of about 45 gm. of milk protein in powder form, after which there was prompt disappearance of the pellagrous symptoms. Patient I, was receiving 55 gm. of animal protein (about 1 gram per kilogram of body weight) preceding the onset of pellagra, a theoretically sufficient amount, and started to improve when this was doubled.

In these three cases of this report, the only apparent cause for pellagra was the interference in nutrition, another piece of evidence in favor of the dietetic origin of the disease.

My conception of a surgeons responsibility is primarily to be of benefit to humanity. If, therefore, I may bring out a discussion, and lay this on the heart of any surgeon present and sound a warning against mistaking or overlooking this terrible disease in our surgical cases, my purpose will not have been in vain.

In conclusion, I apologize for invading the territory of the internist, in one sense

of the word, but do so with a clear conscience, for in reporting failures rather than successes, it seems to me that more good may be derived. My advice is to make as careful study of your case as possible, and when considering operation, especially on a nervous woman, rule out pellagra if you can.

DISCUSSION.

Dr. W. W. Crawford (Hattiesburg): I am very much interested in the subject of Doctor Hudson's paper, because I have had some personal experience in pellagra as complicating surgical procedure. I want briefly to call your attention to a case that came under my observation a number of years ago, before we appreciated the significance of threshing out and properly classifying cases with reference to this important complication. A strong, healthy, robust looking woman, well nourished, came into my hospital for pelvic operation. She ran a boarding house and had plenty of good food to eat, which to my mind is a strong point in favor of the infectious theory of pellagra—but I will not open up that question. This woman needed some surgery and I operated. About the fourth or fifth day following the operation she had a saline and developed a diarrhoea. The first day following the administration of the saline I thought the diarrhoea was the result of the saline, but the diarrhoea persisted and two or three days later she developed a typical dermatitis and stomatitis that you see associated with pellagra, and ultimately the wound refused to unite and finally she died an insane woman some two weeks after I operated—a typical fulminating case of pellagra. This is the only case I have ever operated because fortunately she came in those years when we were having so much pellagra, but she certainly was not a case that even though we were looking for it, would be suspicious. That impressed upon me the importance, particularly in dealing with these asthenic types of under nourished women, in many of whom we see pellagra, to very carefully rule it out. We have had frank cases of pellagra come into the hospital with skin lesions and gastro intestinal lesions that under proper care ultimately recovered, and were later operated without any complicating factors. I think Doctor Hudson does well in calling to our attention these important possible complications in connection with this disease.

Dr. L. B. Hudson (closing): Doctor Crawford told me about that patient when I discussed this paper with him some time ago. I hope the message will warn somebody else to stay away from that pitfall.

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OSCAR DOWLING.

Dr. Oscar Dowling, reappointed President of the State Board of Health September 1st, 1925, by Governor Henry L. Fuqua, has served continuously fifteen years in this office.

In 1910 Dr. Dowling was appointed by Honorable J. Y. Sanders, then Governor, to fill the unexpired term, two years of Dr. Harvey Dillon. Governor's Hall, Pleasant

and Parker, successively as they came into office, reappointed Dr. Dowling whose last term expired August 29th, 1925, when he was promptly reappointed by the present Governor.

Such a long tenure of public office as an executive is unusual in this country especially when the incumbent proves an aggressive and progressive officer. In practice and policy Dr. Dowling has been both.

Health Officers like poets are born, not made. Few medical men are interested in the public aspects of medicine. Their work is with the individual, as specialists, or in fields of research. The publicity which necessarily accompanies public health work is distasteful to them and the antagonism which it arouses thoroughly displeasing.

Dr. Dowling has naturally the health officer's view point. His early training had developed unusual powers of observation and before his appointment he had traveled widely on this continent and in Europe. Some of the countries visited were far ahead of the United States at that time in sanitation and some of them in methods of control of the spread of disease. Having the vision of what a State should be physically, for the protection of the health of its citizens, and what a State could effect in disease prevention and health promotion, Dr. Dowling planned to get Louisiana quickly into line in modern health activities.

Characteristics other than the habit of observation, foresight and power to direct are necessary for the good health officer. Perhaps the most important of these in public health work is fearlessness. Dr. Dowling had the courage of his convictions. Before his appointment as a specialist in eye, ear, nose and throat work, he had an income of more than twice the salary of the State Health Officer. Financially, therefore, he had nothing to lose if his policy proved too aggressive, and "fear" is not in his vocabulary.

Thousands of people, young and old, remember the first tour of the health ex-

hibit cars in 1910-1911 when almost every city, town and village of the State was visited. The exhibits and moving pictures attracted large crowds and after the first few days a welcome awaited the cars in every place. Inspections were a part of the program and Dr. Dowling himself in two years made 2,500. The knowledge gained from these personal visits was invaluable as a basis for needed, effective remedial measures. The health cars were a great success, but it was the idea they represented that made the appeal.

The psychology of the method was clear even to the most illiterate; the message carried was: "You and your child are entitled to pure, clean, wholesome food, to clean surroundings, to clean schools and courthouses. You are responsible through your officials and it is the duty of the State Board of Health to show you what you need."

This program of activities had an immediate educational effect. Mayors and other officials, school children, the baker, the butcher, the candlestick maker, the housewife, the average man and the "high-brow" each saw or heard of the "new show" that had come to town. Louisiana awoke over night to insanitary conditions. Not everyone in the service of the public did all that was required, but he had ever after a new consciousness as to his obligation to offer clean, wholesome food to his customers, or if in other kinds of service, to carry out his obligation as required by the sanitary law.

In 1910 few places outside the largest cities had an adequate public supply of water and of these some were not safe. One of the first things done was to point out the evils of the surface well, the necessity for a public water supply and to show how it might be obtained from a protected spring, a river, or a deep or artesian well. It is a matter of congratulation that in 1925 nearly every community in the State has an adequate supply of safe, potable water.

Through its Bureau of Sanitary Engineering, the Board now examines all public water supplies and reports to the U. S. Public Health Service in Washington on supplies used in interstate traffic. Analysis is made of every public supply and at one time every tank along railroads containing non-portable water was posted as unfit for human consumption. With the laboratory-motor car this work has been again inaugurated and soon public supplies along the highways which are unfit for drinking will be so posted.

In facilities for the disposal of sewage the communities of Louisiana have made almost equal progress. As sanitary disposal of waste and a good water supply are essentials to health protection, we may be considered as having a satisfactory foundation in these two fundamentals.

In 1911, a revised Sanitary Code was issued. Many regulations were added and many made more stringent. Use of the common drinking cup, the roller towel, insanitary methods of barber shops and of food producers and vendors of many food products were put under ban. Restricting regulations concerning the sale of habit forming drugs and the patent cure-all were among the many changes. The Code was again revised in 1923 and since then has been further amended. The amendments or additional regulations are significant of the public demands. For example, dairy cows must now be tuberculin tested—a few years ago this was thought impossible; methods of handling milk must be sanitary; oyster shucking plants must meet sanitary requirements in the handling and shipping of the product; bottling plants are regularly inspected and summarily closed if the requirements for a safe drink, properly handled, are not met. The public is beginning to understand its health rights.

The Bureau of Vital Statistics of the Louisiana State Board of Health was formally organized in May, 1911, by the adoption of the Model Vital Statistic Bill, effective more or less in eighteen states, with such

modifications as would make the working of the Bill practicable in Louisiana. The first report of the State Bureau of Vital Statistics covering the period from June 1, 1911 to January 1, 1912 including the reports of New Orleans and Shreveport, shows 6,541 births (5,200 New Orleans) and 5,222 deaths. In 1924 the Board of Health recorded for the State 24,884 deaths (death rate 1918, 17.1; 1924, 13.3). Births in 1924 numbered 43,117. In 1911 the personnel consisted of the State Registrar and now there is a Registrar, a Chief Clerk and twelve assistants. Louisiana was accepted by the U. S. Bureau of the Census into the Registration Area for deaths in November, 1918, and it is thought will receive recognition for births within a short time.

Up to 1914 few reports of communicable diseases were made to the State Board of Health. On January 1, 1914, a favorable ruling by the U. S. Public Health Service became effective permitting the Epidemiological Bureau of the State Board to frank cards and letters to physicians. Almost immediately over 90,000 were mailed to physicians and newspapers. In 1914, 291 physicians reported 1660 cases; in 1924, 27,843 cases were reported. While the expansion of this division is clear from these figures, the Bureau is yet without an expert director and sufficient office force to gather compile data in accordance with modern epidemiological methods.

The laboratory facilities have been increased, there being now in addition to the central bacteriological laboratory in New Orleans, three district laboratories. The total specimens examined in 1910 and 1911 numbered 7,328; in 1924 the total numbered 35,842. In 1910-1911, 1,264 analyses were made in the chemical laboratory; in 1924, 5,056.

Dr. Dowling recognized from the beginning of his administration the importance of work in child hygiene. Definite activities were planned for the instruction of children in the schools and the examination of school children where communities would

give assistance. As a demonstration the children of the schools of Jefferson Davis and E. Baton Rouge Parishes were visited and children examined by a physician representative of the Board. This gave impetus to local efforts and in a number of communities this work was begun. A systematic educational program was carried on through the Monthly Bulletin which is issued to every school child in Louisiana. With the aid of the Maternity and Infancy fund in 1924 it was possible to employ a force of physicians, nurses and dentists for work with infants, children of the preschool and school age and among registrars and midwives. The report of this division from September 1, 1924 to September 1, 1925, shows that 22,168 children were examined and 2,028 children received dental care.

One of the latest and most effective means of assistance offered by the Board of Health is the furnishing of free biologicals on request of physicians. Anti-typhoid vaccine, diphtheria antitoxin and in limited quantities rabies treatments, immunization vaccine for scarlet fever and smallpox vaccine are supplied. Thousands of persons have availed themselves of the opportunity offered and have been immunized against smallpox and typhoid fever.

The success of the Army and the U. S. Public Health Service in controlling malaria at the camps during the world war promoted an interest in malaria control on the part of civilian communities. Realizing this the State Board of Health with the U. S. Public Health Service in the past few years has furnished twenty communities advice and assistance including surveys, cost estimates and supervision. The work is still in progress in a number of these places, while in some mosquitoes have been practically eradicated. With the co-operation of Mississippi, Alabama and United States Federal authorities, it is believed that mosquito control is possible over large sections of the Gulf Coast, and if this should be accomplished the South will be a veritable paradise.

The policy of the State Board during these years has been always to place the responsibility on the local unit—parish, city, town or village as the case may be—and to give assistance only when the facilities afforded by the individual unit are inadequate.

The organization of local health boards with adequate funds has been stressed throughout the years. A few of the citizens of Louisiana have realized the full meaning and need of this form of health service. There are now ten parishes organized for local health work with a full time director and assistants. These units are jointly financed by the parish' contributing one-half of the budget, and the International Health Board and State Board of Health each one-fourth. The program of the health director includes all of the activities needed for the control of the spread of communicable diseases and the promotion of the health of the people of the parish. The stimulus given to local health work by these parishes is marked and the prospect for the organization of a much larger number is excellent.

Dr. Dowling has given the State a business administration. In his first biennial report to Governor J. Y. Sanders, he says: "That the people should know how public money is spent is wise and proper; that they should scrutinize carefully financial statements is a civic duty; that officials should be held to a strict account for public money expended is civic economy. When the mutual obligations of these two, the citizen who votes the tax and the officer who expends it, are more universally understood there will not be opposition to appropriations for necessary improvements for public good. In any department of the State where the interests of the people are vitally involved, and there is an insufficient amount of money to carry on all phases of the work, there must be a differentiation of values and an assignment of specific duties to efficient and conscientious associates and employees, together with the requirement

of frequent and explicit reports from them, in order that there may be adequate returns for money expended. This has been the working principle of the financial policy of the Board during this administration."

Dr. Dowling's conception of the service which the Board of Health should render is set forth clearly also in his first biennial report: "Modern administrative health work is to-day the most progressive of all sociological efforts. Its scope is not limited. Removal of sanitary defects, prevention of transmissible maladies, elimination of endemic and germ diseases, development of the science of eugenics, and building of a vigorous citizenship, with the evolution of a social and physical science of health, are all necessary elements of its aim."

Dr. Dowling has made a fearless, courageous fight. He has labored untiringly to bring about conditions conducive to the protection and promotion of the health of all the citizens of the State; he has convinced the public against its will in many instances as to the remedial means imperative for the welfare of all; he has helped to convince the outside world that Louisiana has illimitable natural resources, that the climate is excellent, the environment most beautiful and that Louisiana is as healthful as any section of the civilized world.

Dr. Dowling is recognized as ranking with the most progressive State Health Officers of the United States and he is known internationally as one of the foremost men of this country in modern health activities. One who is critical of governmental affairs and who knows of the administration in the various departments of the State for many years pays tribute to Dr. Dowling's good sense and good judgment in the statement that in the larger aspects of the policy of health administration in fifteen years results have proved his rulings right and just.

Louisiana is to be congratulated that this fearless health officer has been given his commission for another term of service.

NEWS AND COMMENT

DEPARTMENT EDITORS.

Lucien A. LeDoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the up-building of the profession to which he belongs."
—Theodore Roosevelt.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

As the Society is in Vacation there was one meeting of the Board of Directors, August 2rd.

The following Doctors have been elected to active membership: Drs. Ruth Aleman, T. W. Breaux, D. C. Browne, E. B. Gill, G. R. Herrmann, Earl Hyman.

Dr. R. A. Corbin and Dr. J. M. Hoffman have been dropped on account of removal from Orleans Parish.

The following applications for interne membership are pending: Dr. M. W. Miller and Dr. S. B. McNair.

The following application for reinstatement is pending: Dr. E. F. Salerno.

The membership to date is 467.

Schedule of meetings up to December 31st, 1925.

Monday, September 28th, Clinical Meeting.

Monday, October 5th, Board Meeting.

Monday, October 12th, Quarterly Meeting.

Monday, October 26th, Scientific Meeting.

Monday, November 2nd, Board Meeting.

Monday, November 9th, Scientific Meeting and election of Delegates to Louisiana State Medical Society.

Monday, November 23rd, Scientific Meeting and Nomination of Officers for 1926.

Monday, December 7th, Board Meeting.

Monday, December 14th, Scientific Meeting.

Monday, December 28th, Scientific Meeting.

The Committee appointed by the Board of Directors to arrange for the pre-convention clinics is composed of the following members: Dr. Isidore Cohn, Touro Infirmary; Dr. R. C. Lynch, Eye, Ear, Nose and Throat Hospital; Dr. E. J. Richard, Presbyterian Hospital; Dr. H. W. Kostmayer, at large; and the Secretary, Dr. Lucien LeDoux.

Members must notify this office promptly of any change in address.

A request is also made that members, if possible, pay their dues up to January 1st. This will aid materially the work in the office.

SOUTHERN MEDICAL RESERVATIONS.

A special Pullman will be attached to the Sunset Limited, Southern Pacific Lines, leaving New Orleans for the Dallas Meeting, November 8th at 12:10 noon. A card is in the office and reservations are being made.

Members of the Society planning on attending this meeting should file their request for space as soon as possible.

The round-trip fare to Dallas will be \$28.77. The Pullman fare, upper berth, \$5.10; lower berth \$6.38. Call Miss Maier our Assistant Secretary-Treasurer who will attend to your needs.

MONTHLY BULLETIN OF THE SHREVE- PORT MEDICAL SOCIETY,

SEPTEMBER, 1925.

September Scientific Program.

Drs. Knighton and Gowen, Report on Interstate Post-Graduate Assembly Clinic Tour.

Charity Hospital, July 7, 1925.

The regular monthly meeting of the Shreveport Medical Society was called to order by President Sanderson. Minutes of the last meeting were read and approved.

Scientific Program.

Dr. Douglas gave an interesting report of his recent trip to Rochester. Discussion by Drs. Ragan, Sanderson, Cassity and Gilmer.

Clinical Cases.

Dr. Cassity reported a case simulating swamp fever. Dr. W. S. Kerlin reported a case of typical typhoid fever. Discussion by Drs. Heath and Bodenheimer. Dr. Barrow and Dr. Garret reported further on a thoracic tumor reported last time, the condition proving post-operative to be sarcoma. Dr. Barrow also showed three plates illustrating calcified ovaries.

Unfinished Business.

Dr. Gorton of the entertainment committee asked for discussion as to whether the society wishes a dinner with a dance or a dinner without a dance. Dr. Garret suggested getting certain negro entertainers. Dr. Bodenheimer made a motion that the Society favor Dr. Garret's idea of entertainers. Discussion by Drs. Gorton, Ragan, Dr. Douglas made a motion that Dr. Bodenheimer's motion be tabled.

Dr. Garret made a motion, which was seconded and passed, that the Society have a dinner with-

out a dance. The place, time and kind of meeting for August to be left to the entertainment committee.

On motion the Society adjourned.

August 12, 1925.

The annual social meeting of the Shreveport Medical Society was held on the Youree Roof starting at nine P. M. Fifty-four members and forty-three guests were present. During supper and until about ten dancing was enjoyed by most of those present. The entertainment which followed was by local talent and was part of that put on for the American Legion convention which was held here last week.

Speech making was tabooed. At the request of the Rotary Club, Dr. Abramson called attention to and asked for the co-operation of the physicians in helping to make No Traffic Violation Week a success.

Most, if not all, of those present had a good time and the Committee, Drs. L. M. Gorton, Rigby and Galloway are to be congratulated in arranging and carrying through an evening which pleased such a large percentage of the members of our Society, representing as it does such a diversity of tastes and ideas.

R. T. LUCAS, Secretary.

Physicians, contemplating moving their offices, are required by law to furnish the Narcotic Division of the Internal Revenue Office with their new address. Failure to do so subjects the offender to a severe penalty.

It is not too soon to prepare to combat certain legislation which will be introduced at the next session of the Legislature.

Dr. W. H. Seemann, of the Louisiana State Board of Health, is making a tour of inspection of the branch laboratories of the Louisiana State Board of Health.

He will visit the cities of Lake Charles, Shreveport and Monroe.

THE SOUTHERN MEDICAL ASSOCIATION MEETING.

The various committees appointed in connection with the meeting of the Southern Medical Association in Dallas, November 9th, 1925, report very satisfactory progress.

It is especially gratifying to know that the hotel committee has already succeeded in having reserved for guests more than 1600 rooms in the leading and best hotels of Dallas. This insures that no matter how great the attendance, each one will be comfortably and suitably provided with proper hotel accommodations. This settles

a question which has not concerned the doctors of Dallas who are acquainted with local facilities, but which has been raised by prospective visitors.

For the first time in its history, the Association will have all its activities housed in one building. The new educational building of the First Baptist Church on the corner of St. Paul and San Jacinto streets will be completed long before November and will have a sufficient number of assembly halls for the various section meetings. The large auditorium with its splendid acoustics gives ample room for all general sessions, and the basement floor, easily accessible, will give more than enough room for all exhibits, commercial and scientific.

In connection with the Association's meeting in November, clinics in all branches will be conducted in all of Dallas' splendid hospitals, which contribute largely to its rank as a medical center of the Southwest. The bed capacity in the larger hospitals alone is in excess of 1,200. Over \$8,000,000 has been invested in the hospital facilities; below is given some data on the different institutions located in the city.

We note with a great deal of interest the advertisements appearing in several of the popular magazines in the United States containing a warning against fake advertising cures.

The Metropolitan Life Insurance Company is to be commended upon their activity in this regard.

This simply represents another progressive step taken by the Metropolitan Life Insurance Company in aiding the public and assisting the Medical Profession in displaying the havoc and worthlessness of these "fake cures."

The meeting of the American College of Radiology and Physiotherapy will be held on October 19, 20, 21, 22, 1925, in Chicago, at the Hotel LaSalle.

AMERICAN BOARD OF OTOLARYNGOLOGY.

The next examination given by the American Board of Otolaryngology will be held at the Cook County Hospital, Chicago, on October 19th, 1925. Application should be made to the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

UNITED STATES CIVIL SERVICE EXAMINATIONS.

Laboratorian (Bacteriology).

Assistant Laboratorian (Bacteriology).

Laboratorian (Roentgenology).

Assistant Laboratorian (Roentgenology).

Applications will be rated as received until November 30, 1925.

The United States Civil Service Commission announces open competitive examinations under the above titles. Vacancies in the Public Health Ser-

vice or in the Veterans' Bureau throughout the Tenth United States Civil Service District, comprising the States of Louisiana and Texas, at the salaries indicated, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from these examinations, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion. Vacancies now exist in these positions as follows: Dallas, Texas, Veterans' Bureau, Regional Office, Assistant Laboratorian in Bacteriology; New Orleans, La., Veterans' Hospital, Laboratorian in Roentgenology, also Assistant Laboratorian in Bacteriology.

Applicants should at once apply for Form 2374, stating the exact title of the examination desired, to the Secretary, U. S. Civil Service Board, at the post office or customhouse in any city, or to the Secretary, Tenth Civil Service District, Customhouse, New Orleans, La. Applications should be properly executed, including the medical certificates, and filed with the District Secretary at New Orleans without delay.

The social session of Shreveport Medical Society was held on the roof of the Hotel Youree on August 11th, under auspices of the entertainment committee; there was a large attendance of doctors and their wives, who enjoyed the repast, dancing and fun making.

On the second annual interchange of program, between Shreveport and Ouachita Parish Medical societies, Drs. T. P. Lloyd, W. S. Kerlin, A. P. Crain, C. P. Rutledge and A. A. Herold acted in the fraternal roles for the Shreveport Society at Monroe on September 2nd. The addresses were well received and thoroughly discussed; as usual, the Ouachita men showed themselves as hospitable hosts, ushering in the meeting with a bountiful dinner, served by the Sisters of St. Francis Sanitarium.

The North Louisiana Sanitarium celebrated its final anniversary in its new building, with a watermelon party on the roof, on July 31st. All the doctors of the resident and visiting staffs, together with their ladies, were invited to participate. The refreshments and talks were highly enjoyed and many were the earnest good wishes for continued success of this institution.

Died, suddenly, at Shreveport, on September 2nd., Dr. Frank B. Waits, aged 44, a native of Louisiana, a graduate of Memphis Hospital Medical College and a member, for many years, of the Shreveport and Louisiana State Medical Societies.

Drs. J. E. Knighton and C. R. Gowan have returned, after a tour of Canada and parts of

Europe, with the Study Tour of the "Interstate Postgraduate Assembly of America."

MISSISSIPPI.

On September 15th, the regular quarterly meeting of the East Mississippi Eleven Counties Medical Society was held at the Baptist Church at Amory, Mississippi. The program consisted of the following papers:

1. Diet in Peptic Ulcers. Dr. Seale Harris, Birmingham.

2. Some Points on Lymphogenous Lukemia with report of a case. Drs. M. W. Robertson and W. H. Anderson.

3. Report of a case of Adams-Stokes Syndrome. Dr. H. L. Scales, Starkville.

4. Should the General Practice of Medicine be considered a Specialty? Dr. J. A. Rayburn, Ecu.

5. Contract Practice. Dr. W. R. Hunt, Tupelo.

Dr. G. S. Bryan, of Amory, President of the State Association, had invited all of the "living" ex-presidents of the State Association to be present. In response to this invitation, there appeared Drs. Curry, of Jackson, Feemster, of Tupelo, Rowland of Oxford, Ullman of Natchez, and Underwood of Jackson.

The social session and banquet in the evening proved to be very enjoyable. Dr. F. J. Underwood, who is secretary of the Society, acted as toastmaster, and the speakers of the evening were Drs. Searle Harris, of Birmingham, Alabama; Dr. J. S. Ullman, of Natchez; Dr. Rowland, of Oxford; Dr. Curry, of Jackson; Dr. Anderson, of Booneville; Dr. W. C. Walker, of Houlika, Mississippi.

The Southern Tuberculosis Conference will be held in Memphis, Tennessee, October 14-15-16, 1925, with Dr. Henry Boswell, of Sanatorium, Mississippi, presiding.

The next regular meeting of the Holmes County Medical Society will be held in Lexington, Mississippi, Tuesday, October 13, at 2 P. M. All officers of the Society will be elected for the year 1926 at this meeting.

Dr. J. J. Cazar, formerly of Memphis, has located in Tchula, Mississippi.

Dr. R. E. Howard, of Durant, one of the most beloved members of the Holmes County Medical Society, died August 14, at his home in Durant. Dr. Howard was held in high esteem by all who knew him and the profession will miss him.

Dr. M. P. Winkler, of Tchula, died some weeks ago. Dr. Winkler was never a member of the Holmes County Medical Society.

The East Mississippi Eleven Counties Society (probably the largest and best component society in the Association) held its third quarterly meeting for the current year at Amory, on September 15, 1925. These meetings are always well attended and the programs are of high scientific value.

On August 22nd, Dr. G. S. Bryan of Amory was asked by Dr. Underwood, who wired from Milwaukee, Wisconsin, to visit Tupelo and investigate the report that acute poliomyelitis had been discovered there. It was found that two cases had been discovered there, and that both cases had died within a very few days from their onset. No new cases have been found and since these children lived in widely separated districts it was impossible to connect them one with the other. All contacts were put under strict surveillance and the public assured that every known step for prevention would be taken.

Dr. J. M. Acker, the new Health Officer for Monroe County, has perfected his organization.

Miss Pattie Saunders, State Board Nurse, has done good work in Tate county for the past two months, meeting and instructing the midwives of the county. She had held at least six meetings in each precinct where there were midwives. There were two days of examinations, one for white and one for colored children from seven years down, and with the help of some of the doctors and dentists of the county, as well as some of the workers from Panola county who were in the same work as Miss Saunders, between eighty-five and one hundred children were examined.

A short course was given for the County Club girls by our Demonstration Agent, Mrs. Campbell, at which time there were examined between thirty-five and forty of these girls. Miss Robbie Eddins of Taylor's Precinct was the winner in the health contest.

The Building Committee of the King's Daughters' Hospital, Greenville, announces that plans for a one hundred bed, fire-proof hospital, drawn by Walter F. Schultz, of St. Louis, have been approved. The hospital structure will conform to the Georgian style of architecture, being constructed of re-inforced concrete, hollow tile and face brick with terra cotta trimmings, giving it, when completed, a substantial and handsome appearance. The floors will be of Terrazzo, which is now being used in all modern, fire-proof hospital buildings. Blue prints will be in readiness for advertising for contractor's bids by November 15th. The Building Committee expects to begin the construction of the new hospital by January

1st, and have it ready for occupancy by September 1, 1926.

The Coahoma County Medical Club met on Wednesday, September ninth, after the usual summer vacation of two months. The program consisted of two papers: The Value of a Blood-Count in Making Diagnosis, by Dr. T. G. Huges; Medical History as Told in the Bible, by Dr. R. R. Kirkpatrick. This Club is not affiliated with the State Association, but is, in reality, a monthly get-together Club for the physicians of the county.

The official society for this section is the Clarksdale and Six Counties Medical Society which meets twice a year, the next meeting being on November 4th.

Mrs. Mattie Leahy, R. N., has taken charge as Superintendent of Nurses at the Charity Hospital, Natchez, Mississippi.

The Natchez Sanatorium has rented an adjacent residence, which will be adapted as a nurses' home. The former nurses' home, adjoining the Sanatorium, will be made into wards.

The Mississippi State Board of Health, since the recent appointment by Governor Whitfield, is composed of the following:

Dr. J. P. Wall.....	Jackson, 8th Dist.
Dr. J. J. Haralson.....	Forest, 5th Dist.
Dr. W. W. Crawford (Pres.)..	Hattiesburg 6th Dist.
Dr. L. B. Austin.....	Rosedale, 3d Dist.
Dr. J. W. Lipscomb.....	Columbus, 1st Dist.
Dr. T. W. Holmes.....	Winona, 4th Dist.
Dr. J. M. Dampeer.....	Crystal Springs, 7th Dist.
Dr. W. H. Watson.....	Brandon, 8th Dist.
Dr. E. M. Gavin.....	Richton, 6th Dist.
Dr. Ira B. Seale.....	Holly Springs, 2nd Dist.
Dr. A. J. Brown.....	Clarksdale, 3d Dist.
Dr. S. E. Eason.....	New Albany, 2nd Dist.
Dr. F. J. Underwood (Sec.).....	Jackson, 8th Dist.

BUREAU OF VITAL STATISTICS MISSISSIPPI STATE BOARD OF HEALTH.

The Bureau was established November first, 1912, and was organized for the purpose of keeping the records of births, deaths, and notifiable diseases in the State of Mississippi.

With the active co-operation of the 1500 physicians in the State, the 1250 local registrars that were appointed to represent the Bureau in the various voting precincts in the State, the 300 and more casket sellers and undertakers, not omitting the 3000 colored midwives, who, though as a rule are very ignorant, have co-operated to the best of their ability—the Bureau of Vital Statistics has succeeded in its mission, and within a very few years after its establishment, the State of

Mississippi was admitted into the Death Registration and Birth Registration Areas of the Bureau of the Census of the National Government.

Up to January first, 1925, this Bureau had recorded 506,751 birth, and 272,468 deaths. This Department handles annually the following approximate number of reports from over the State:

- 43,000 birth certificates from local registrars.
- 22,000 death certificates from local registrars.
- 4,000 weekly reports from county health officers.
- 1,000 monthly reports from county health officers.
- 20,000 monthly reports from casket sellers.

In addition, it makes 52 weekly and 12 monthly reports to the U. S. Public Health Service; copies 65,000 birth and death certificates for the U. S. Bureau of the Census; writes about 6,000 personal letters, about 10,000 circular letters, and about 7,000 form letters prepares and mails out about 40,000 certificates to new mothers; sends out 2,000 reports to the newspapers; counts and tabulates under several subdivisions all reports of births, deaths, and disease; issues hundreds of certified copies of birth and death certificates—as well as attending to a multitude of minor matters.

It has been and is now the aim and desire of the Director of this Bureau to bring its operations into closer view of the general public, and to endeavor to convince the people generally that it is operating for their immediate and future needs, especially in legal matters where proof of circumstances of a death or a birth may be required. It is a depository of family records that will be preserved indefinitely, so that even the grand-children of the babies of today may be able to trace back valuable information concerning their ancestors. It keeps the people of the various counties informed through their local newspapers of the number of cases of the various contagious and infectious diseases present in their midst month by month.

New regulations are passed by the Mississippi State Board of Health as found necessary for the proper conduct of the Bureau of Vital Statistics in its efforts to gather all available data on births, deaths, and communicable diseases.

The following table contains interesting data relative to the health conditions in the State of Mississippi:

State	White Death Rate
Kentucky	10.1
Georgia	10.5
Alabama	9.5
Louisiana	10.6
South Carolina	10.3
Virginia	10.3
North Carolina	10.3
MISSISSIPPI	9.1

The white death rates of the other Southern States were not available, but it will be seen that Mississippi has the lowest white death rate of all the Southern States mentioned in the above tabulation.

That the State Board of Health is functioning properly and efficiently is revealed by a reference to morbidity and mortality statistics collected for the State during the past ten years. The following diseases in this length of time have been reduced by the respective percentages:

Diseases	Cases	Deaths
Tuberculosis	55%	26%
Typhoid Fever	44%	47%
Malaria	32%	64%
Pellagra	46%	65%

DIED.—It is with sorrow that we record the death of Dr. Ephraim M. Ewing, of Napoleonville, who died in Asheville, N. C., on August 27th. He was 35 years old. Dr. Ewing was awarded the Sc. D. degree by the University of New York (Major subject Physiology) when he was only 22 years old. He had then completed one year in special study of Physiology at the University of Missouri. While doing advanced work for the M. A. degree and two years of special work in this branch at the University of New York. He was then Assistant Professor of Physiology in the University of New York—Bellevue Medical College—and advanced to Associate Professor, and the year he broke down in health, had been nominated for the Chair of Pathologic Physiology, a department which he created in the college. Later he took the M. D. degree doing advanced medical work during his vacation at various medical centers. In 1914-15, he held the Chair of Physiology in Fordham Medical College, New York, at the same time continuing his connection with New York Bellevue Medical Department. After his health broke in New York he went West and seemingly recovered, and thinking he must not continue the confining Laboratory work he took an internship in Touro Infirmary, New Orleans, preparatory to active practice. He was elected Assistant Professor of Physiology in Tulane University, but his health broke again before the Fall Opening. While in New Orleans he made an impress upon leading physicians in that city that causes his untimely passing to be viewed with infinite regret. He died a victim of overwork.

Dr. Ewing is survived by his wife, who was Miss Olivia Munson, and one child; his mother and father, Dr. F. C. Ewing, of Alexandria, and two brothers, D. M. Ewing, of New York, and P. K. Ewing, of New Orleans.

BOOK REVIEWS

Physical Diagnosis of Diseases of the Chest: By Joseph H. Pratt, M. D., and George Bushnell, Ph.D., M. D., with 166 illustrations. Philadelphia and London. W. B. Saunders Co. 1925.

This is a complete treatise dealing with the physical diagnosis of diseases of the chest. In a comprehensive manner the prerequisites of auscultation and percussion and a study of the normal standards in the healthy individual are discussed. After familiarizing the reader with the fundamentals of the art of physical diagnosis the authors discuss the subject from the anatomical, physiological and pathological viewpoint. A difficult subject is thus made more tangible for the reader.

In addition to dealing in full with the usual topics included in a treatise on diseases of the chest, the authors devote a chapter to the newer methods of clinical diagnosis, including radiographic examination, blood pressure determination and the various graphic methods.

This book affords good reading for the busy practitioner who wishes to perfect himself in the subject of physical diagnosis, also a good reference book for the student who is just beginning the study of this important subject.

FRANCIS M. MUNSON, M. D.

Management of Diabetes: Treatment by Dietary Regulation and the Use of Insulin. A Manual for Physicians and Nurses Based on the Course of Instruction Given at the Presbyterian Hospital, New York. By George A. Harrop, Jr., M. D.

With the remarkable increase in medical research, particularly in the United States and Canada, the passage of a decade brings a new medical literature, and frequently a new nomenclature. This makes it difficult for the man in active clinical life to sort out the essential facts from the litter that clogs the medical press, hence such manuals as this are a welcome boon to the busy practitioner. Through the generosity of John D. Rockefeller, Jr., it became possible to demonstrate the proper use of insulin to nearly six hundred physicians, and this little book was prepared for reference after completing the course at the Presbyterian Hospital, New York City. It is neither too technical nor is it exhaustive; it is just a handy volume for the doctor's desk. It summarizes our present knowledge of the disease and the use of insulin which is adequate for the successful care of individuals ill with diabetes. Unlike a number of other diabetic manuals that have appeared lately, it is a book for the physician and nurse, not for the patient.

FRANCIS M. MUNSON, M. D.

Eat Your Way to Health: A Scientific System of Weight Control. By Robert Hugh Rose, A. B., M. D. New Edition, Thoroughly Revised and Enlarged. Funk and Wagnalls. New York and London. 1924.

Doctor Rose's book was written for the use of intelligent people who really desire to reduce their weight and to maintain proper weight but who are not addicted to dietetic fads and fancies. It is based upon sound scientific principles and upon twenty years study of the subject. The reader is taught how to handle his own case. He is informed, in popular language, of the stuff he is made of, how the human machine works and of the dangers of obesity and high blood pressure. The esthetic side of over-weight is not neglected in the discussion. Tables and statistics are given, but not in a tiresome manner. A number of menus are outlined and the human interest phase of the subject is not forgotten when the author gives the menus for two weeks instead of for one week. One is not so certain of what he is going to have for dinner if he is on a two week dietary schedule. Two interesting and timely topics discussed are "Vitamines and Deficiency Diseases" and "Correct Diet and Good Teeth." This book is a useful contribution to the subject matter.

FRANCIS M. MUNSON, M. D.

Human Constitution: A Consideration of Its Relationship to Diseases: By George Draper, M. D. Illustrated. Philadelphia and London. W. B. Saunders Co. 1924.

This volume is a systematic study of the constitutional makeup, going deeply into the subject and discussing those methods which show the characteristics of the individual, the means of consulting them and through the observation of these methods of classification of the human race, the susceptibility to disease, the association of certain physiognomy and other characteristics with definite maladies. The study of the various "panels," close observation of which is of material assistance in diagnosis, opens a new and constructive field in medicine and will prove in time a very important and necessary adjunct in observation and care of medical cases. The book is very carefully written, clearly expressed and of extreme interest. It proves beyond any doubt the necessity and importance of a study in its relation to the diseases of mankind.

The Dentist's Own Book: A faithful account of the experience gained during forty-six years of Dental Practice, including a complete bookkeeping and recording system and a description of the management of a dental

practice. By C. Edmund Kells, D. D. S., New Orleans, La., with 116 illustrations. C. V. Mosby Company. St. Louis. 1925.

This book is entitled the "Dentist's Own Book," but it is in reality, Dr. Kells' "Own Book," for it is not an impersonal dentist or an abstract personality that is here portrayed, but it is Dr. Kells himself whom we see projected on every page and paragraph of this volume. It is the same alert, inventive, skillful, ever punctual and reliable Dr. Kells, known to his professional friends and to the people of New Orleans, these past four decades and over, as a Master in his profession and as an outstanding figure in the civic life of the community. This is indeed an unusual book and one that seldom comes across the path of a reviewer of the local professional literature in the course of a generation. It is the cap and crown of a life of tireless activity devoted whole-heartedly and fruitfully, to the service of the dental profession. It is the epilogue of a long narrative of travel over rocky and uncharted roads ending in the final attainment of the goal—the pinnacle of a commanding and legitimate success. This book is in essence the *vade mecum* and chart which has guided the author in his travels through the mazes of his professional life which he unfolds with most precise and unequivocal directions for the benefit of those who may chose to follow in his footsteps. To those who are familiar with Dr. Kells' distinguished career and have been privileged to observe him at close range in the busy routine of daily life, the autobiographical character of this book is at once apparent. It is so accurately photographic in its minute production of the author's life experience, of his attitude of mind, of his principles, his practice, his methods and of every act that is related to the exercise of his science and art, as it affects him and his professional environment, that one would wonder, did he not know Dr. Kells' meticulous habits of observation, how he had succeeded in preserving so complete and accurate a mental picture of all his methods and performances.

It is the personal quality that gives this book its absorbing interest, its originality, its wisdom and its value as an inexhaustible source of inspiration and guidance in all the difficulties, doubts and perplexities that are likely to assail the practitioner of dentistry, whether young or old, in the conduct of his professional life. It is the product of a matured experience, based upon a rare capacity for minute and profitable observation. The lessons gathered by the author in the course of well nigh half a century of practice, as a leading exponent of dentistry in the South, have been all recorded and retained with almost stenographic fidelity. Every thought, sug-

gestion or experience that could contribute to the improvement and greater efficiency of the dental service has been treasured and utilized in the author's sleepless effort to attain the summit of his professional ideals. Every page of the book breathes the spirit of the earnest, honest and uncompromising devotee to the highest aspirations of his professional cult. Dr. Kells has been wedded to his profession for nearly half a century, and yet he is just as ardent, enthusiastic and faithful a lover of his Art as he was when he first linked his fate to dentistry far back in the later '70's, in the workshop of his father's well remembered dental office on Dauphine Street. But while love of his profession has been Dr. Kell's dominant and absorbing passion, he has never allowed it to run riot with his judgment and common sense. Contrary to the usual experience of enthusiasts, he has always kept his feet on *terra firma* while allowing his brilliant and inventive imagination to roam among the clouds. How thoroughly he has tempered his affection with a large measure of "business sense," is shown in the second part of the volume in which he deals with "Dental Economics," in all its phases, from "Business Management," "Bookkeeping," "Accounts," "Appointments," "Partnerships," "Insurance," "Investments," down to the styles of stationary and letter forms for collecting bad debts from delinquent clients. In all of which he displays a judgment and perspicacity that would credit the intelligence of an accomplished financier.

But it is with the third division of the book, entitled "Jambalaya," that we are brought nearest to the personality of the author. Here we are reminded of that masterpiece of the Creole cuisine by the "numberless ingredients" that enter into the composition of the recipe for the successful practice of dentistry, which Dr. Kells has collected with the cultivated taste of a discriminating connoisseur, for the delectation of his readers. It is not surprising that in this section, which covers a hundred and eleven royal octavo pages, we should find the most diversified subjects presented in a kaleidoscopic, and always interesting, fashion, varying from the minutest features of the technics of dentistry to a broad discussion of the fundamental principles of conduct in all its personal, ethical and social relations. Such headings as "Service," "The Gospel of Efficiency," "Pain," the "Question of Fees," "Demoralizing Agencies," "Keeping Busy," "Cleanliness," "Prophylaxis," and all along the line to "Christmas Cards," "Book Plates" and "Wedding Bells," are all strung into a bouquet, like a large bunch of the author's favorite roses, fresh and fragrant from the plentiful garden of his thoughts. Everywhere in the text we find

innumerable lessons pointed by a striking example or vivified by an anecdote, a humorous storiette or some apt quotation, that gives the book a human interest and that makes the reading delightfully recreative. To combine the pleasurable with the useful, *delectando paritorque docendo*, appears to have been the key note of the author's purpose in writing this book. But the chief appeal that this book has or should have for every aspiring young dentist who is earnestly seeking the paths that lead to success in his profession, is the example set before him by the distinguished author's career and by the precepts that he inculcates with so much vigor and with the undeniable proof of his own success. The chapters on the meaning of "Success," on "Service" and on the "Gospel of Efficiency," are saturated with the author's wholesome philosophy. No better antidote could be provided in the dental schools for the poison of sordid commercialism, quackery and dishonesty that circulates so freely in the ranks of the profession than by attaching this book to the curriculum side by side with the purely scientific and didactic texts. While this work is dedicated to the dental profession it is equally interesting and instructive in its fundamental concepts to the student and practitioner of medicine. It furnishes nutritious food, rich in vitamins, to any mind that is hungry for guidance and wise counsel, not only in the highest, but in the most ordinary and practical problems of the professional life, and it will supply a wholesome corrective for the thoughtful who suffer the ills that come from breathing a tainted moral environment.

The Journal looks upon the appearance of Dr. Kells' book as an event of no small significance in the history of Dentistry in New Orleans and congratulates the dental profession on giving expression to its loftiest traditions and aspirations through the example and voice of one of its ablest and most respected exponents.

R. M.

Operative Room Procedure for Nurses and Internes: By Henry C. Falk, M. D. G. P. Putnam's Sons. New York and London. 1925.

This book is one worthy of attention as it deals with details of an operating room which are foremost in assisting an operator to systematize his work as to time and thoroughness. It is primarily intended for nurses, but internes

and surgeons can gain much knowledge from its contents. The book is subdivided into chapters dealing with the fitting of an operating room, its personnel, apparel, supplies (gauze, gloves, sutures, drains, etc.), preparation of patient and hands, arrangement of trays, care of instruments, "setting up" the operating room, positions on the operating table, and manual signs. Part 2, with its sub-chapters, deals with operations, giving as much detail as it is necessary, so the assistants can foresee the operator's needs. This volume contains material, not boring in unnecessary details, which should be valuable to any operating room staff.

EMILE BLOCH, M. D.

PUBLICATIONS RECEIVED.

C. V. Mosby Company, St. Louis: "Symptoms of Visceral Diseases," 2d ed., by Francis Marion Pottenger, A. M., M. D., LL.D., F. A. C. P. "Old and New Viewpoints in Psychology," by Knight Dunlop. "Methods in Surgery," by Glover H. Copher, M. D. "The Norman Diet," by W. D. Sansum, M. S., M. D. "Empyema Thoracis," by Everts A. Graham, A. B., M. D. "Personal and Community Health," by Clair Elsmere Turner. "Eye, Ear, Nose and Throat Manual for Nurses," by Roy H. Parkinson, M. D. "Ocular Therapeutics," by Doctor Ernest Franke, translated by Clarence Loeb, A. M., M. D. "Allergy; Asthma, Hay Fever, Urticaria and Allied Manifestations of Reaction," by William W. Duke, Ph. B., M. D.

W. B. Saunders Company, Philadelphia and London: "Text-book of General Bacteriology," by Edwin O. Jordan, M. D., 8th ed., rev. "Preventive Medicine," by Mark F. Boyd, M. D., M. S., C. P. H., 2nd ed., rev. "Physical Chemistry in Biology and Medicine," by J. F. McClendon, Ph.D., and Grace Medes, Ph.D. "Manual of Gynecology," by John Cooke Hirst, M. D., F. A. C. S., 2nd ed., rev. "American Illustrated Medical Dictionary," ed. by W. A. Newman Dorland, A. M., M. D., F. A. C. S., 13th ed., rev.

MacMillan Company, New York: "Text Book of Orthopedic Surgery for Students of Medicine," by James Warren Sever, M. D.

Paul B. Hoeber, Inc., New York: "Bone Sarcoma," by E. A. Codman, M. D.

The Physiatrie Institute, Morristown, N. J.: "Treatment of Kidney Diseases and High Blood Pressure," by Frederick M. Allen, M. D., Part 1.

Boni & Liveright, New York: "The Medical Follies," by Morris Fishbein, M. D.

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Southern Medical Association, Dallas, November 8-12, 1925.
Annual Meeting Louisiana State Medical Society,
Monroe, April 15, 16, 17, 1926.

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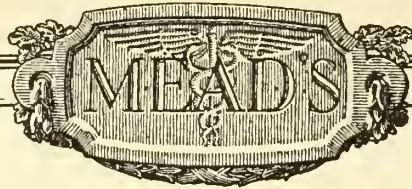
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DISABILITIES OF THE SHOULDER GIRDLE.*

JOHN T. O'FERRALL, M. D.,

NEW ORLEANS.

The subject I wish to bring to your attention is one of practical importance, and represents a problem for solution very frequent in ordinary medical practice. The shoulder girdle, which includes the shoulder joint and its contiguous anatomical structures, is very much exposed to trauma in one's daily activities and consequently is not only subject to disability through such trauma alone, but also to disease.

The shoulder girdle proper is an incomplete bony ring formed by the clavicle in front and the scapula behind. The shoulder is a ball-and-socket joint formed by the globular head of the humerus resting in the shallow glenoid cavity of the scapula. This arrangement permits great latitude of motion and displacement is limited by the several ligaments, the muscular attachments and atmospheric pressure. When the ligaments alone remain the joint surfaces can be easily separated. The joint is further protected by the coracoid and acromion process of the scapula.

The ligaments stabilizing the joint are few but of considerable strength. The principal ones being muscular, the coracohumeral, the transverse humeral and the klenoid ligaments. It should be remembered that these ligaments are composed of non-elastic tissue and are not intended to take

part in the motion of the joint but to limit this motion or assist in preventing dislocation in case of undue relaxation of the muscular structures. The nerve supply of this joint is chiefly derived from the circumflex and suprascapular branches.

When these free movements of the arm just referred to are arrested in the shoulder joint by the contact of the bony surfaces and by the tension of the corresponding fibres of the capsule, together with that of the muscles acting as accessory ligaments, they can be carried considerably further by the movements of the scapula, including of course, motion at the acromioclavicular and sterno-clavicular joints. The extent of these movements of the scapula is considerable especially upon abduction and extreme elevation of the arm. Cathcart has pointed out that in abducting the arm and raising it above the head, the scapula rotates throughout the whole movement with the exception of a short space at the beginning and at the end. I emphasize this relative motion of the scapula at this time as I wish to refer to it later in taking up the treatment of shoulder joint lesions.

One cannot review the anatomy of this joint without reminding you that because of its construction and freedom of movement, the shoulder is more frequently dislocated than any other joint in the body. The dislocation is primarily subglenoid but generally assumes some other position which varies according to the direction and amount of force and the strength of the muscles before and behind the joint. The most frequent position the head generally

*Read before the Mobile County Medical Society, April 18, 1925.

assumes ultimately is subcoracoid. Such dislocations are generally reduced without great difficulty and if put up in the proper position and given adequate after-treatment no permanent disability remains.

In making an examination to determine shoulder pathology, too much stress cannot be laid upon ordinary inspection. The patient should have both shoulder joints exposed and the arms free of clothing to permit passive and active motion in all directions. The usual signs of active inflammation should first be looked for; next any evidence of deformity as compared with the opposite joint, including the position of the shoulder as to drooping or elevation. Definite points of tenderness are then searched for, especially the clavicle, the coraco-humeral articulations, the subglenoid, bursa and the scapula. An extremely important factor to be noted is atrophy, especially of the upper arm, but sometimes including the entire extremity. This is an unfailing sign of disuse and evidence of real disability, hence its importance in compensation and medico-legal cases. It is a sign with which malingerers are not familiar and which they cannot simulate. Swelling and effusion of the joint should be looked for. If a synovitis exists the capsule is evenly distended and the contour of the joint rounded. The effusion into the synovial membrane can be best ascertained by examination from the axilla, where a soft, elastic, fluctuating swelling can usually be felt. Special projecting may occur at the site of the openings in the capsular ligament; that is, a swelling which is bi-lobed may be seen in the interval between the deltoid and the pectoralis major muscles, from effusion into the diverticulum, which runs down the bicipital groove with the tendon of the biceps. The degree of active motion can of course be determined by asking the patient to go through whatever motions he can, the examiner noting the limits of motion, the flatness or activity of the deltoid and the motion of the scapula. The patient is then requested to relax, then the examiner pas-

sively determines the limit of joint motions and whether the scapula remains fixed in the beginning and at the end of the abduction of the arm or whether it moves with the humerus throughout the execution of abduction. If the latter condition exists analysis of the joint, either fibrous or bony, has taken place.

If pain is produced upon motion it is important to note the site of such pain and if it is referred along the circumflex to the deltoid. If evidences of chronic inflammation exist such as discharging sinuses, etc., one must differentiate between chronic osteomyelitis and tuberculosis.

In this age of advanced diagnostic methods one cannot feel that every effort toward final solution of a medical problem has been accomplished until a radiograph of the affected part has been made. This is especially true in bone and joint cases. It is commonly considered by medical men that an X-ray of a part is a matter demanding little thought and is generally left to the judgment of the radiologist who does not see the patient clinically, or to a technician. The pose of the part to be radiographed is seldom given any consideration. In X-raying the shoulder it is most important to pose the part in adduction with the head of the humerus rotated internally and again with the arm abduction to 90 degrees and the humerus rotated externally. This gives a view of nearly the entire head of the bone and often by the change of the position reveals a calcified bursa, the shadow of which otherwise would have remained obscured by the head of the humerus. This is true of other conditions.

It is a fact too often brought to my attention that the interpretation of X-ray films is also left to assistants or untrained technicians or to radiologists who do not see the patient clinically. The patient's physician should be familiar with the pathology seen in radiographs and knowing the clinical aspects of his case can more often correctly interpret the films than the radiologist. A careful study of such films,

instead of a casual glance, or dependence upon another's opinion, should by all means be the usual procedure.

It is not the purpose of this paper, nor is it possible, to go into every condition producing disability of the shoulder joint and the shoulder girdle but to bring to your attention for discussion a few of the more common disturbances and their treatment.

In reviewing the anatomy of the shoulder you were reminded that it is the most frequently dislocated joint. The lesion occurs most frequently in middle age, and in men. Direct trauma is responsible for the majority of the cases. In nearly every case the condition is promptly recognized by the changed outline of the shoulder and the flattening of the infraclavicular fossa. The fixation of the arm in a semi-abducted position is fairly typical. In a recent review of 120 cases by Karl Schlaepfer, published in the *American Journal of Medical Sciences*, 94 per cent were anterior dislocations and 6 per cent posterior. Of the anterior cases 90 per cent were subcoracoid which, as I have mentioned before, is the commonest type of shoulder dislocation. X-ray examination to determine accurately the position of the head is essential and should be a routine procedure. The method of choice for reduction is that devised by Kocher, with which you are all familiar, or some modification of same, preferably used with general anesthesia. Early motion of the joint is imperative as a means for preventing ankylosis, and thus restoring function. The most frequent complications incident to this injury are, trauma to the circumflex and muscle-spiral nerves and fracture of the greater tuberosity or surgical neck of the humerus.

In regard to the above fractures, the diagnosis and treatment have become more or less standardized, the former by X-ray and the latter accomplished with the arm in abduction, whether in an ambulatory splint or with the patient recumbent; it being possible to exert extension in either case. Too much emphasis cannot be laid on early mo-

tion in cases of fracture, as has already been advocated in dislocations. It is far too common an error for a fracture to be splinted and left so almost indefinitely, no thought being given to the adjacent joints; forgetting also that the cohesive properties of callus are fully established within 10 days to 2 weeks, permitting careful passive motion at the end of that time. The principle of abduction in cases of upper arm fractures is well known by most of you, chiefly to bring about alignment of the shaft with the abducted humeral head, brought about by the pull of the deltoid and allied muscles. It is frequently the case that such fractures, in fact the favorite position for all arm injuries, are treated by the thoughtless and uninitiated in close adduction to the chest wall. You readily see how this produces faulty alignment in upper arm fractures and promotes contraction of the pectoral tendons in all cases irrespective of the type of injury or the nature of the disease. The relief of such fractures presents a problem in itself which is by no means always simple and often requires much patience and produces increased pain for the patient, to say nothing of the increased time required for convalescence and added expense. The proper position of abduction not only avoids these complications but relieves the deltoid of over strain which at times results in partial paralysis and delayed recovery.

I have referred briefly to the more serious of complicated shoulder injuries which may or may not be associated with involvement of the nerve supply of the shoulder girdle. By far the most common form of traumatic paralysis is that of the circumflex and musculo-spiral nerves. The typical flat shoulder and upper arm, with the absence of power to abduct the arm indicates the involvement of the former nerve; while the well known wrist drop reveals involvement of the latter. These palsies are more correctly pseudo-paralyses as they generally completely recover if the extremity is put at rest in the proper attitude; that is, abduction of the arm for

the circumflex and full dorsal flexion of the wrist for the musculo-spiral—and careful faradic and galvanic stimulation is given. Heat and massage associated with muscle education are indispensable.

Nearly all the joints of the extremities are subject to ligamentous strain to a considerable extent. This is less true however concerning the shoulder than the majority of our joints. The most common typical strain affecting the shoulder ligaments is that involving the coraco-humeral ligament. When strained it is so intimately connected and attached to the capsular ligament that quite marked relaxation of the capsule occurs. A slight prominence of so-called subluxation of the humeral head forward is seen and tenderness occurs over this ligament on the front of the joint. The condition is generally seen when chronic and reveals no redness and but slight tenderness. Joint motions are normal but forward flexion with force, such as is performed in throwing a ball or playing tennis, produces pain and feeling of weakness. The condition resolves itself if rest is insisted upon and carefully directed resistive exercises are given to develop the supporting or protective muscular structures.

Probably the largest group of shoulder disabilities seen in general practice are so-called medical or non-surgical cases. Of this group the arthritides take precedence from the standpoint of frequency of occurrence and in the number of cases. To discuss arthritides completely a monograph upon that subject should be presented. Consequently only a brief mention of the common types to be seen can be presented here. A reasonable, working classification of arthritis is as follows:

(a) Acute types (1) acute infectious arthritis, as examples—gonorrhoeal arthritis, streptococcus from tonsils, teeth, etc. (2) Acute rheumatic arthritis of undetermined origin.

(b) Chronic types (1) the well known hypertrophic arthritis, common in middle

and advanced age and rare in the young.

(2) Atrophic arthritis or arthritis deformans (3) tubercular arthritis and (4) malignant disease of the large bones involving the adjacent joints (5) leucic arthritis or charcot disease. These various types present characteristic symptoms indicative of each, a description of which cannot be gone into at this time because of a lack of time. The X-ray evidence also is characteristic and is of course necessary to differentiate in many instances. The various types attack the shoulder joint almost as frequently as the other large joints and require the same care. The treatment of the arthritides will be alluded to in the general treatment of shoulder disabilities.

I have purposely deferred until now reference to a most interesting group of shoulder disabilities, which in my opinion fall quite naturally into the non-surgical or medical classification only recently referred to. I have reference to periartritic conditions, the chief of which are (1) bursitis (2) leucic periostitis and myositis (3) adhesions, resulting from either of the foregoing conditions or from trauma.

Bursitis of the shoulder is referred to frequently in the literature. It is still a question open for discussion as to whether the inflammatory lesion involves the subdeltoid or the subacromial bursa. In any event the pain is located over the front of the shoulder joint, anterior to the tip of the shoulder and near the origin of the deltoid and the insertion of the supra-spinatus tendon. The history may or may not indicate a trauma. The onset is generally sudden and the pain intense; any effort at motion in any direction producing great pain, consequently the characteristic attitude of the patient is with the affected arm held closely to the side of the chest, the slightest movement of the arm being studiously avoided. There is generally some swelling of the area surrounding the point of greatest tenderness but no redness is to be seen. The arm, if carefully and fully supported, can be moved passively in

all directions demonstrating that there is no lesion in the articulation itself. X-ray examination, with the arm in adduction and then abduction, very frequently demonstrates a calcified mass varying in size from that of a small pea to one several inches long. It is again a question for debate as to whether this calcification has taken place in the bursa or whether it is in or upon the supraspinatus tendon at its insertion in the greater tuberosity of the humerus. Stern of Cleveland in *Surgery, Gynecology and Obstetrics*, January 1925, reports 3 cases of subdeltoid bursitis revealing, by X-ray before operation, an area of calcification. Operation, however, revealed "a small oblong, encapsulated, soft but fine, nonfluctuating tumor in or upon the supraspinatus tendon. The contents of the tumor were granular noncrystalline, non-oily, non-fluid, brownish-gray in color and absolutely not hard or bony. The laboratory reports in all three called the substance amorphous fat. It dissolved completely in ether and all chemical tests for calcium were negative." The size and shape of these reported cases and the cases to be shown you tonight, tend to prove further that the shadow casting tumors follows the course of the supra-spinatus tendon and do not necessarily conform to the shape of the subdeltoid bursa. The suddenness of their appearance and rapidity with which they disappear under proper conservative treatment leads one to accept very readily the laboratory report of a fatty deposit rather than one of calcium. The condition is exceedingly disabling but fortunately responds fairly quickly and permanently to treatment, reference to which will follow.

True periarthrit's of the shoulder is not unusual but is seldom recognized. The onset may be sudden or insidious, generally the latter. When sudden the pain is often very acute and the patient carefully guards the slightest movement of the arm and shoulder. It is a striking fact, however, that even though the motions of the shoulder joint are done with great caution, it

is found that with the arm fully extended and hanging at the side of the body rotation of the humeral head can be executed without pain. Efforts at abduction, extension and flexion of the shoulder produce intense pain and the patient anxiously prevents same. In this stage the pain is quite readily relieved by heat, without massage, and the administration of the salicylates. When the onset is insidious, which is the usual manner of occurrence, inspection of the shoulder region reveals nothing abnormal of note. No swelling or redness is to be seen. Palpation reveals no tenderness, except at times along the distribution of the superficial nerve branches. The patient complains of stiffness of the shoulder and it is found that all motions of the joint are quite markedly restricted in all directions, both actively and passively. Abduction and extension are particularly limited and any efforts at forcible correction of this limited motion produce greatly increased pain. With the arm in relaxation it can be readily determined that the scapula moves only during a part of the excursion of the arm and not in either the beginning or the end of same, thus ruling out involvement of the articular surfaces.

The causes of this condition are numerous. It often occurs following infections of various types, but particularly influenza and colds. The focal infections account for many cases and lues, producing a periostitis as well as a periarthrit's, is found in a great many cases. Trauma involving the shoulder and its adjacent structures, especially those cases in which hemorrhage occurs, produces fibrous adhesions throughout the muscular, ligamentous and capsular structures around the shoulder. Often when injury occurs to more than one joint, the patient does not realize the restricted motion of the shoulder until weeks after and only when attempts are being made to mobilize the more severely injured joint is the periarthrit's discovered. This condition recently occurred in connection with an old fracture of the elbow. The patient was not aware of any pathology in the

shoulder until efforts were made to mobilize the injured elbow. The treatment of shoulder disabilities in general divides itself quite naturally into several classifications. (1) Postural or the position of relaxation, the neutral position (2) medical (3) surgical and (4) treatment by physiotherapy.

The postural treatment of a sick or injured shoulder is generally a secondary one in the hands of most of us, whereas it should constitute our first thought. The position of abduction of the shoulder, to from 45 to 70 degrees, places all the muscles in complete relaxation and prevents contractures of the adductors. It also relieves the abductors of over strain, thereby avoiding marked weakness or the pseudo-paralyses which sometime occur from prolonged over-stretching; at the same time this position is the most favorable in case of bony or fibrous ankylosis, which is a possibility in all cases of inflammation. If ankylosis should occur the resulting handicap will be slight, for with the humerus ankylosis to the scapula at 50 degrees it permits full adduction and abduction, and extension to $\frac{3}{4}$ of normal because of the rotation of the scapula on the posterior chest wall. If ankylosis occurred with the arm parallel to the chest wall abduction would be limited to about $\frac{1}{4}$ normal and extension of the arm would be impossible. This position is best maintained by the use of the standard army abduction splint, the aeroplane splint, or a carefully applied plaster of Paris splint including the thorax and the arm in the desired position. This position often gives immediate relief of pain the shoulder girdle is accessible for any other necessary treatment without changing the position of the arm.

If it is found impractical or impossible to obtain the necessary abduction splint a sling fashioned, so as to take the weight of the arm off of the shoulder girdle can easily be arranged. This is accomplished by using a very large sling and after adjusting it in the ordinary way, pin it closely around the wrist to retain its position.

The point of the sling behind the elbow is then brought up over the back of the arm and securely and tauntly pinned to the portion of the sling passing over the back of the neck at the point where it crosses the clavicle. This then lifts the humerus upward and relieves the capsule and muscles of any downward pull.

When referring to the medical treatment of these disabilities I mean to indicate the clearing up of all foci of infection which have been found, especially frank pathology in the teeth, throat or sinuses. If other chronic foci exist, such as the gall bladder and appendix, proper steps should be taken to relieve the absorption from them. The intestinal tract which is such a frequent offender is constantly overlooked but should to the contrary, be carefully cleansed and forever watched. The laboratory and clinical examination for lues should be done. If the former is negative do not immediately exclude syphilis, for the majority of bone and joint cases of lues give a negative Wasserman. The X-ray should be studied very carefully after obtaining a film, the detail of which is clear, and any evidences of periostitis, arthritic changes and malignancy should be watched for. The administration of the salicylates and iodides is almost specific for the acute type and ordinary mixed treatment in the cases which respond slowly to recognized treatment, is never amiss. Thorough elimination through the intestines and the intake of large quantities of fluid is extremely helpful. All efforts to increase the alkaline content of the blood in the form of alkaline drinks (citrates, citro-carbonate, etc.) is especially valuable in those conditions following or occurring with colds and influenza. It is often necessary to give opiates and other sedatives in the beginning of the acute stages until the correct diagnoses is made and the condition brought under control.

Except in the cases of dislocation of the shoulder and fractures of the humerus and clavicle, the surgical treatment of shoulder

disabilities plays a very small part. The treatment of these two conditions has now been standardized to a large extent and after the proper reduction then becomes a medical problem and requires the position of abduction carried out as described above. It is seldom necessary in my opinion and experience to cut down on a calcified bursa or allied condition involving the shoulder as they respond promptly to the methods herein outlined. In the past, however, the incision and exposure of the cases of so-called calcified bursitis with a careful description of the pathology found and laboratory examination of the contents, as carried out by Stern, has furnished valuable data in proving the character of lesion with which we are dealing, making us more sure of the satisfactory results to be obtained by rest, heat and properly directed the satisfactory results to be obtained by rest, heat and properly directed massage. In the extreme cases of periarthrititis with marked fibrosis careful but thorough manipulation of the joint under ether is often necessary, after which a short period of fixation in extreme abduction or preferably full extension of the arm above the head relieves the condition, when then again it becomes a purely medical problem.

Probably the most important and useful form of treatment of all the classes of cases under discussion is that which has become known as Physiotherapy. I regret to say that the interpretation of this department of medicine, is in many instances, incorrect and full recognition of its real value not realized. Since the war impetus has been given to the work and many improperly trained workers have been allowed too much latitude in carrying out its detail. It is a mistaken idea that anyone who has received no special training or at most a few weeks of observation of physiotherapy technique can successfully relieve cases by its use. A trained worker from one of the recognized schools of physical education is the first essential for the successful use of the various modalities and methods of treatment used in a physiotherapy depart-

ment. I can imagine no more harmful thing than to turn a patient with real pathology over to an untrained person for the application of heat, diathermia or massage in a haphazard, unintelligent way. It is almost a daily occurrence in my office to see patients who have failed to recover under such treatment but who respond rapidly to these methods when properly applied.

Massage is one of our most valuable adjuncts. It is essential, however, that it be given scientifically. It should be used primarily to promote circulation, thereby increasing elimination and safe guarding muscle tonus. In joint inflammation it should be given over the muscles between the joint but never over the joint itself. It should be begun very carefully and gently and seldom is deep massage, as used by osteopaths and others, necessary. As soon as joint pain and inflammation subsides sufficiently muscle training is indicated and should be followed out.

Massage is always best applied after some form of heat has been given to the affected parts. Such heat has an added value in its relief of pain. Especially is this true in the shoulder cases under discussion. This heat is most effective when applied as diathermia, which not only heats the superficial tissues but by the transmission of the current through the bone and deeper soft parts a complete engorgement of the entire structure can be attained. You no doubt are entirely familiar with the modern apparatus used for the development of this form of heat. Other methods of heat applications are valuable and are applied with ordinary bakers and more satisfactorily with deep therapy lamps.

After the above methods have begun to relieve pain careful joint motion is begun and it is only a short time when normal joint function is restored. In the series of cases treated in my experience in the past several years no recurrences have taken place.

CASE REPORTS.

1. Mr. W. V. K. White, male. About October 15, 1924, while riding in an automobile same turned over and the patient was pinned under it. A portion of the weight of this auto rested on the patient's left shoulder. He was taken to medical assistance and no fractures found. Since the accident he has noticed very marked weakness of the left arm and hand. He is unable to use the wrist at all and the shoulder to a very slight extent.

Upon examination November 28, 1924, no focal infection was found. No evidence of inflammation was seen and no evidence of fracture or dislocation made out. There was quite marked atrophy of the deltoid and supraspinatus. All joint motions, passively, were normal but patient had only slight active power of abduction of the arm and the hand presented a typical wrist drop; slight power of contraction in the deltoid and no power in the dorsal flexors of the wrist and fingers could be made out. These muscles failed to react except very weakly to faradic stimulation.

X-ray examination in adduction and abduction revealed no bone or joint pathology. A diagnosis of traumatic paralysis of the circumflex and musculo-spiral nerves was made. The weight of the arm was taken off the shoulder by means of a carefully adjusted sling and the hand supported on a plaster cock-up splint in full dorsal flexion. Heat, massage and muscle training was immediately begun. Improvement was very rapid and complete recovery took place in three weeks.

2. Foster H. Negro male.—August, 1924, while working in a ship's hold he was pulled up by a sling and his hips struck against a ledge of the deck, the patient then falling to the deck striking on his left shoulder. Patient was unconscious for 15 minutes. He was sent to the Charity Hospital where X-rays of skull and shoulder were made. A blood test was also made. He remained in the hospital one week. The patient was treated for some time by his family physician and another set of X-rays were made.

Upon examination January 29, 1925, 5 months after the injury, no focal infections were found. The patient presented himself with the left arm held dangling loosely to his side. When asked to disrobe, he did so with apparent difficulty, but observation revealed the fact that he would admit. There was no atrophy of the left arm or forearm. When it was insisted that he make some effort to use the affected arm it was found that he could abduct the arm to 50 degrees and rotation of the shoulder was normal. There was some atrophy of the supraspinatus muscle. It was found that all groups of muscles of the

shoulder, arm and forearm reacted normally to the faradic current.

X-ray made at the time of examination and review of the films made some months previously, revealed no bone or joint pathology. This case undoubtedly represents a case of malingering. Despite 6 months of feigned inability to use the arm the patient presented no atrophy.

3. George S. White, male.—October 15, 1924, while standing on a ladder 20 feet from the ground, patient fell and injured the left elbow. A number of teeth were knocked out and the patient rendered unconscious. He was taken to the Charity Hospital where X-rays revealed a fracture of the radius at the elbow joint. Later the head of the radius was removed. The patient was sent to me by his physician because of limitation of motion of the elbow joint. No other disability was complained of.

Upon examination December, 1924, the patient presented a partial fibrous ankylosis of the elbow joint with marked induration of the soft parts. Great pain was produced upon any efforts at forced motion. The patient was not aware of any disability in connection with the shoulder and did not complain of same. Examination, however, revealed that abduction of the shoulder was limited to 90 degrees and external rotation slightly. There was no redness, swelling or tenderness of the joint or its adjacent structures. The patient was surprised to find that he had any involvement of the joint.

X-ray revealed slight evidence of a periostitis and atrophy of the acromion, the coracoid and the head of the humerus.

This shoulder involvement, in my opinion, reveals a traumatic peri-arthritis which was overlooked during the first weeks of the patient's disability. The condition has responded completely and rapidly to treatment and is now practically normal.

4. Mrs. S. S. G., white female.—In June, 1922, the patient attended a moving picture show and sat under a fan. The following day she had slight pain in her right shoulder, which was increased by use. The second day the pain became constant and very excruciating, the slightest movement being carefully guarded by the patient. After several days of sedatives the pain became somewhat relieved and the patient was able to go out for dental and throat examination. No pathology was found in either. The patient then reported to me for opinion and treatment.

Upon examination, no swelling, redness or deformity was found but there was very marked tenderness over the head of the humerus at the

attachment of the supraspinatus tendon. All motion of the joint were apparently free but studiously avoided by the patient. X-ray revealed a calcified area at the site of the subdeltoid bursa. The film made with the arm abducted shows the bursa or mass overshadowed by the head of the humerus, illustrating the importance of an X-ray in at least two positions.

A sling was arranged to take the weight of the arm off the shoulder and salicylates were given. Baking and gentle massage were also begun. The patient was entirely relieved of pain within a few days and completely normal function was restored within 5 or 6 weeks.

Reports from the patient in the past few days indicate that she has never had the slightest return of trouble.

5. Mrs. L. S. White female "played golf several days ago for the first time in about one year. No bad results from same were noticed at the time, but since then she has been suffering more or less pain in the left shoulder joint, gradually increasing in intensity. The past 24 hours the pain has been intense. No sleep has been possible and the slightest motion is excruciating. The patient firmly holds the affected arm with the right hand and indicates great fear of it being moved."

Upon examination January 16, 1925, the patient was found closely guarding the arm and shoulder it was noted that there was very marked tenderness at the point of the shoulder; about the point of attachment of the supraspinatus tendon to the humerus. Palpation seemed to reveal a mass the size of a green pea at the point of tenderness.

X-ray examination was made and a small calcified mass at the point of the shoulder was found. A sling in the manner above described was arranged and the patient given heat with a strong deep therapy light; also very gentle massage. Patient obtained almost immediate relief and complete recovery took place within several weeks. This patient has been seen recently and no recurrence has taken place.

6. E. J. S., white male.—"For the past few months the patient has been going to a genito-urinary specialist for a chronic prostatitis for which he has been receiving massage. Several days ago the left shoulder began to develop some pain. His genito-urinary physician gave some general instructions but no relief has been obtained. For the past 48 hours the pain has become so very acute that the patient has been unable to sleep and cannot use the left arm and shoulder."

Upon examination July 31, 1924, the patient was found to be holding the left arm carefully to the side of the body and it was impossible to get

him to move the arm, either actively or passively, because of the pain. No redness, swelling or deformity was found but it was thought some fullness existed over the anterior aspect of the shoulder. There was marked tenderness at the site of the subacromial bursa.

X-ray was made and revealed a very large calcified mass, about 2 inches long, following the contour of the head of the humerus at the external condyle. A sling was applied to take the weight of the arm off of the shoulder and the patient was given deep therapy heat and sedatives. Very little relief was obtained from the above measures. He obtained relief, however, as long as heat was being applied. An abduction splint of the standard army type was then applied and the patient began to obtain immediate relief. With the use of this splint it was possible to obtain immediate relief. With the use of this splint it was possible to give the necessary physiotherapy without moving the arm, which is a great advantage in such cases. The patient's relief was complete and full function was restored in about 4 weeks. This patient has been seen recently and states that he has had no recurrence.

CONCLUSIONS:

1. Disabilities of the shoulder girdle are varied and demand more careful study than is usually given them.
2. X-ray examination of all cases is imperative and the exposure should be made with the humerus in abduction and adduction.
3. Fixation of the shoulder in abduction is generally indicated and is best accomplished with an abduction splint of the aeroplane type.
4. If ankylosis of the joint seems likely, the position of election is 45 degrees of abduction, thus taking advantage of the range of motion of the scapula.
5. Intelligently administered physiotherapy is of great value for the relief of pain and complete resolution of the lesion.
6. Operative surgery is seldom necessary except in frankly septic conditions in and around the shoulder joint.

THE X-RAY IN OSTEOMYELITIS.*

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There is no disease that requires closer co-operation between the physician and radiologist than osteomyelitis, and if we are

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to remove this disease from the chronic disabling class, it will be by the harmonious team-work of the physician, surgeon and radiologist each playing an important part in the patient's recovery.

The surgeons as a unit urge the early operation of these cases, because even in a short time there is a large amount of bone destruction and our operative measures may be too late. To emphasize in no uncertain terms the need of early operation the late Dr. John B. Murphy considered osteomyelitis in the same class with gangrenous appendicitis insofar as the need for immediate operation was concerned.

If early operation is the proper procedure, and all authorities agree that it is, then the need for a complete understanding between the surgeon and radiologist is imperative.

To illustrate this point, suppose the case of a child with an inflammatory condition over one of the long bones, with or without a history of trauma, temperature, pain and high leucocyte count, and we have a case in which osteomyelitis is a possibility.

An X-ray examination is made and the resulting skiagraph is apparently negative. In the resulting report the greatest care should be exercised so as not to mislead the surgeon, and as the careful obstetrician exercises extreme care in his examination with the thought always in mind that this particular case may require a cesarian, so does the conscientious radiologist, keep in mind the possibilities of early osteomyelitis.

Practically every text book, even those devoted to X-ray are of the opinion that the X-ray has no value in the early stages of osteomyelitis. This statement is somewhat misleading for the X-ray has a very important and definite role to play in osteomyelitis even in the earliest stage. It is certainly of value in the first ten days to exclude fracture and luxation, as well as bony pathology of other conditions. Excluding all of these there then remains os-

teomyelitis and acute arthritis, limiting the field of differential diagnosis to a point where final diagnosis becomes simplified.

Even in the early stages of osteomyelitis when an active, acute and virulent infection exists one would think that the X-ray would show some changes demonstrable on a skiagraph, but we must remember speaking as a radiologist there are only two pathological changes of importance to us, bone production and bone destruction. Even with the haversian canals filled with pus the bone appears normal because there is no destruction of bone.

Osteomyelitis is defined in Dunglison's Medical Dictionary as a "Medullitis or inflammation of the marrow of bone, usually traumatic." It probably would have been better to define this condition as an inflammation of the bone and marrow. We know that the long bones consist of a narrow cavity, containing the blood and lymph vessels, the nerves and medullary fat. Surrounding the marrow cavity is a dense hard bone called the cortex, this in turn is covered by periosteum — a strong fibrous sheath. A periostitis is an inflammatory condition of the periosteum; when the cortex is involved it is called osteitis, and myelitis when the involvement is of the bone marrow, and when both bone and marrow are affected osteomyelitis is the resulting disease.

In the past it was a debatable question as to whether the infection began in the medullary cavity or in the periosteum. The X-ray seems to have proven that the former is the primary focus, spreading by means of the haversian canals to the cortex and periosteum.

Then comes the destruction of bone along these haversian canals, which are so numerous and spread so well throughout the bone that we now have normal bone completely surrounded in an island-like formation. This portion of bone becomes devitalized forming the familiar sequestrum.

Again is the X-ray valuable in locating these sequestra, and of more value still to

determine when the necrotic bone should be removed, that is when the supporting framework is sufficiently strong to preserve the continuity of the bone after the removal of the necrosed shaft.

In making a classification of any disease the various groupings are arbitrary and usually arranged for convenience, so in spite of the various classifications of osteomyelitis it is preferable in radiology to divide this disease into two general subdivisions; the acute in which there is a great amount of bone destruction with very little bone reproduction and the chronic type in which bone reproduction is far in excess of destruction.

To emphasize this point the X-ray diagnosis of osteomyelitis as to its acuteness or chronicity depends upon the ratio of production and destruction of bone.

In addition to the above our diagnosis of this disease depends upon other bony changes, the formation of sequestra being an important diagnostic point. In this condition the shaft is not really expanded, although the deposit of bone on the outside may give it this appearance. The cortex is not destroyed but it is punctured in several places. Osteomyelitis while usually confined to one bone is sometimes found in one or more bones.

The first thought in every pathological process in bone is malignancy and this must first be disposed of before considering other conditions. If malignancy begins in the medullary canal it grows equally in all directions, destroying the cortex and leaving no normal bone within its limits. With only two exceptions—periosteal and osteosarcoma—in malignancy there is no new bone production in and around the malignant tumor. These clearly differentiate malignancy from osteomyelitis in making the infection spreads by means of the haversian canals with destruction of bone but with normal bone between the destroyed areas. The cortex is not destroyed but is broken through in two of these places, and new

bone production occurs at the edges of the infection, which indicates that nature is taking a hand in the fight to limit the infection.

In benign conditions arising within the medullary canal the growth is slow and when it comes in contact with the walls of the bone it expands slowly, thinning out the cortex but not destroying it. Some new bone is laid down at point of contact. Unlike malignancy the growth is cylindrical rather than spherical.

Paget's disease shows fewer bones involved, there is bone production and the skull is affected, while in osteomyelitis more bones are involved, no new bone formation and skull is unaffected.

Osteitis fibrosa cystica presents a very striking feature in the softening of the bones. The cortex is intact, but expanded and thinned with large cystlike areas in the medullary canal. Long striae of lessened and increased density occur enclosing these cystlike areas, which have sharp borders.

In intermedullary bone grafting fitting bone splint is introduced into the medullary canal, after some time there is a pressure atrophy that might be mistaken for osteomyelitis, inasmuch as due to pressure absorption there is a vacuolated area around the splint.

This probably disposes of the principal conditions to be differentiated from osteomyelitis with the exception of tubercular osteomyelitis which is rare and luetic osteomyelitis which is rather common.

MENTAL HYGIENE.*

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and

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Mental Hygiene is preventive medicine, in so far as it applies to psychological man-

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ifestations and it is directed to the initiation and maintenance of correct habits and adequate, effective individualistic adaptation and accommodation to environment. The term, Mental Hygiene, was originated by Dr. Adolf Meyer and came into use in 1909 when Clifford W. Beers launched a movement, the principles and application of which are now being promoted by The National Committee for Mental Hygiene.

About the year 460 B. C. Hippocrates advanced the theory that mental disease results from a disordered brain. Nevertheless, ignorance, superstition and misconception persisted and those persons considered insane continued to be confined in frightful places, fettered and at the mercy of brutal attendants.

In England, during the closing years of the eighteenth century, notable advances, in caring for individuals mentally disordered, were initiated at St. Lukes, London, and the York Retreat. At Hanwell, Dr. Conolly instituted definite reforms, as did Pinel and Esquirol in France. At the end of the same century, in addition to custodial betterments, efforts were expended in the study of the nature and treatment of mental disorders. Even in this country, at present, are many hospitals in which mentally ill patients are given little more than custodial care; possibly some in which they are even ill treated, and only a few in which they are studied and treated in accordance with modern scientific methods.

The objects of Mental Hygiene are, to organize efforts to preserve mental health; to prevent mental and nervous disorders and mental defects; to elevate the standard of care and treatment of those suffering with these ailments; to acquire and disseminate accurate, reliable data relative to such conditions as well as to the mental factors involved in the problems of industry, education, delinquency and dependency; to cooperate with the Federal, State,

private and public agencies in related activities.

Factors which assist in the accomplishment of such endeavors are education, social service, surveys, legislation, co-operation. The benefits accrue not only to the insane, feeble-minded, and mentally deficient, but to all those, who, through mental causes, are unable to adjust themselves to their environment either at home or abroad. They will be assisted in their efforts to live happy and efficient lives. In this, as in all things, now as always, education of the public is of almost supreme importance. Education waits on cure as often as cure on education.

In its beginning Hygiene dealt with physical things of the simplest character and was known as preventive medicine. As cities grew, overcrowding became a menace to the public health; difficulties arose over sanitation, sewage disposal and water supply. Public parks and playgrounds improved environment and a greater direct interest developed in people as a group; living and working conditions meliorated.

As a result we have statutory limitation of working hours, child-labor, liability and compensation laws. Necessarily, the rights of individuals are increasingly infringed upon. One must pay school taxes whether or not he has children in school; buildings and dwellings must conform to building regulations; employers are made responsible for acts of employees. Communicable disease must be reported; vaccination is compulsory; quarantine restrictions become operable during epidemics. The individual is considered only a factor in the community environment and is regarded more as a unit of the group. In this manner public health has been made extraordinarily efficient, though, perhaps it has rendered life somewhat more complex.

We are learning to recognize the individual not alone as a community or social

unit but also as one presenting a problem distinctly personal in character. Mind is the adaptive mechanism or means through the use of which man is in accord or discord with his environment. To be attended by complete success we must consider individual and environment without disregarding inter-active factors. The essentials of physical hygiene are—fresh air, good food, exercise, rest; these are also necessary to mental health, as a healthy mind depends on a healthy body, and the reverse is true.

“To see a man as a social animal and his failures as forms of social inadequacy; to approach these problems free from prejudice and with a full appreciation that, in each instance, the failure has back of it a cause adequate to explain it; then to bring to bear upon the problem those forces which are best calculated to bring about results which are constructively of value, both to the individual and society; and then to be able to apply the principles worked out in dealing with individual cases, to the larger, more general issues—these are the problems of Mental Hygiene.”(1)

Adaptation is the habit of adjusting oneself to individuals and material circumstances surrounding one rather than attempting to cause environment to conform to one's wishes and desires. To be cultivated is orderly thinking and the acquisition of lasting, wholesome, stimulating interests. A proper balance must be maintained between stimulation and response; excessive emotion should not be aroused; there should be a sensible division of work and play and a reasonably correct appreciation of the relative significance of success and failure.

Mental Hygiene has to do chiefly with mind and therefore with personality or the sum total of our reactions; and the

causes of social inadequacy must be sought after within the individual and his reactions to environment. Mental functioning results in activity—conduct or behavior—and as Mental Hygiene strives to conserve mental health it is concerned with normal as well as abnormal mental processes.

Estimates reveal that one-fourth to one-third of all mental disease is preventable through application of recognized though not universally known means. Eradication of syphilis and prevention of alcoholism will surely reduce mental disease. Unfortunately, the medieval attitude still exists and the afflicted individual, instead of promptly seeking competent medical advice, resorts to secrecy, in the hope of avoiding disgrace, and hospitalization without hope of escape. Imperative is the necessity for immediate and thorough investigation into the cause of all mental disturbance, conduct disorders or personality alteration.

Preventable by observance of the rules of Mental Hygiene are many mental disorders following overwork and fatigue; exhaustive and painful illnesses; sudden intense or prolonged stress and strain of opposing desires, ambitions, duties or responsibilities.

Activities in the field of Mental Hygiene of Childhood are of especial interest and importance. Then the mind is in a formative and impressionable state of development when bad habits and mental attitudes are more susceptible of being checked and good ones substituted and much can be done to lessen and prevent delinquency, crime, vagrancy, dependency and actual mental disease in later life. Great assistance can be given along these lines by parents and teachers whose familiarity with the principles of Mental Hygiene and their practical application will be of inestimable value.

(1) White: Principles of Mental Hygiene.

THE VALUE OF A ROUTINE EXAMINATION OF THE EYES IN A GENERAL DIAGNOSTIC CLINIC.*

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The relation of the ophthalmologist (as we prefer to be called) to general medicine is well known, but the importance of a routine eye examination has been undervalued.

The value of the ophthalmologist in relieving headaches due to eye strain by the proper correction of errors of refraction with glasses, or other measures is now universally known to the lay public almost as well as to the profession. Now most sufferers of headaches come to us of their own accord, but we should prefer to have our confreres refer such patients to us accompanied with the report that they find nothing in their general condition to account for the headaches. Then our percentage of cures would be higher, and the interdependence of the various branches of medicine would be more satisfactory. As it is now, we are sending patients back to their own physicians because there are some other factors producing the headaches, which require attention at the same time as the eye. Often these may be the sole cause of the ailment and the eyes themselves are not at fault.

The aid that the ophthalmologist can give is not limited alone to diagnosis, but also in checking up with the treatment and progress of systematic diseases. All patients with cardio-vascular renal disease; arterial hypertension; nephritis; diabetes; diseases of the blood of the skin; tuberculosis; and pregnancy should have as a part of their routine examination a careful eye examination, both external and ophthalmoscopic by ophthalmologists, who know the detailed findings of other examiners.

It is often that in the eye first of all we note evidences of arterio-sclerosis; nephritis; tuberculosis; diabetes; syphilis; cerebral neoplasms and grave nerve disorders.

We know that the eye is about the only organ in the body with transparent tissues, and through these we may see the blood coursing through the blood vessels, thereby disclosing the secret processes of disease and repair. With the advent of the Gullstrand slit lamp and corned microscope a new field is opened for the ophthalmologist, and the time is not so distant when from changes in the eye alone we will be able to diagnose many diseases before there are signs and symptoms in other parts of the body. Many of these changes in the tissues of the eyes cannot be grossly demonstrated but can only be seen with intense illumination and high magnification. This is exemplified in the diagnosis of tuberculosis in the eye which has to be accepted by clinicians because of later findings in the lungs.

The optic nerve is the largest one of the cranial nerves, but is so soft that it is often spoken of as an offshoot of the brain. It ends in the posterior part of the eye and may be seen on end as a flat, rounded, white disc. Here is the barometer that may register the degrees and fluctuation of intra-cranial pressure, due to tumor or abscess, meningitis or other inflammations, or in increased pressure that follows often after fracture of the skull. Every injury to the head should be followed by an ophthalmoscopic examination, even if vision is apparently not affected.

The eye itself is seldom the primary seat of disease (except in glaucoma, malignancy, injury (and a few others) but is the effect of cause or causes that derange the human economy and find expression in the eyes. Thus, it is in examining various parts of the eye that we are able to give to the other examiners clues which are of value in making a diagnosis. It is

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also true that if we attempt to treat the eye independently we will fail.

Benedict of the Mayo Clinic says the ophthalmologist is not justified in treating independently luetic diseases of the eye, tuberculous, metastatic infection, endocrine disturbances, neuroretinitis, choked disc, disturbances of motility, head aches or even errors of refraction.

Chronic blepharitis or disease of the margins of the lids is a condition of the patient that is often indicative of malnutrition, lack of vitamins, endocrine disturbances or improper hygienic surroundings. This is also true in many of the chronic conjunctival conditions, especially in phlyctenular disease which is often associated with tuberculosis, improper hygienic and dietetic conditions.

The common disturbances of the cornea are: phlyctenular disease in children, interstitial keratitis always due to lues, hereditary as a rule, trophic ulcerations in adults due to run down conditions or endocrine disorders.

From the disturbances of motility of the eyes, either as an apparent or real squint, or from diplopia we can help in the diagnosis of encephalitis lethargica, lues, fracture of the skull or sequellae or infection diseases as diphtheria.

Then from Argyll Robertson pupil which reacts to accommodation and convergence but *not* to light, we may diagnose tabes dorsalis or early general paresis. Then there are also other pupillary reactions which may help in the diagnosis of psychoneurotic conditions.

From scars or other lesions in the iris we may diagnose lues, tuberculosis, leprosy, gonorrhoea, rheumatism, focal infection, and malformations, both congenital and stigmatic.

In the ciliary body we have very much the same lesions on account of the contiguity of the tissues, but we see in addition products cast off into the anterior

chamber and on the posterior surface of the cornea as deposits.

The lens as the seat of cataracts, senile or patho-phytologic etiology as yet unknown, congenital cataracts in children, pathologic due to lues, diabetic or unclassified.

In the vitreous we find opacities which are products of diseases of the posterior part of the eye, as the choroid, and it is with the new slit-lamp that we are beginning to study and classify them.

The choroid and the retina may be considered together for it is in the fundus that the lesions are noted by means of the ophthalmoscope. From a swollen or choked disc we can often diagnose cerebral tumors or other inflammations; from retro-bulber optic neuritis, sinus disease; from an atrophic disc, lues and from an excavated disc glaucoma.

The blood vessels of the fundus are next examined. The arteries are narrowed, or enlarged, hemorrhages of all types, a diagnosis of arterio-sclerosis can be made. Various blood dyscrasias can likewise be discerned.

The fundus proper is the seat of numerous inflammations and exudations and from these lesions we may diagnose the following conditions: Arterio-sclerosis, which is the most commonly found disease of all; lues, which have myriads of lesions in both retina and choroid; focal infections; retinitis albumenarica of pregnancy or nephritis; retinitis of diabetes, and retinitis of pigmentary degeneration.

In addition to the actual finding of the lesions found in the different parts of the eye, the vision and fields of vision must be considered as essential components in making a diagnosis. This is particularly true in diagnosis of cerebral tumors, where the fields are just as important as the tabled disc itself.

Two cases will bring out the relationship between ophthalmology and general medicine, as follows:

Mr. S., white male, age 65 years, came to me because of gradual loss of vision for past two months in the right eye. Vision of the right eye was obscured by fingers at two feet; vision, left eye, 20-30, or practically normal. The examination of the external part of the eye was negative as were the pupillary reactions. Fundus examination of the right eye showed marked hardening and narrowing of the arteries, where the arteries crossed the dilated and engorged veins, they impressed or indented them. There were marked hemorrhages of all sizes and shapes, some of them organized and scar tissue formed. This was marked in the macula or region of most acute vision.

Diagnosis: Arterio-sclerosis — hemorrhagic retinitis. No treatment was given to the eye locally but the patient was referred to his family physician for a general examination. This revealed a marked arterial hypertension, blood pressure over 200, 5 per cent of moist albumen and a low phenolphthalein test. Appropriate treatment and diet were instituted. He had no other symptoms and it was only through the examination of the eyes that his serious condition was discovered. The right eye itself never regained vision for the hemorrhages had become organized. The left fourteen months after the first examination was the same.

Case 2. Mrs. W., age 31 years, came to me because of a swelling of the lids and the bulging out of the whole eye. Examination showed a well developed white female of middle age. The lids of the right eye were edematous and palpebral aperture somewhat diminished. The right eye was exophthalmic in comparison with the left, and the pressure on the right eye produced pulsation. The vision was very slightly diminished. Outside of the retinal veins being engorged the examination of the media and fundus was negative.

A more detailed history elicited the fact that the swelling of the lids and the exophthalmos came on suddenly during the night. The patient went to bed perfectly well and awoke the next morning in the condition described. Since then she has been annoyed by a roaring in the right side of the head, more pronounced when lying on the right side. The noises are best heard over the right temple. This statement by the patient was borne out with a stethoscope, or even the ear, a loud bruit having been heard over right of head, most marked over temple. A diagnosis of arterio-venous aneurysm of the right cavernous sinus was made and the patient was referred to the surgical services of Charity Hospital for treatment, and was cured without operation. There are many other details in this case, which are not under discussion at present, but it was through the eye

condition primarily that she was referred to the proper channels for treatment.

Another condition that may be disclosed in a routine examination is an intra-ocular hypertension, called glaucoma. This is the most insidious of all diseases of the eye that lead to blindness. It is only with difficulty that it may be found by those who are constantly on the alert for it. It occurs most frequently in patients past middle age, especially at the time when the accommodation of the eye is on the wane and glasses for near work are needed. It is attended only by vague subjective symptoms; such as, slight cloudiness of vision at certain times of day, the perception of halos or colored rings around lights, the necessity of frequent changes in glasses.

The danger of this one disease alone should make it incumbent upon anyone requiring glasses to have a thorough eye examination by an ophthalmologist.

Ophthalmology is making advances and is keeping pace with the trend of modern preventive medicine. It is gaining its well-justified recognition, but pleads for a closer and more genuine co-operation from the other branches of medicine.

DISCUSSION.

Dr. P. A. LeBourgeois (New Orleans): Many come to the ophthalmologist that seem to be eye cases per se, which in reality are a manifestation of a constitutional condition such as lues, diabetes, nephritis, arterio-sclerosis, tuberculosis, and even foci of infection in other parts of the body.

Every case of nephritis should have a careful ophthalmoscopic examination of the eye, for we know that when albumen uric retinitis is present the prognosis as to life is very grave, regardless of favorable clinical symptoms. Of course the prognosis of albumen uric retinitis from pregnancy is not so grave, but here again the general practitioner is warned of impending danger.

Frequent styes may be often an indication of diabetes or a pre-diabetic state.

Slight swelling of the lower lids, call for an examination of the urine and cardio-vascular system, but may also be indicative of a low grade

focus of infection which is often located in one or more of the sinuses.

Just as a practitioner should warn every woman that has reached the age of 35 of the symptoms of beginning carcinoma of the cervix, so should he warn every man or woman who has reached the age of presbyopia of the symptoms of that most insidious disease—glaucoma.

Doctor Meyer's paper should be of great value to general practitioners, as he has thoroughly covered the conditions affecting the general health that may give eye symptoms.

Dr. T. J. Dimitry, (New Orleans): I was quite pleased to hear Doctor Meyer's paper. One thing that has impressed me was the fact that he has brought out that the eye is strictly an expression of the whole; that after all it is an X-ray photograph and its study from which we must draw conclusions. It seems to convey to us that the eye being a part of the whole simply makes it a means of interpretation of the general disease or the focal disease. I am doubtful whether there is an entity per se existing in the eye itself, a pathological condition per se existing in the eye, if you will permit me to exclude such cases as conjunctivitis and malignancy. But the eye is simply a means of interpretation of the whole constitutional condition or of the same focal condition existing somewhere else. I doubt the existence of real primary optic accuracy. That disease of the eye might have sprung into existence without cause, and if there is a cause, it did not come by a chance throw of the dice, but yet the cause is not located within itself. You might say, well, there is glaucoma, might we not have a condition called primary glaucoma? Can we have such a condition? If you wish to say there are congenital defects that have brought about primary glaucoma, I will admit that. We have such a thing as primary glaucoma, but primary glaucoma as a cause is not within the eye itself; it is remote from the eye. Either there is something that has changed the consistency of the fluid, or there is something has caused a change in the tension, of which glaucoma is the result. Some one may ask if we do not have such a thing as senile cataract. Senility is a disease, it is a pathology, and the cataract is secondary to the pathology.

As I see my specialty, we will be finally out of medicine. We will be used as a means for interpretation, as a means for diagnosis, and we will be used to assist our confreres in the diagnosis and interpretation of conditions existing in the eye, and that ends our usefulness. If we are really adhering to the practice of the eye solely, a man will send us a case, we will interpret the eye findings and send him back the case,

because it belongs to him. Let the surgeon do the surgical end of it. What I would like to convey is this, that the eye is a small part of our body and it merely gives an interpretation of the things that might be found in different parts of the body.

Dr. Monte Meyer (closing): It all shows that the farther we get along in years the more dependent we are on the different branches of medicine. I thank you.

THE TREATMENT OF ACUTE EMPHYEMA.*

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NEW ORLEANS.

The condition known as empyema was recognized by ancient medicine, and even in the time of Hippocrates physicians were conscious of the value of opening of the thorax to evacuate the pus accumulations. Intercostal incision with the cautery and trephining of a rib were practiced, though with a very high mortality, usually caused by prolonged suppuration and sepsis. Because of this high mortality, the trend of opinion gradually turned against operative procedure until the time of Celsus, when it was abandoned only to find a mortality of 90 per cent without surgery. However, with the revival of learning in the 16th century, the beginning of post mortem study and the renewed interest in the works of Hippocrates, surgical intervention again came into the foreground and has since been the leading recognized treatment. Varying types of operations and procedures have been devised and advocated to combat the condition—all striving to accomplish the same purpose.

Empyema has been the subject of numerous discussions and theme of many essays. There is even today, great divergence of opinions as regards its cause, the method of production and the proper course to follow in its surgical treatment. This disease invites the attention of surgeon and internist alike, for it may occur as a pri-

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mary affection or appear as a complication to any of the diseases. It is not the purpose tonight to enter into a discussion of the cause, diagnosis, or the essentials constituting an empyema, but to limit the remarks to the treatment of the acute form of that disease. The interpretation here of the term is understood to mean any collection of pus within the pleural cavity either interlobar, free or encapsulated.

Empyema is considered by some as a simple condition requiring only incision with drainage,, allowing the patient a "laissez faire" post operative care. It is true some will recover while others will die. Unfortunately too many do not survive this procedure as a routine treatment. Empyema is not a simple condition to be smiled upon, but should, upon discovery, be closely and carefully studied as a serious malady. Its diagnosis in addition to the usual physical signs is usually established by exploratory thoracentesis. Once this is determined, the patient passes from the medical into the surgical care. There are several courses which may be followed; simple aspiration with introduction of antiseptics or dyes; intercostal incision; thoracotomy with packing of the pleural cavity; thoracotomy with rib resection and open pneumothorax; or lastly, thoracotomy with closed drainage supplemented either with or without irrigation.

While operation has been performed during many years in empyema, even now mortality percentage is higher than should be and our treatment has not reached the degree of efficiency expected. Lavrow (15) figures a mortality of 55 per cent for all cases, while Lloyd reports the low mortality of 20 per cent. Wilensky (3) in a study of 299 consecutive cases from records of Mount Sinai Hospital for the period 1904 to 1914 reports a mortality of 28 per cent. Many of these were in children and others were in poor general condition, not even surviving the simplest operation—(the insertion of a catheter through a camula).

The reports of 25 army camps, as compiled by Major Graham (8) from replies to a questionnaire sent the principal Base and General Hospitals, give an average mortality of 30.2 per cent. This includes a mortality at Camp Funston of 84 per cent in 85 cases; at Camp Greene of 53.2 per cent in 92 cases and 65 per cent at Camp Wheeler. Here it must be recalled as partial explanation that during this period a most virulent infective organism was present, the hemolytic streptococcus. However to quote from Graham's "Report of Empyema" to the Surgeon General—"The possible explanation of the striking differences in mortality reported from various camps in the empyema cases are to be found, first, in the fact that there has been a marked disagreement concerning what cases should be considered as empyema, and secondly, in the method of treatment employed.

"Owing to the fact that the exudate most commonly found is a slightly turbid sero-fibrinous fluid, with pus demonstrable only microscopically, in some camps only those cases have been considered as empyema which yielded frank microscopic pus. In general, those camps which reported the lowest mortality have regarded as cases of empyema, only those in which the exudate has been frank pus; and conversely, the highest mortality figures have come from those camps in which all cases showing even microscopic pus in the pleural exudates have been considered as cases of empyema."

The Empyema Commission (6) at Camp Lee in a study of 23 cases, reports a mortality of 4.3 per cent. The mortality in this series is the smallest encountered in the review of the literature. Two considerations here must not be overlooked—first, the Commission was working under army supervision with unlimited assistance and resources at command. Secondly, it must be recalled the investigation was conducted during the waning of the influenza epidemic during which period the virulence

of the infective organism had certainly decreased. In spite of these facts, it would seem the figures show our mortality may be greatly reduced when diligent attention is directed toward the treatment. It was found inadvisable to operate during the treatment. It was found inadvisable to operate during the early stage when the exudate was of a serofibrinous character. During this period, aspiration may be practiced for relief of mechanical lung embarrassment and to lessen the mediastinal structures from pressure. This opinion is generally accepted as sound since during this stage of the empyema an active pneumonia is usually present. It is in these cases Major (8) reports excellent results from simple aspiration with re-introduction of a solution of gentian violet.

The Commission (6) seemed to be convinced of three important factors; first, the value of pus evacuation; secondly, the advisability of cavity sterilization by Dakin's solution and lastly, the necessity of preventing lung collapse by pneumothorax. While the true closed drainage technique was not followed, the essentials were carried out and apology was made for not possessing the ideal apparatus for drainage which does not produce pneumothorax. A limited pneumothorax while not desirable, is not dangerous, for this may quickly be absorbed, but an extensive open pneumothorax favoring the production of massive lung collapse is extremely objectionable and shocking to the patient. The principles of the various apparatuses used in empyema drainage are: the maintenance of a negative pressure, the prevention of a pneumothorax, and removal of pus accumulation. Most of these are cumbersome and of only partial practical value.

In selecting an operation and determining a post operative treatment, the simplicity of the procedure, the effect upon the organism and the results obtained should be carefully considered. While there are many operative procedures advocated for acute empyema, essentially there are but

two; first, the open drainage and secondly, the closed drainage. Neither of these is new, the former dating to the days of Hippocrates and the latter having been advocated by Bulan who described in 1891 'the syphon drainage excluding air with continuous drainage under slight negative pressure. Simple aspiration of the chest was practiced by Playfair as early as 1873. Today this procedure supplemented by re-introduction of certain dyes is advocated in early cases. Dr. Ralph H. Major (8) reports treatment of 27 cases by injection of gentian violet with 18.5 per cent mortality. Analysis of his cases gives 51.8 per cent as cured; 29.6 per cent came to secondary operation; and 18.5 per cent died. Dr. R. C. Davis treated 18 cases by this procedure all of whom recovered without operation. One half of this group were produced by the streptococcus. One case produced by the pneumococcus became sterile after one injection.

The value of irrigation in sterilizing the cavity after operation is well established and favorably viewed by all. Stevens (4) in a recent study of recurrences after operation for empyema concludes that percentage of recurrences is highest in cases not having had irrigations with Dakin solution. His figures are as follows:

1. Healed without irrigation by Dakin	56
Recurrences	10 18
2. Healed with irrigation by Dakin	63
Recurrences	3 4.7

The Empyema Commission (6) recognized this fact in its expression that Dakinization of the cavity leads to the hope that such an extensive operations as decortication of the lung may become unnecessary. In addition to the sterilization by Dakin solution, the fibrinous exudates become easily and quickly liquified hastening lung expansion. Moschcowitz, (13) who has been a champion of the extensive and mutilating operations of Estlander, Schede, Delome, etc., changed his view as evidenced by the following quotation. "The far reaching observations at the War Demonstra-

tion Hospital of the Rockefeller Institute have taught us that empyema cavities can be rendered bacteriologically sterile by means of the Carrel-Dakin treatment."

"During my stay at General Hospital No. 12, I had an experience which threw a flood of light upon speculations as to closure of empyema. An empyema treated by Carrel-Dakin method had been finally allowed to heal. About one month after healing, my colleague upon the Empyema Commission, Dr. Franklin A. Stevens, found upon routine physical examination, which was verified subsequently by Rontgenray examination that the patient had a definite pneumothorax. I watched this case with great interest and care. An occurrence of this character was unknown to me, and I confidently looked forward to a reaccumulation of the pus. The unexpected, however, happened. Not only did no reaccumulation occur, but the pneumothorax disappeared and was replaced by the expanding lung. * * * Whereas up to that time operations upon cases of chronic empyema were of almost daily occurrence with me, I immediately ceased all further operating and merely proceeded with intense sterilization of the cavity. When sterilization was complete, all treatment was discontinued and the outer wound allowed to close. Subsequent examinations showed healing occurred through the intermediary stage of a pneumothorax, as in the case just related." He further states: "Formerly I was much more radical in my views and I recommended extensive operations in cases which I know now would heal without operation."

Moschowitz (13) advocates intercostal incision with introduction of a catheter drain about which the wound is packed and sealed with a rubber flange attached to the tube as it emerges from the chest wall. This in turn is fixed tightly to the skin surface by strips of adhesive. The catheter is connected to a combination irrigation — suction apparatus which provides slight negative pressure and insures

drainage with prevention of pneumothorax. This procedure fulfills all the principles of a closed thoracotomy drainage. Why cut the thorax open uselessly only to close it? The experiments on dogs conducted by Graham and Bell (5) lead these investigations to the belief that a closed pneumothorax gives less embarrassment than open pneumothorax in cases of empyema.

The revival of the so-called closed method of drainage in the treatment of empyema is due chiefly to Monzigo (12) who reported observations on 70 cases at Walter Reed General Hospital treated by this method with excellent results. He found the procedure associated with no shock or compression of the lung. There was a rapid sterilization of the cavity, with quick expansion of the lung. The dressings were infrequent and patients were gotten up after a few days with convalescence quickly accomplished. The procedure is based upon simple but sound principles rather than upon extensive major operations. The pus collection is located by examination, puncture, and X-ray study. After the usual general preparation of patient and skin surface, a point over the most dependent portion of the empyema is selected (preferably over the 8th intercostal space at the posterior axillary line) and after local infiltration with .5 per cent novocaine solution a small skin incision about 6 or 7 mm. in length is made. Next a trochar and canula sufficient to permit passage of a 22 or 24 F. catheter has been previously prepared by cutting its tip at an angle and a 5 cm. window made about one cm. from its point. This is clamped and held in readiness for introduction through the canula upon withdrawal of the trochar. Care should be exercised to act quickly to prevent aspiration of air and producing pneumothorax. The canula is now withdrawn by threading over the catheter which is left in place so that from 2 to 4 inches are within the cavity. The soft structures at once close tightly

about the catheter, sealing the entrance which may be further secured by a bit of cotton wet with collodian. Immediately outside the thorax a strip of adhesive is wrapped about the catheter in such a way as to make two flanges through which safety pins are passed close to the tube. These pins are now plastered to the chest wall by a 2 inch strip of adhesive passing around the thorax holding the catheter securely in place. When properly executed, there is no leakage of consequence about the tube, thus minimizing necessity for frequent dressings.

At frequent intervals, two to four hours, depending upon the case, gentle as-

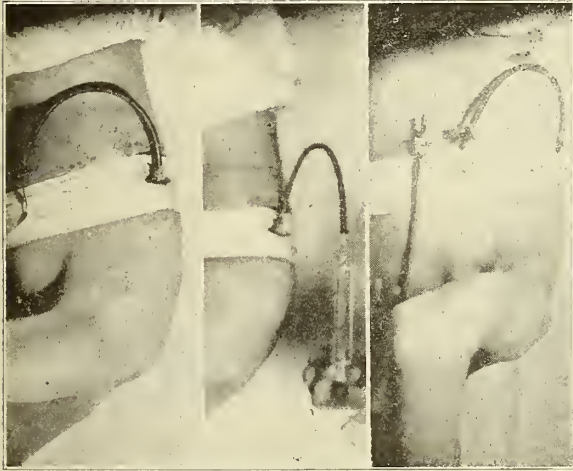


PLATE I, II, III.

Plate I. Showing Catheter Drain with Dressing. Additional Catheter prepared to show adhesive flanges and safety pins in place.

Plate II. Irrigation by gravity.

Plate III. Catheter clamped and fastened to adhesive dressing, which encircles chest.

piration is performed, using an ordinary syringe attached to the catheter. Following each aspiration, careful but thorough irrigation with Dakin solution is executed, agitating to insure contact of solution with all portions of the cavity walls. As a general rule, the cavity may be emptied at the end of forty-eight hours, however, a longer time is advisable in those cases possessing a very extensive collection, particularly of the left side where the heart is pushed into the opposite axilla. In this type it is best at the onset to replace a portion of the pus aspirated by

saline or Dakin solution to maintain the pressure allowing mediastinal readjustment by gradual decompression. This permits the organism to regain its equilibrium slowly without shock or embarrassment of either respiratory or cardiac origin. The series conducted at the Charity Hospital includes four such cases in whom the procedure is certain to have aided in recovery. One of these necessitated secondary operation, while the remaining three made complete recoveries.

It has been advanced that upon the introduction of Dakin solution into the empyema cavity there is a resultant coughing produced by irrigation. Such may occur in the presence of bronchial fistulae, but this is not objectionable. Under this condition saline may be substituted, but small quantities (10 cc.) of Dakin's may also be used without inconvenience to the patient. Frequently a change in position will relieve the irritation and allow thorough washing to be continued. The greater percentage of bronchial fistulae heal spontaneously and should give no cause for alarm.

As soon as the absence of pneumonia is established the patient is permitted and encouraged to get up in a rolling chair, and after 48 hours, or when the cavity has been emptied, gentle pulmonary exercise is instituted by blowing against resistance since this favors rapid expansion of lung structure. After seven to ten days of aspiration and diligent irrigation with Dakin's, the cavity is usually surgically sterile and may be allowed to heal by withdrawing the tube slowly permitting healing from depth.

A study of the empyema cases at the Charity Hospital for the six years 1919-25 shows a total of 128 treated by operative procedure with 40 deaths, or a gross mortality of 32 per cent. Of this series, 85 were treated by open thoracotomy generally associated with resection of a portion of one or more ribs. Of this number 55 (64.6 per cent) were discharged from

sessed a draining wound and some with temperature ranging from 99 degree to 102 degrees. For the latter reason the percent of cures could not be determined. The open operation was accompanied by 30 deaths or a mortality of 35.3 per cent. There were 43 cases treated by thoracotomy with closed drainage and irrigation with Dakin solution. Of this number all of whom were treated during the past two years, ten patients, died giving a mortality of 23.2 per cent. Of the 33 (76.5 per cent) who survived, twenty-six (65.5 per cent) have made complete recovery, 7 (16.3 per cent) are now in the hospital convalescing, and 10 (23.2 per cent) have died. There were 3 (6.9 per cent) in whom a secondary operation was performed with speedy recovery. Two of these would have cleared up without further operation but were among the first treated by this procedure. The third case passed from under our care, thus making it impossible to continue treatment. It is certain that some cases will come to secondary operation, but the patient is in a far better general condition to undergo the procedure and the operation is of a minor surgical nature. Therefore, in such cases, two simple minor surgical procedures have been substituted for one more serious major operation.

While the mortality of 23.2 per cent in this series of empyema treated by closed drainage and irrigation with Dakin's compares most favorably with that of 35.3 per cent obtained by open operation, it is believed this mortality may be materially reduced by adhering to this simple method, giving attention to the post-operative care.

Conclusions.

1. Empyema is a formidable condition requiring serious consideration as regards operation and post-operative care.

2. The mortality is too high and may be lowered by more careful attention.

3. The value of Dakin solution in bringing about a rapid sterilization of the empyema cavity is well established.

4. Aspiration and introduction of dyes may be employed in cases possessing only microscopic pus.

5. The treatment of acute empyema should accomplish:

- (a) The lowest possible mortality.
- (b) Drainage by the simplest means at the surgeons hands, with least possible shock to the patient.
- (c) Rapid evacuation and sterilization of the cavity preventing formation of pneumothorax and favoring by maintenance of slight negative pressure the early expansion of the lung, thus minimizing possibility of states of chronic empyema.

6. The closed thoracotomy with drainage and frequent irrigations by Dakin solution seems most nearly to fit the above conditions and favors recovery in those cases to secondary operation.

It is a simple minor operation which may be performed in the country or at home and it is believed the more general adoption of the procedure will aid in reducing the too high mortality existing by other methods.

Already too much time has been consumed so I shall only present a few of the slides showing the progress of treatment by the closed method. There can certainly be no great advantage in resecting a rib, throwing open the pleural cavity and then attempting to close the wound about the tube tightly enough to prevent leakage or induction of air. This procedure is most frequently accompanied by a collapse of the lung, shock to the patient, and an unclean wound—constantly leaking about the tube and soiling the bedding. It is evident that the open end of the drainage tube can not be kept submerged in antiseptic solution, since the movements of the patient frequently draw the tube above the fluid level allowing the aspiration of air into the pleural cavity. This fact reduces the advantages of this

method to little more than those of open thoracotomy. At present there is in the hospital a patient operated by this procedure more than a month ago. Skia-graph of his chest is presented showing today almost total collapse of the lung on the affected side with associated pyopneumothorax.

It has been the good fortune to have under treatment within the past ten days a case of acute empyema and one of so called chronic empyema, both of whom are

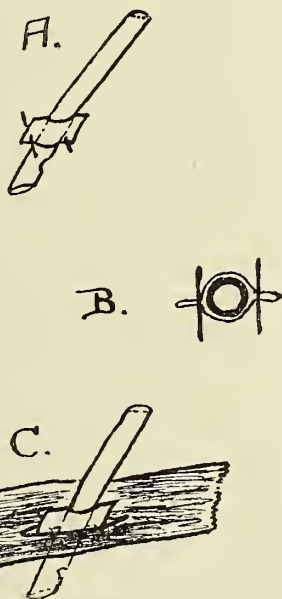


PLATE IV.

A. Catheter prepared with adhesive wing flanges thru which are fixed safety pins. Lower end is beveled and possesses small opening about 1 cm. from top.

B. Cross section through flanges. Heavy black circle represents Catheter. Outer light circle represents adhesive encircling Catheter and folded upon itself to either side to form flanges for safety pins. The latter are represented by parallel black lines.

C. Dressing complete. Catheter passed through slit in adhesive strip which encircles chest and secures Catheter in place by pressing safety pins tightly to chest wall. Lower end within pleural cavity.

being treated by closed drainage with irrigation. The former had been sick for six weeks or more and within seventy-two hours following the operation there was a negative culture. This patient was allowed to sit up in a chair after the fourth day and is now ambulatory. The latter case had previously been operated elsewhere eighteen months ago, but the wound has never healed. Upon the institution of treatment there was a partial collapse of the lung with a cavity measur-

ing 650 cc. Today the cavity has a capacity of 140 cc. and the patient is generally improving.

The principle of true closed treatment of acute empyema consists in the introduction of a catheter into the cavity through a canula followed by careful, diligent, and frequent aspiration and irrigation. The catheter should be clamped between irrigations to prevent collapse of the lung and to maintain slight negative pressure.

The procedure is very simple and most efficacious.

My sincere thanks are extended to you who have so thoroughly and kindly discussed the subject.

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DISCUSSION.

Dr. R. S. Crichlow—I wish to mention two cases that have come under my observation during the past three years.

One was a case of empyema of the right side following pneumonia of the infectious type, operated on in 1919, employing the open method of drainage. About eighteen months ago I had an X-ray made of this patient. He had developed considerable discomfort and his side was still draining. I found, through X-ray, that the infection had gone from the right to the left and pushed the heart up almost to the lower border of the second rib. Through this opening into the cavity on the right side an exudate was drain-

ing and there was still considerable retraction going on.

The other also was a case of empyema following pneumonia of the infectious type. At the end of the tenth day this patient went through the usual stage of resolution, temperature dropped to 99 degrees, not completely normal, then for a few days up around the range of 100 degrees to 101 degrees. At the end of the week, under local, I aspirated and found pus. Patient was at once transferred to the Hospital, admitted to a surgical ward and treated by the closed method (catheter inserted—no jar used), not under my supervision. Five weeks later he died. Three days before the end an X-ray was made. The right side was entirely obliterated; the left side was also practically obliterated except a small point about the size of hand. Post mortem findings showed both pleural cavities filled with pus. Autopsy findings: Death caused by influenza bacilli.

Dr. F. W. Parham: In 1922 I presented this subject before the State Medical Society and in that paper I drew a comparison between the open and closed method of drainage.

In spite of the fact that Muller in *Progressive Medicine* had depreciated the revival of the old method of closed drainage, which he thought had now become obsolete. After thorough study of the question I was convinced that Muller was wrong and my subsequent experience has but strengthened the conviction.

Now, of course, in these cases of acute empyema (the subject of Dr. Irwin's paper), we are confronted with the two horns of the dilemma; the necessity of relieving pressure and the fear of increasing the danger by pneumothorax owing to the fact that we have often coincident involvement the lung itself. Especially is that the case in certain epidemics. I believe the mortality in the camps was due largely to the virulence of the organism producing the empyema and also accounts for the difference in mortality in the various camps. In the camps during 1918 pneumonia was quite a frequent complication of empyema and we had to go very slowly. The empyema commission was organized at Camp Lee during the war, ancient history you might say, but still worth repeating. It was during this time that Moschowitz and the commission showed very definitely what we all found out later on in the course of our experience, that we had to be very careful in handling these cases of empyema. If we operated before the case had become a real abscess and the mediastinal partition had been fixed we ran the risk of flut-tering of the mediastinal partition, by the admission of air suddenly the vital capacity being diminished materially if we let the air in too rap-

idly. You are perhaps familiar with the experiments of Evarts Graham and others, which showed that an opening admitting air to one side of the chest produced an equal pressure in both pleural cavities. Especially in influenza cases there is involvement often of the lungs which are congested and more or less clogged with mucuous secretion and erudate. If we incautiously let air in we thus interfere materially with lung action. As the pressure of the pleural fluid must be relieved we must do this without letting air in—avoid an open pneumothorax.

Here is the usefulness of closed drainage apparent. In going over this subject I got together every suggestion that had been made regarding the various methods of drainage, of empyema, and finally came to the conclusion that the Brewer rubber spool, with the outer flange movable working was the most efficient means of airtight drainage. When this is properly introduced there is no pneumothorax. I prefer to resect rib, because I get in that way a better counter pressure for the inner flange.

Make the resection just large enough to take the tube. When the flange is doubled up and flushed in and pulled up against the rib, there is little escape of the fluid in the chest and there is little air suction, the cavity being full. The tube of course, is clamped. The wound is then closed about the tube and the outer flange pushed up and clamped against the wall. The lower end of the tube is then into a bottle on the floor, half filled with carbolic solution. This is the plan employed by Moschowitz and is more efficient than other methods. In the first twenty-four hours you do not want the discharge too rapid; when you have finally reduced the discharge you can let the drainage remain. Moschowitz called attention to the fact that very often when you went in to see your patient you found him complaining of pain. He at once examined to see if the tube was in the bottle; the pain was caused by air passing up the tube whose end was out of the bottle. Keep under water—in this way you get sufficient suction and there is no danger of air getting into the pleural cavity. Now it seems to me that this particular apparatus is very satisfactory; when you carry out that plan, I think you can gradually a little later on, increase the intrathoracic pressure by instructing the patient to blow water from one Wolfe's bottle to another. This should not be done too soon for fear of tearing away of adhesions too rapidly.

I have used this method in a case for two months without change — only the wound about the tube need occasional cleansing.

I have had no trouble with rib necrosis. It strikes me that that method of closed drainage has come back to stay.

Dr. Sellers had me see a case with him of double empyema formation. We drained the pleural cavity very satisfactorily and later on trouble began to show itself again and we found, lower down, pus on aspiration. We made another opening and I was able, with my fingers in each wound to feel a distinct partition. Separate drainage of the two cavities resulted in perfected cure.

Dr. J. A. Dana: Dr. Irwin should be congratulated on the splendid results he has shown by this method. I am arising, however, to talk about something that has been discussed by each of the speakers already, but as something which is harmful and must be guarded against.

The reason an empyema cavity does not heal, or has difficulty in healing, is that the natural tendency in the chest is for the formation of a cavity with more or less rigid walls. Drainage cavity becomes a serious matter and, regardless of the method employed for drainage, difficulties are encountered. Consequently, we do the unsurgical thing of treating it by irrigation. We do not treat other cavities by irrigation—we treat them by emptying. What happens then? The bacteria are still there, but they come in direct contact with the tissue cells which are able to take care of the bacteria.

I have been keenly interested in artificial pneumothorax since I went overseas and saw the Italian surgeons practice it. I have had but two cases and in each the result was perfectly beautiful. It is impossible to empty a chest effusion by simple aspiration because the negative pressure prohibits. After a sufficient amount of fluid has been withdrawn your patient begins to cough. If you inject as much air as you aspirate fluid you can get out every drop at the first sitting, your patient feels a hundred times better and where before he was a very sick man, he is now able to get up and walk around. Because the fluid will re-accumulate to a certain point, more than one aspiration is necessary. In one of my cases three aspirations were done; the other on the fourth aspiration felt perfectly well. X-rays were taken, which I am very sorry I did not bring here tonight.

Artificial pneumothorax, properly used, is a very valuable weapon in the hands of the surgeon.

Dr. Shirley C. Lyons.—Dr. Irwin has presented his theme in a very excellent manner. It is a subject in which I am particularly interested, having worked eighteen months in the Department of Thoracic Surgery at Rochester previous to coming here.

Our technique is essentially the same as that outlined by Dr. Irwin. The importance of always using saline for the first irrigation cannot be over emphasized. Then if there is no evidence

of a bronchial fistula, you may change over to Dakin's solution. I would like to call your attention to the use of hyclorite solution in place of the Dakin's. It is essentially the same, but there is one great advantage, which is that it comes prepared so it can be diluted with water to desired strength and thus prepared fresh each day. It does not deteriorate so readily as Dakin's solution and can usually be kept for an indefinite time.

The guiding principle in the choice of treatment of acute empyema should be conservatism. It would certainly seem difficult to justify a high mortality particularly if a safer and more effective measure is available. Shortening convalescence is often mentioned as one of the arguments for the more radical procedure, but it would seem that shortening convalescence does not justify an increased mortality. Therefore the first consideration in determining the choice of a method of treatment should be the life of the patient.

The second consideration is preserving the function, and third, shortening the convalescence. We are all familiar with the acutely sick empyema patient where death seems imminent. It is in this type of case that most surgeons readily resort to the closed method of treatment and by so doing many lives have been saved. Surely the type of treatment which is best for the dangerously sick patient is also best for the one not quite so ill.

It is attention to the post-operative details which means success or failure. In most instances you will find the poor results in cases where closed drainage has been used, has been due to failure on the part of the operator to carry out the many details necessary for the post-operative care.

The only contra-indication to the closed manner of treatment is the presence of a large bronchial fistula. Even in these cases, irrigation can be carried on for a few days with saline solution and the patient relieved of the acute toxic condition before submitting him to a rib resection.

In a series of four hundred cases of chronic empyema recently reported, fifty per cent of the cases had had one or more unsuccessful open operations; twenty-five per cent had been operated on by the open method and sinus allowed to close over too soon from the outside, resulting in a recurrence. The convalescence of the above cases would have been shortened and their comfort increased had the closed method of treatment been used.

Finally, the simplicity and ease with which the closed method is executed, and the low mor-

tality rate, must surely appeal to both surgeon and patient.

Dr. Hamilton P. Jones: The character of empyema varies very much with the type of the causative organism. At El Paso (Fort Bliss) when I first reached that point, there were a large number of cases of empyema of the pneumococcus type. These cases had a very thick pus which was quite easy to evacuate and seemed to do well with the open method. This was followed by an epidemic of measles—measles with empyema—in which there was a rather liquid exudate. Those cases were treated to a great extent by the open method with a very high mortality. Subsequently we had the influenza epidemic, in which the exudate simulated the exudate of the measles. But so numerous were the cases of bilateral empyema that something had to be done for them other than the open method; a great many of these cases were treated by the open method and died. Some were treated by irrigation with Dakin solution and with various strengths of formaldehyde solution, sometimes gentian violet. But it was found that these cases which had been irrigated presented a changed pleura, so changed that it would appear that these cases could never recover from the damage done to the pleura by the irrigation. Therefore, after a while we stopped irrigating our cases and used catheter introduced through a trocar. The trocar was returned and the catheter connected to a tube which led to a bottle beneath the bed—this bottle container fluid which acted as a check valve preventing air from entering pleural cavity the same procedure was followed on each side simultaneously.

We had, from the 15th of September to the 15th of November, 125 cases of empyema that were operated on either by the open or closed method and of that number forty died, which is a fairly good proportion of recovery. I do not remember the exact figures, but think the deaths from the open method were twice as high as from the closed. The thing to be desired in an irrigation substance is something that will kill bacteria, not destroy enzymes and cause no damage to the pleural surface.

This paper of Dr. Irwin's is most interesting. It revives an interest in a treatment which, to my mind, ought certainly to be considered a method of choice, if it is possible to practice it.

PARTNERSHIP IN HEALTH.*

WM. R. REDDEN, M. D.,
American National Red Cross,
WASHINGTON, D. C.

I am greatly indebted for the privilege of discussing with you the problem of cooperation between constituted health officials and volunteer health agencies in coordinating community health services rendered to the people of any city.

It is my purpose to discuss in brief, the development of Public Health work and to point out the relationship which now exists between Volunteer and official health groups and to suggest how that relationship can be strengthened in order to avoid wasted effort and misunderstandings, and in order to give the finest type of service compatible with the expenditure of all funds—whether raised through the normal channels of *taxation*, or *donated* by individual members of your communities.

When Public Health and Preventive Medicine were twin individuals without hair on their heads, or clothes on their hides, they were almost strangled to death by the medical profession. From all over the country came the cry from professional lips; "kill them or they will kill our business. Don't you know that if you stamp out typhoid fever the very bread and butter will be snatched from our mouths, for typhoids cases long drawn out followed by many complications pay practically all our overhead expenses during most of the year?"

Yet, no such calamity has resulted from the public health and preventive measures instituted during the past twenty years. The twins have survived, and during the World War they fought side by side with every mother's son who faced a bullet or dug ditches under the eagle eye and roaring orders of a top sergeant, and although there was an epidemic of

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

influenza which counted out its thousands, and typhus which killed other thousands—typhoid and dysentery, which killed more of our troops in the Spanish War than did Spanish bullets, no where appeared in epidemic form. Today the twins are in their vigorous teens straining for further action, and the medical profession stands back of them for a strong and vigorous manhood.

At the present time, there are three kinds of health agencies in the field of Public Health, in addition to the constituted Health Authorities.

First: The agency endowed by one individual like the International Health Board of the Rockefeller Foundation, the Milbank Memorial Fund and the Commonwealth Fund.

Second: The agencies which conduct health services as an adjunct to business such as the Metropolitan Life Insurance.

Third: That large group of volunteer health agencies which either undertake special types of health work—such as the National Tuberculosis Association—Mental Hygiene—Social Hygiene, etc. or have developed a broader special form of health education program like the National Child Health Association, Child Welfare and the American Red Cross.

This last organization differs from the other groups in that it is chartered by Congress and is listed as a semi-governmental organization.

However, in spite of the multitude of organizations represented in the field of public health, there is one important business for all health agencies—namely:

To establish conditions in all communities that will give every child a chance to be well-born—properly cared for and nourished in infancy, adequately supervised during pre-school days—thoroughly examined throughout the school period—protected from infections of all kinds, with provision for complete prevention and correction of defects in order to give

to the community and the country, physically 100 per cent prospective mothers and fathers.

Problems of morals, ethics, and mental are problems to be met in the homes, in the schools, and in the churches. This separation of the physical from the moral immediately puts all disease, whether tuberculosis or syphilis, scarlet fever, or gonorrhoea, on the only basis compatible with the physical well being of our community. That is, it designates a disease, as a disease, no matter whether it is the result of an infection of the chest or an affection of the heart—whether it be a sore throat or a pus tube.

The War period thrust venereal disease on the public's attention and was responsible for a frank consideration of the physical and medical phases of such illnesses but there is still a vast amount of work to be done in this field before every community will demand that all infectious diseases be reported and all infected individuals be isolated until free from contagion.

May I repeat, it is perfectly assinine from a public health point of view to look upon venereal diseases except as a contagious diseases endangering the health and even the lives of every member of the community. Free the consideration of such diseases from the entangling moral and ethical phases of the situation and you will find only one course of action—the application of the usual accepted public health preventive and sanitary measures.

For years, well meaning people and organizations snatched idealistic brands from the heartfires of public health and built raging bonfires of their own with little or no thought of each other, and frequently with little thought for the individual or community which was being good." Yet, in spite of innumerable mistakes, good accrued to the community, for through it all there developed a defin-

ite rational community public health point of view.

In spite of the fact that many people from many communities along with numerous volunteer health agencies still consider such problems as the control of venereal disease, tuberculosis, the promotion of infant hygiene, and child health, as problems to be handled by them without thought of the whole health problem of the entire community, there has gradually developed the only logical idea; "private individuals and volunteer agencies must turn over their public health work to the chosen public health officials as rapidly as the public health departments are financed through normal taxation to do this work effectively.

However, there is one consideration that we must constantly bear in mind. The people who support the public health officials, the people who pay the health officers, state, county, or municipal—are the same people who contribute funds for the support of all volunteer health agencies. The reason I make this statement is that it is a point which is not usually considered. The fact is, most health officials and even many members of a community feel that the National Tuberculosis Association, the Child Health Association, the American Red Cross—are all national organizations that are attempting to superimpose an outside program on the communities concerned, whereas, as a matter of fact, these organization are actually a natural growth within these communities and "head up" in national organizations simply because of the demand for unified action.

One glance at the local officials for example, of all Red Cross chapters in your state, must convince you that the Red Cross is a local organization made up of outstanding individuals who contribute not only to the support of volunteer health agencies, but also give their normal and financial support to the constituted public

health authorities and the program which they are conducting.

The only reason for the existence of any volunteer public health agency is the fact that any given community will pay only a fractional part of necessary funds for properly handling public health, but that same community — properly stimulated, aroused by the vision of greater health possibilities—will give three times the amount as an actual donation in order to carry on such phases of health work as infant welfare, prevention of tuberculosis, first aid, and life saving.

There has been a marked advance in the approach to the ideal public health work of this country. During the past eight years for example, the Metropolitan Life Insurance Company conducted a wonderful Tuberculosis Health demonstration in Framingham, and as a result set a standard for any community in attacking the problem of tuberculosis—in actually getting into the homes and into the schools to see that every man, woman and child suffering from tuberculosis receives proper medical and sanitarium treatment. Thus—standards carefully worked out through a period of years should ultimately be standards for every community in handling tuberculosis.

Four years ago, four national organizations, including the American Red Cross, chose Richland County and Mansfield, Ohio, for even a more important demonstration in community health.

Mansfield represents an urban population of about thirty thousand and the rest of the country a rural population of about the same number. The idea was to set in operation a machinery that would develop the finest type of practical Child Health — program including such things as full time county, rural and municipal public health officers, establishing daily inspection of children in schools—not only for detecting contagious disease, but also for the purpose of discovering deformities, and of correcting those deformities through the local medical professional

channels. It included an adequate amount of public health nursing service in order to establish proper prenatal care of mothers and in order to work out infant clinics under local medical groups. Mind you this work was made a part of the community and all agencies in the community were utilized.

As a matter of fact, a vast amount of this work has been conducted in the rural sections, and has been concentrated to meet the demands of over 128 one-room rural school houses where a single teacher may conduct from 25 to 30 classes of all kinds during a day. The great object of this Mansfield Richland County demonstration was to show to all communities of like size what can be done to give children a chance to grow up well and strong, free from inherited or acquired physical defects.

Now the work of the demonstration as such was financed by the American Red Cross for a five year period at a cost of \$200,000.00, but that money would be wasted as would the work in the community unless an effort were made to have the community actually take over a reasonable amount of the work through the normal channels of taxation and the constituted health authorities, I am glad to report, that at the end of three years and a half, out of the annual budget of approximately \$50,000.00 as set up by the demonstration, Mansfield and Richland County have taken over approximately \$40,000.00 and there is now on the field, a full-time county health officer a rural deputy health officer and a municipal director of health.

The public health nursing service has been taken over to a large degree by the local community, and so on down the line, so that the demonstration has not only demonstrated something that is worth while, but it has also educated the local community the point where it is willing to finance the work through normal channels.

The education of the community in modern public health practices is one of the

chief functions of volunteer health agencies. I might go on to explain at great length how the Commonwealth fund has financed and is now conducting a similar type of demonstration in Salem, Oregon, in Murfreesboro, Tenn. and Athens, Ga. I might also give much enlightening data in regard to the 20 year demonstrations conducted by the Milbank Memorial group. One rural health demonstration in Cattaraugus County, Ala., and an urban health demonstration in Syracuse, and still a third, on a more magnificent scale, the Bellevue Yorkville District demonstration in Metropolitan, New York, but no adequate conception of the splendid work that is now being done in this field could be given at a meeting of this kind. Get the reports of the work. They are not idealistic. They are not merely sentimental. They dig down to the foundations underlying public health procedure, and give to any community a well worked out scientific basis for the conduct of all health in that community.

Now, may I present for your consideration, the type of service the Red Cross is able to give to a community in co-operation with the health authorities, either local or state.

For a long period preceding the world war, the American Red Cross included public health work among its major activities. This is best illustrated by the following outline:

The Nursing service became a definite entity in December, 1909, under Miss Jane A. Delano, at that time Superintendent of the Army Nurses Corps. Briefly, this service today under Miss Clara Noyes, enrolls nurses primarily as a Reserve of the Army; recommends nurses for the Navy, U. S. Public Health Service Veteran's Bureau, and assigns and supervises nurses in Red Cross educational services, and relief work during disasters in the United States.

The First Aid Service, which is combined with life saving under H. F. Enlows as national director, reaches out into nearly every industry and into the schools, has

been functioning since 1909 under the joint direction of Lieut. M. J. Shields, the originator of First Aid in this country, and Col. Charles Lynch. The object of this service is to promote classes in instruction in First Aid and First Aid contests until every school and industry has been reached. It is believed this constitutes one of the most valuable services to the public in creating a safety sense and in teaching an intelligent handling of injured people until medical aid is secured.

The Life Saving Service became a definite entity in February 1914 under W. E. Longfellow. The aim of this service is to reduce the loss of human life by drowning. It conducts swimming and life saving institutes; teaches rescue and life saving methods. In conducting this work it extends its services to such groups as the Y. M. C. A. Boy Scouts, Girl Scouts and the Army and Navy Training Schools

The Public Health Nursing Service dates back to November, 1912 when it carried the name "towns and country nursing service." Its object is stated as follows:

To be concerned with nursing the sick in rural communities, carrying instruction along sanitary and humanity lines into the homes, to co-operate with all agencies dealing with questions of individual and public health.

Today, there are over 900 Red Cross public health nurses in the field to say nothing of over a thousand who have been taken over by the official health departments as public funds have become available.

This service is now under the direction of Miss Elizabeth Fox who has president of the national organization of public nurses for four years.

Home Hygiene and Care of the Sick developed as a result of a suggestion in 1908 and has continued because of a definite demand. The actual service with text book and director eventuated in 1913. Today this service promotes instructions in preventive measures and home care of the sick in city and rural communities, includ-

ing schools. It publishes a text book by Delano, and an official guide for Red Cross instructions.

The Nutrition Service developed from classes in food selection in 1908. In 1916 *The National Advisory Committee on Red Cross Dietitian Service* came into being, to set standards for Red Cross enrollment, and to secure Dietitians for Red Cross Commissions overseas. This enrollment today constitutes a reserve from which the Army, the Navy, the U. S. Public Health Service, and the Veteran's Bureau, as well as the Red Cross draw their Nutrition workers. This service consists of an educational program conducted by qualified nutrition workers. It contemplates individual groups and general propaganda instruction in selecting adequate food for prenatal, pre-school, and adult life. The program includes instructions through class work, personal service, and instruction through consultation and home visits. It also includes a conduct of special nutrition classes for malnourished children in close co-operation with the physician.

Civilian Home Service conducts family welfare activities for all members of the community in chapters where no organization exists for that purpose.

Disaster Relief consists of aid rendered sufferers from fires, floods, tornadoes, earthquakes, epidemics, shipwrecks, and other catastrophies. This aid includes medical service the distribution of food, clothing, household furnishings, and financial assistance in the emergency period, and thereafter such help as is essential for adequate rehabilitation of individuals and families on the basis of their needs.

In most disasters in the United States, the American Red Cross is the directing agency in relief work and is designated by the president as the government relief agency.

Examples of work accomplished:

During the fiscal year, July 1, 1923, to June 30, 1924, relief was given in 192 disasters.

At the end of June 30, 1924, 619 Chapters were carrying on authorized Home Service Extension to civilians. An average of 8,425 families were served each month during the year.

During the fiscal year, 13,865 First Aid certificates were issued. The First Aid car traveled approximately 9,646 miles and visited 137 cities where 911 meetings were held, with a total attendance of 147,176. The Life Saving Corps had an active membership of almost 50,000.

A total of 62,706 women and girls were given instruction in Home Hygiene and Care of the Sick during the year, of which 29,082 were school pupils and 19,114 certificates were issued to them.

During the year 5,596,663 children were enrolled in the Junior Red Cross.

On July 1 1924, there were 40,636 nurses enrolled and 916 public health nurses on duty. At the close of the year 2,700 dietitians had been enrolled. During the year Red Cross public health nurses made 1,162,330 home visits, visited nearly 60,000 schools and inspected more than 1,500,000 school children.

Under Volunteer service we have the following statistics: garments made, 164,535; surgical dressings, 1,244,846; Canteen (persons served) 23,854; motor service calls, 13,095; layettes made 1,813.

Of a total of 84,500 ex-service men hospitalized, 63,700 were rendered a definite and specialized service. Approximately 744,220 visits were made to the sick and disabled in Army and Navy hospitals alone.

All this work is thoroughly organized and is under the control of recognized professional groups. Every worker is required to observe in detail the ethics of the nursing, medical and public health professions. These services, in part or as a whole, the American Red Cross offers to every community as a definite part of the community. The American Red Cross stands ready at all times to turn over to public

health officers any phase of its work when public funds are available through taxation to conduct that work effectively.

As long as the public donates three times as much to volunteer health agencies as can be extracted from them through normal taxation, just so long is there a field of co-operative effort between these agencies and the constituted public health officials. To educate the public in modern health practices is the chief function of volunteer health agencies. Nowhere in this country is this educational work adequately conducted by the health officials in fact, most health departments have to fight for their very existence in order to get sufficient funds to conduct the barest outline of accepted health practices. When the departments of public health are free from the vicissitude of kaleidoscopic political changes and the public is educated to the point of demand and modern health protection, the public health departments will gain the support they deserve both moral and financial. That day will mark the death of volunteer agencies in the field of health, and the millennial dawn of ideal Public Health Practice.

A MODIFIED McREYNOLDS OPERATION FOR PTERYGIUM.*

ARTHUR WHITMIRE, M. D.,

NEW ORLEANS.

For centuries, surgeons have been interested in pterygium. Taken from the Greek the name Pterygium means a "Little Wing," which had the characteristic and almost constant resemblance to this condition, of a triangular shape with the base beginning at or near the caruncle with its apex at the corneal limbus. Pinguecula is the beginning of a true pterygium which progresses to and forms an attachment to the limbus, slowly advancing across its cornea until the center of the cornea is reached or in some extreme cases the

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

growth will even extend beyond the center and by this time the pinguecula has disappeared.

Pterygium generally attacks the nasal or inner angle of the eyeball very rarely the outer. Both eyes often suffer alike. According to Saemich, pterygium is twice as frequent in males as in females. Pterygium becomes quite destructive to the vision when the pupillary area becomes covered and the removal of the growth at this time will improve the vision very little and sometimes not at all. Cyst formations in a pterygium, cases of which have been reported by de Schweintz, de Costa of Lisbon, maintains the possibility of epitheliomatous transformations of the head of the pterygium and describes histological examinations in which two cases showed a distinct epitheliomatous structure. These similar cases are cited from different observers, hence the importance in favor of removal of all pterygia.

The best authors have stated that the active part of a pterygium is at the limbus and that if the portion be carefully removed, and the wound be covered with conjunctiva there will be no true recurrence. It is my humble opinion that after carefully removing all epithelium to which the pterygium is attached, by using the point of a very sharp Graeffe knife and covering the wound completely with conjunctiva, recurrences are greatly reduced. But when we consider that a recurrence is at hand, we have a very different problem to handle on account of the fiabile inelastic changes in the scars of the conjunctiva.

A pterygium is either progressive or stationary, both should be operated for cosmetic reasons, undue astigmatism etc., if progressive operation is most urgent. The stationary pterygium may be operated upon, the progressive pterygium must be, and both should be.

According to Fuchs, Arlt himself deserves the credit for having made the operation for pterygium a success by demon-

strating the necessity of closing the conjunctival wound.

About 1855 the elder Desmorres devised the method of transplantation for the purpose of diverting the growth from the cornea. Not only was this object accomplished, but it was found that after transplantation, the pterygium atrophied. Demorres' principle was one of great and lasting value and he must ever receive a credit and the royalty given on any transplantation operation for pterygium.

McReynolds' Method.

In 1902 McReynolds of Dallas, Texas, made a very valuable contribution to the surgery of pterygium, although a modification of Desmorres' it has enjoyed great popularity in this country. It is easy of execution, no tissue is removed, unless it is, perhaps the head of a large pterygium, and that is optional, no exposed sclera remains. If well done, recurrence is exceptional. It is applicable for pterygium of any size and it calls for but one stitch.

It is my observation that a modification of this procedure upon the last 67 cases upon whom I have operated is perhaps less liable to relapses, a situation most unattractive to deal with in that the conjunctiva once disturbed, especially following the changes occasioned in pterygium, is less elastic and more friable than in the normal conjunctiva. The desire is to remove the pterygium as far as possible from its attachment thereby preventing its blood vessels, always eager to reach out and re-attach themselves to the denuded surface from whence they came. I endeavored to undermine the *entire nasal half* of conjunctiva *back to the attachment of muscles*, this is very easily done with a strabismus hook and instillation of four per cent cocaine solution anesthesia. Following removal of head of pterygium, incisions are made to separate the conjunctiva from the limbus to the vertical meridian above and below with Graeffe knife. This, when the speculum is removed, affords a sliding of conjunctiva upwards or downwards to a

great extent covering the denuded area with normal conjunctiva which by virtue of its mechanical protection and warmth promotes rapid repair of epithelium, necessitating passing of a probe under the flap daily for one week to prevent adhesions, which sometimes occur. My results have been as far as I could observe better, in that I have noted only two or three relapses, however, more could have happened since many cases are not seen after having been discharged.

As to the sliding of the conjunctiva, there can be no objection since in cases of perforation, and in ulcer of the cornea, we detached at the limbus and undermine the entire conjunctiva back to attachment of muscle without pain or complications, following the closure with purse string suture covering the entire cornea for several days, resulting in rapid repair.

DISCUSSION.

Dr. W. R. Buffington (New Orleans): A pterygium is probably one of the most common conditions with which doctors have to deal. Though comparatively simple, its effective removal is very necessary because of the tendency to recur.

In the successful removal of a pterygium three conditions must be fulfilled. First, you must remove the head of the pterygium from the cornea; you must sever all the blood vessels leading into the cornea at the limbus.

Second, you must change the direction of the blood vessels from one which is at right angles to one that is more or less parallel to the cornea. The third is to cover as accurately as possible the denuded sclera. Any operation which fulfills these conditions will be, in a large proportion of cases successful. The operation of choice should be the simplest and the easiest to perform, and the one that has the least amount of surgical trauma.

In the evolution of the McReynolds operation I think we approach more nearly the ideal with a minimum amount of trauma.

First of all, we remove the head of the pterygium from the cornea; we change the course of these blood vessels, by transplanting the pterygium downward, at the same time we bring a flap of healthy conjunctiva over the denuded sclera, a flap with a minimum of blood vessels, the course of which has been diverted from a

direction toward the cornea. I am sure Doctor Whitmire's operation is quite successful, but I think that he has complicated the operation, without improving its effectiveness.

In the McReynolds' operation, you separate the head from the cornea—you make one other incision and then you transplant the head. In doing this you accomplish the three things I have mentioned. I think it is very necessary to cover the denuded cornea with the flap. When you do the McReynolds' operation as it should be done, a flap will come down to the limbus covering accurately the denudation. You will then have made only one incision in the conjunctiva. The post operative treatment is practically negligible in the McReynolds' operation.

In Doctor Whitmire's for several days afterwards one must keep the conjunctiva separated from the cornea, and therefore I feel that while his is a successful operation, it is not an improvement over the original McReynolds.

Dr. A. Whitmire (closing): In answer to Doctor Buffington's statement that the conjunctiva should come just down to the limbus, we know that in the advanced pterygium extending from 3 to 8 millimeters on the cornea, the epithelium has to be removed with the pterygium. That is, when a pterygium has encroached on the cornea, although it be as much as one third of the way across, you must remove the head and you must take with it the epithelium of the cornea. This modification is especially designed to afford a mechanical action to cover this surface until the epithelium is repaired. When the epithelium is restored there can be no adhesions between the cornea and the pterygium, especially when there is a tendency for a normal conjunctiva to cover the diseased surface. That is the only reason we have for placing the conjunctival flap over the denuded surface. If the pterygium has just reached the limbus, then there is no occasion to cover the cornea with a conjunctiva flap, but in advanced pterygium it is especially efficacious.

THE PURVEYING OF FOOD STUFFS IN LOUISIANA.*

OSCAR DOWLING, M. D.

NEW ORLEANS.

The supervision and control of food stuffs, I need hardly remind you, is one of the most important duties in public

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

health work. As I see the problem there are two important factors involved. One of these pertains to the transmission of disease, either directly or indirectly, by contamination; the other to the practice of fraudulent adulteration which though it may not be injurious to health, is at any rate the substitution of a product of inferior quality for one of a higher grade and price and consequently a subversion of honest dealing. Should, on the other hand, these adulterants be of such a nature as to constitute a public danger, adulteration becomes a problem within a problem which we are oftentimes called upon to solve.

So far as the disease transmission is concerned we are all acquainted more or less with the foods which are most easily contaminated and we are especially on the alert to detect contamination where the possibilities are present. Milk is primarily a food product which is most easily contaminated and which requires the greatest vigilance on the part of the health officer. The dairies in Louisiana are continually under supervision, but they are far from being up to a uniform standard. There are a great many derelictions every year which require correction, and I must confess that only with difficulty is it possible to convey the idea of cleanliness to some of the people. It has often appeared strange to me that people apparently prefer a dirty, fly infested dairy to one which is clean and wholesome. Of course I can quite appreciate the expense and loss when a dairyman is required to change his whole method which is often very imperfect and antiquated. The secret of success lies in convincing him that it will cost him less in the long run to put clean, pure milk on the market than it will to market dirty adulterated milk in his cans and battles. Frequently all arguments are futile for the simple reason that the words and advice fall upon a mentality and intelligence which is incapable of imagination. It is often necessary in such cases to resort to force where moral suasion fails to convince.

Probably the dairy inspectors in every state have the same experience; one sees about the same condition of affairs everywhere. The dirty cows, filthy sheds, fly infected milk rooms, uncleanly vessels and a slattern woman or unkempt man with dirty hands taking care of the milk. They will frequently find the foul residue of previous contents still in the can, and yet this individual pours the new milk on top of the old; utterly incapable of distinguishing between dirt and cleanliness. Vigorous inspection, constantly and consistently prosecuted is the only remedy.

During 1924 and January, February and March 1925, 3,590 samples of milk were collected, 409 of which were found adulterated, misbranded or illegal. In two months of this year over 2,300 milk cans were inspected, of which 27 were destroyed. This does not seem very much, but we must recall that the process is continuous throughout the year. There have been eighteen prosecutions during the last few months for some violation of the milk regulations, usually for adulterating with water. Although not infrequently a violation of the Code in the selling of milk below the standard for butter fat or bottling on the street occurs, the old time worn habit of using the hydrant to increase the quantity still seems the favorite method of swindling the public.

When we examine into the psychology of such an individual who thinks he can get by with his moth eaten method, we are driven to conclude that he is either a fool or that he possesses no knowledge of human nature. If he were not a fool he would know that eventually he is bound to be caught. If he had any understanding he would perceive that even the densest mortal would come finally to see that he was being cheated when he used such milk for his morning coffee. And it is just this attitude of the average dairyman that is so difficult to overcome. He resembles the proverbial ostrich in his stupidity.

There is another phase of the protection of the public from contaminated milk which we are trying to effect—the elimination of tuberculous cows from the herds. This is an extremely difficult proposition and the average dairyman used to be even more impervious to reason when he is brought face to face with this regulation than he is when required to be clean. It is true that a great many of the more intelligent ones are perfectly familiar with the tuberculin reaction and know what it means. They, however, will argue that there is no reason why the whole cow should be destroyed because one part of it is diseased. They cannot conceive of the possibility of organisms traveling by way of the blood vessels to the udder, and so long as they do not see any evidence of udder involvement they say why shall we sacrifice the animal.

The more dense and ignorant the dairymen the more opposition will they offer. This, of course, is no exception to the general rule because the unintelligent are notoriously opposed to innovations. Nevertheless we are making good progress in Louisiana with tuberculin testing; during the past fifteen months over 50,000 cows were subjected to it. Of these, 1,191 reacted positively; probably in the neighborhood of twenty or twenty-five thousand cattle will be tested during the remaining months of this year. As a rule we have found that the positive tests have been somewhere between two and three per cent, and these of course have been destroyed.

Unfortunately at the present time there is no provision made for compensating the dairyman for the loss of his cattle, which I understand is done, at least partially, in a number of states, notably in Illinois. In my opinion, the dairyman is justified in claiming a certain indemnity. It means a loss of \$40.00 to \$50.00 for every animal which he is compelled to sacrifice. At the same time he should, though he is not likely to do so, look upon the whole

transaction from an altruistic standpoint and to think of the numbers of innocent children he will be saving from the disability of a bovine tuberculosis infection; dollars and cents, and the provision for his own existence which is not infrequently a meager one, leave no room for charitable thoughts.

We have, however, ample evidence to show that a great many of the dairymen appreciate the necessity for co-operation. They understand what tuberculosis infection means and they know too that they will stand a better chance in the long run of reaping financial success when they can assure their patrons that their cows 'have all been tested and that the milk is safe.

In spite of the difficulties we are making progress and I think the day will come, nor do I believe that it is far distant, when we shall be able to say that all of the dairy cattle in Louisiana have been weighed in the balance and have not been found wanting.

So much for our milk situation. Another feature of food survey is the comparatively recent control of our bottling factories. Since the Volstead act there has been a great tendency to adulterate the soft drinks in one way or another. Usually, the adulteration has been one which attempted to cut down the cost of the constituent which is most necessary, the sugar, and to substitute saccharine. 98 samples of beverages were examined during the months of February and March 1925 and 38 were found either adulterated or misbranded or in some other way illegally sold. In a way this seems to be rather a high percentage, but at least it indicates to us and especially to those to whom this matter is forcibly brought home that the latter are not treading the path of virtue as they should.

The inspections of fruit, especially citrus fruits, have been consistently carried on and a great deal of material not up to

the standard has been destroyed. While there is hardly any doubt that unripe or spoiled fruit may cause gastro-intestinal disturbances of a mild type there is very little reason to apprehend that it will convey any special disease. There is nothing in unripe fruit of a toxic nature; any disturbance which occurs is probably due to the fact that the acid, either citric, tartaric, maleic, malic, butyric, valerianic and possibly other acids have not been converted into salts or changed into other products. Sometimes though there is reason to believe that in many unripe fruits there exist glucosides which may possibly exert a mild toxic action. Such at least is true of the grape fruit, which contains besides citric acid quite an appreciable amount of a substance called narigin. This is a white crystalline glucocide intensely bitter, and if taken in large quantities acts as an intestinal irritant. It may be that this substance is present in unripe fruits both in the pulp and in the rind. It apparently disappears to a great extent in the pulp at least after the fruit has ripened.

Spoiled fruit of course constitutes a fraudulent violation of the regulations which is more in opposition to the principles of economics than it is contrary to public health rules. It is true that spoiled fruit when taken into the stomach may cause intestinal disturbances and the reason for this is probably due to the fact that moulds and fungi produce products of fermentation within the pulp which act as toxins. Many of the dealers of course try to save their losses by resorting to substitutes and for this reason we must continually be on the lookout. Even they are beginning to appreciate that if they require the proper handling and the proper packing of perishable goods that they will be able to save themselves endless trouble and annoyance and perhaps also financial loss.

Our meat inspection at the present time is not satisfactory. In the larger cities

this is under the jurisdiction of the City Board of Health and to judge from the conditions of many markets there is every opportunity for fly borne infection of two distinct types. You should realize that flies may not only carry organisms, but that they will if offered the opportunity deposit their ova upon the exposed meat and vegetables. Such is notably the case with the species *Lucillia caesar*, the *Sarcophagidae* and *Fannia canicularis* to which have been ascribed more cases of intestinal myiasis than to any other species. Its larvae are generally bred in foul vegetable and animal matter and necessarily will be found very closely associated with the meat stalls.

In our markets there have been detected so far eleven families of flies which include fifty-four species under thirty-nine genera. Among these was also found the fly *Eristalis tenax* which produces the so-called "mouse tail" larva and also intestinal infection. Quite recently in the *Journal of the American Medical Association* a case of infection with this fly larva was reported.

We have also noted an incident of infection of the kidneys by the larvae of a wingless fly belonging to the genus *Puliciphora*. This was evidently contracted while eating shrimp which had been exposed.

I think this is sufficient to indicate to you that there are other dangers besides the transmission of bacteria that exposed meats and vegetables can be responsible for. Flies themselves are not only filthy, but they are a distinct danger because they readily transmit paratyphoid, typhoid, dysentery, streptococci and whatever other organisms may be involved in intestinal infections. I have no doubt that many fatal dysenteries of infancy, even those traceable to milk, are ultimately fly borne diseases. Flies in markets deserve more thorough study by trained entomologists, but above all things the manner of suppressing them should be forcibly

brought home to the occupants of meat and vegetable stalls in the public markets. This can only be done when we know the mode and season for breeding which is by no means the same for all fly species or even genera.

There is one other article of food which demands our attention because of its potentialities as a disease carrier. This is the oyster. A live oyster may figuratively contract typhoid when the sewage of a water course is allowed to flow into the breeding grounds. Wholesale contamination of an oyster bed is not unknown. Incidences have occurred off the coasts of New York, New Jersey and Massachusetts where the oysters which have been harvested were found heavily infected with colon bacilli which opens up the possibility of typhoid contamination as well. This was notably the case in 1921 when the completion of the Passaic Valley project allowed three million gallons of sewage to be poured daily into New York harbor. It was held that the direct marketing of oysters coming from Raritan Bay would have to be prohibited on this account.

Precautions taken at that time were the result of lessons learned in epidemics of typhoid fever directly traceable to this form of pollution. The New York State Conservation Commission co-operating with the New York Health Department and the Federal Department of Agriculture as well as with the U. S. Public Health Service, however, demonstrated that it was possible to reduce the contamination by the judicious use of chlorine. A new contamination of the oyster supply has apparently occurred, for Dr. Bundesen in a recent number of the *Journal*, reports something like sixty-five cases directly traceable to blue points harvested in this Bay.

The oyster beds of Louisiana are fortunately almost all safe. It is a well known fact that oysters require a certain concentration of salt, that is, there must be

a reasonable admixture of sea and fresh water for the optimum development both of size and of flavor. The fresh water element which oysters demand frequently implies sewage contamination. Heretofore we have not heard of any cases of typhoid that we could trace directly to the contamination of oysters. It should, though, be borne in mind that with us the oyster is generally eaten from its shell and that aside from the single chance of contamination in the bed itself the animal is not exposed unless it be to the knife of the opener at the oyster counter. It is a different proposition when the oysters are shucked; the chances of contamination are necessarily greater. Fortunately with us shucked oysters play but an insignificant role.

The blue points which are responsible for the Chicago epidemic were all shucked and could be traced not only to Raritan Bay but to a shipper in New York, though there is nothing to signify that the shipper or his employees were responsible. The dealer in Chicago could be excluded. It would seem that the oysters were originally infected at the beds and that the shucking which kills them and the subsequent storage led to enormous proliferation of the typhoid organism in the juice.

The present condition of our shucking plants leaves much to be desired from the sanitary angle, and we should not be surprised some day to hear of an epidemic of typhoid at the points of destination traceable to Louisiana shucked oysters. The unshucked oysters have shown excellent tests in a recent survey made in conjunction with the Louisiana Department of Conservation; shucked oysters, however, have shown a considerably higher score. Some scores have been in the neighborhood of 500 and some as low as 3 or 4. As I recall, a score of 320 was regarded as a good margin of safety in the investigation already referred to.

I cannot close my paper without referring to another source of danger to which the

public is unknowingly exposed and of which we have been able to detect at least one excellent example. This is the possibility of arsenical poisoning by vegetables which have been sprayed either for the purpose of destroying ova or larvae of parasites. As a rule the materials used in the sprays are innocuous. Occasionally arsenical compounds are employed. These may be the very soluble sodium arsenite or the less soluble acetoarsenite of copper, commonly termed paris green. Very minute quantities of arsenic are sufficient to destroy almost all forms of parasites, especially the larvae of moths which lay their eggs in cabbage tops or at the roots or in the stalks of vegetables. These vegetables, however, may retain sufficient arsenic to become a real element of danger to the consumer. Even very small quantities of the arsenites occasion distressing gastro-intestinal, liver and kidney irritation in susceptible people; they may even be fatal to weak children.

We have been successful in preventing a car load of celery contaminated in this manner from being sold to the public. As soon as it was determined that the celery was unsuitable for consumption, the carload was destroyed. It is very regrettable that incidents of this sort occur. It means a great wastage of material to the shipper and at the same time it represents a distinct loss to the consuming public. The whole reason is to be sought and found in the ignorance of the producer. Again we are compelled to revert to the original interpretation of most of our evils: the stupidity and lack of intelligence or wilful negligence on the part of the producer. This in turn is to be sought partly at least in the struggle for existence and the lack of education so that after all he is not always entirely to blame for it.

It is a hackneyed phrase that "times change and people with them," but it contains both substance and truth. The day will come when everybody will be enlightened as we are now in the methods of pre-

venting disease, and furthermore the more intelligent they become the more amenable they will be to rules and regulations which we devise for their protection. The schools of the future are bound to revolutionize the attitude of the general public toward the health measures if they do their duty as they should. They will make better citizens because they will teach health and the healthy, instructed citizen will not present the attitude of opposition which he now offers to many of our attempts to keep him in the straight and narrow path.

DISCUSSION.

Dr. J. M. Kittrell (Laurel): We should appreciate the paper we have just heard because just at this time the attention of the State of Mississippi is turning more to the question of food protection than ever before. This paper contains many valuable suggestions and much information that can well be put into practice in our own state. It would be a case of carrying coals to Newcastle if I attempted in any way to elaborate or to add to the ideas and words of the paper. I shall therefore attempt merely to reiterate some of the points he has brought out and to make a few suggestions as to how they might be applied in this state.

To begin with, right here in Mississippi, as well as in Louisiana, we oftentimes encounter peculiar psychology, not of the producer, but of the consumer, toward the question of pure food. To borrow an idea from one of our own public health workers, we have too many people who seem to relish the flavor of filth.

Another matter which I would like to call to your attention is the order in which various questions are handled. Unfortunately, most of our health departments, on account of finances and personnel, cannot take up all of the problems that a full time department could handle, and in my humble opinion the most necessary requisite for a successful health department is to be able properly to evaluate the various lines which it might incorporate into its program. Oftentimes such decisions are rashly made, something is just half started, and of course is not successfully carried out, while something perhaps more important is neglected. I know of a nice little hill town in Mississippi, which last year spent \$2,100 for meat inspection, but not a cent for milk inspection, and their milk supply was rotten. When I approached them on this subject they said that was something the people wanted, and this line of thought brings us to one conclusion, and that is that the whole

proposition of the health worker and the activities of the private practitioner is essentially educational.

Dr. D. J. Williams (Gulfport): I wish to thank Dr. Dowling for his criticism of the unsanitary conditions that he may have found in Biloxi. I might explain that he may have been served spoiled food, because of the fact that the restaurant people supposed he was used to that kind of food in New Orleans.

I shall refer briefly to the matter of meat inspection; locally and nationally meat inspection is inadequate. It has been my pleasure to visit recently one of the large slaughter houses of this country in a city of over 200,000 people, there I saw carcasses being prepared for shipment where the lungs and intestines showed tuberculous lesions, and still this meat was stamped and shipped out and the poor fellow receiving this stuff received it in good faith, thinking that the stamp of the national inspectors is adequate and affords protection. It is my opinion that it is not a sufficient guarantee of wholesome meat. In our local slaughter houses, inspection is equally inadequate and I will say to Dr. Kittrell that where that \$2,100 was spent in one of his cities, the people probably did not receive 21c worth of protection. Very few inspections are made with the view of discovering parasites, and when they are discovered, that part of the carcass is condemned and they give you the balance to eat. Six years ago the principal meat supply of this county was from Florida, and of inferior quality. We succeeded in getting a better meat supply by encouraging one or two of our markets to handle first class meat. Our milk supply is rotten and when we get after the dairies, we get no milk at all. We had one man in court for supplying low grade milk. He immediately began shipping his milk to New Orleans where it could be pasteurized. Last winter we had an epidemic of typhoid fever within five blocks of where we are here in Biloxi. Within this densely populated area, there was a dairy that had been under suspicion for some time, but we could not get the dairyman to move his dairy. One of Biloxi's citizens made a tour of the interior and came back with typhoid fever. He lives within a block of this dairy, and there are 200 or more pit toilets in this area. We have 10,500 of them in this county, so that it is impossible to look after all of them. It so happened that the pit toilet of this man that had typhoid fever was out of condition, it was not fly proof. This dairyman had kept the flies from his dairy pretty well, so that we could not prosecute him, but the flies got into his milk room and we had seven cases of typhoid fever within two weeks in Biloxi. Each victim con-

sumed milk from this dairy. The dairyman himself contracted typhoid fever and very nearly died.

Now as to shellfish—I wish the entire Association of canners of fish were here to hear what I have to say. The situation in Mississippi and Louisiana with regard to oysters is awful. In the majority of instances when you buy oysters they are not safe to eat, because they are shucked under unsanitary conditions.

With reference to fruit, I had some of that bitter grapefruit on my own table this morning. Fruit inspection is an interstate problem. The Federal Pure Food Department should see that all fruit offered for sale in interstate trade is mature and wholesome. We are not eating enough fruit because of the high prices and poor quality. Proper Federal and local inspection will provide us with better fruit at much cheaper prices. The only way to do is to make trade conditions so difficult for the unsanitary food handlers that they will have to get out of business—that is the only salvation. Then let each and every man report to the Health Department every unsanitary condition in the county and you will be doing your part.

Dr. Oscar Dowling (closing): Doctor Williams is right about conditions being bad in New Orleans in many respects. Not long ago a new market was opened and I bought some meat and took occasion to tell the man that I represented the State Board of Health. I sent the meat home and when I got home my wife asked me what in the world I meant by sending that sort of meat. I looked at it and I am sorry to tell you that it was unfit for human consumption. I sent it back, giving the reason, but I have never had an opportunity to go into that section of the city to make a second inspection. I think Doctor Kittrell is right that people will pay for what they want, and when those people wanted meat inspection they were willing to pay for it. When the people demand better milk and better fruit, it will be forthcoming. As far as meat inspection goes, it cannot be relied on. I watched two inspectors working, the Federal inspector and the city inspector, and the city inspector came along and when he saw the stamp of the Federal inspector he immediately placed his below it without ever looking at the meat. It seems to me a waste of money to have that man doing that work—how much better it would be to use that money for some other purpose.

The markets in New Orleans are now before the courts and on the 18th of of this month it will be determined whether or not the markets

are to be reconstructed and made sanitary or what disposition is to be made of them. We have been fighting for this since 1911. I hope they will be put in good condition and that when you go to New Orleans again or to any other part of Louisiana, you will find excellent conditions. Let us all join hands and work together for higher health standards, cleaner conditions for the handling of food, better and more wholesome food, and then perhaps we will all live to be at least 100 years of age.

THE HETEROPHORIAS: ETIOLOGY AND TREATMENT*

Preliminary Report.

By ROY CARL YOUNG, M. D.

SHREVEPORT, LA.

In choosing Heterophoria or muscle imbalance for the title of my paper I realize I have chosen a subject about which much has been said and many theories advanced as to the cause. It is certain, however, that all cases cannot be satisfactorily explained by any of these theories, and for that reason it would be well for us to study each case individually and not the class as a whole especially since so many eminent ophthalmologists are not in accord.

It would be to our ultimate advantage to believe that this condition can be caused by several more common etiological factors than have been advocated, and from this line and correct any and every abnormality found present in patients suffering from Heterophoria and study the end results.

Heterophoria, according to Ballantyne is the term applied to the condition characterized by faulty postures of the eyes, normally latent, but rendered manifest by the temporary suspension of binocular vision.

A review of the literature will show the divergence of opinions expressed as to the cause or causes of the above condition. Ac-

ording to Barnes, heterophoria may be regarded as a form of neurasthenia. Fox states, "Factors necessary to cause a more or less constant Heterophoria to assume a pathological significance are conditions which devitalize the muscles and nerves in general, and under this fatigue and exhaustion in general; and then fatigue and exhaustion of the eye muscles from over work and the presence of an insufficiently corrected ametropia, anemia, nervous prostration, malaria, influenza diphtheria, etc., and similar disturbances." He further states that faulty attachment of the muscles and congenitally weak muscles may cause heterophoria but it is doubtful. Lancaster's theory is that it is due to improper nervous control or co-ordination of the eye muscles. The "All or Nothing" theory that he speaks of regarding a nervous impulse and muscle fiber contraction is an accepted fact which has been proven by physiologists. Savage's theory is that heterophoria is caused from lack of tone. Stevens advances a theory that the cause of heterophoria is found in the vertical meridians of the retina and that these *de-
clinations* depend on orbital peculiarities, such as tendon insertions etc.

Most of these theories advanced, in my opinion, have explained how heterophoria can result from a mechanical standpoint by lack of muscle tone, improper co-ordination, muscle spasm, nerve fatigue etc., but no one with the exception of Fox has attempted to say what causes these changes which in turn result in phorias. I concur, to a large extent, to the views expressed by Fox but believe that we should go still further. A man limps because one leg is shorter than the other, but what caused that shortness? Is it the result of an old fracture, a tuberculosis hip or some other condition? I assume this attitude in attempting to trace the causes of this condition and, from my study of these cases, I am of the firm conviction that we may place the etiological entities under two great heads:

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

- (1) Congenital.
 - (2) Acquired.
- The Congenital may be subdivided into:
- (a) Improper attachment.
 - (b) Congenital ametropes.
 - (c) Inherent protoplasmic deficiencies.

The Acquired comprise:

- (a) Refractive errors.
- (b) Infections.
- (c) Overwork.
- (d) Intoxications.
- (e) Age.

Under the congenital causes, those showing faculty attachments, for instance if examined carefully would show other morphological stigmata, such as highly arched palates, etc. Those with inherent protoplasmic deficiencies will exhibit certain psychoneurotic and neurotic tendencies on careful neurological examination. Others belong to that great class of hypoplastics suffering from some viseroptosis and so on.

In discussing the acquired causes: (a) Refractive errors cause a large percentage of the lower amounts of this condition. A refractive error or an improperly corrected refractive error will often produce various amounts of Heterophoria. This type is undoubtedly due to the strain on the accommodation and the convergence which results in fatigue of the structures involved, and a thorough refraction will relieve this condition. (b) Infections.—This comprises tuberculosis, syphilis, influenza and all of the acute and chronic infectious diseases, but the conditions that I especially desire to call attention to are the focal infections and in particular those of the sinuses, tonsils and teeth. Although the last three named are most frequent and important, we should not forget infections of the abdominal viscera and pelvic organs. (c) Overwork. The heterophoria resulting from this condition is only an ocular manifestation accompanying a general fatigue of the whole body. (d) Intoxication. Chronic intestinal toxemia is the most usual, but we must be on the lookout for nephritis accompanied by high

blood pressure, diabetes, hyperthyroidism etc. This class furnishes a comparatively small percentage of the cases. (e) Age. Peter calls attention to a class seen from the age of forty-five up which shows exophoria," and termed by him "accommodating exophoria." I have had a few of these cases in whom no other cause could be found and hence I feel that they are due to the catabolic changes of advancing age. Just why this condition occurs in some and not in others, I am unable to say, except that it is due perhaps to certain peculiarities of the makeup of these individuals.

In a series of one hundred and seventy two cases of heterophoria studied by me the following were found:

- (a) 85 cases were due to refractive errors.
- (b) 53 cases showed definite pathology in the ear, nose or throat.
- (c) 13 cases were classed as being due to the changes of advancing age, or as Peter calls it, "Accommodative Exophoria."
- (d) 5 cases were psychoneurotics, diagnosed by the neurologist.
- (e) 4 cases showed infected teeth.
- (f) cases were chronic intestinal toxemias.
- (g) 33 cases were definitely tuberculous.
- (h) 3 cases had infected teeth and tonsils.
- (i) 2 cases were nephritics.
- (j) 1 case was an epileptic.

It was interesting to note that in those cases of Heterophoria requiring a nasal or sinus operation the condition usually increased from 3 to 8 P. Ds. after the operation, and that unaided the proper exercises this condition remedies itself so as not to cause symptoms.

Diagnosis: A careful history of the patient is of the greatest importance; especially regarding the ear, nose, throat and teeth. Patients are often prone to make light of their case and do not attach much importance to the questions asked. The ocular history should be taken painstakingly and in detail. A thorough preliminary examination should be made including the accommodation near points of each eye with the range of accommodation.

The convergence near point should also be taken. Cover test and tests of ocular movements may not give any definite information but they are just links in the chain. The muscle balance test for distance, and for near, at 13 inches or thereabouts should be made. I consider the near point test of far more value than the test at 20 feet, as patients often show no muscle imbalance or only 3 or 4 degrees of exophoria or esophoria for distance while for near they will show larger amounts of exophoria, even as high as 15 or 20 degrees, or again may show esophoria for distance with a marked exophoria for near.

Following the preliminary examination, if I am at all doubtful concerning the ears, nose, throat or teeth, I refer these patients to the specialists in this line before proceeding further. Should a condition such as nephritis or a neurosis be suspected, I proceed with the refraction and then refer the patients to the internist or neurologist.

The treatment may be considered to consist of:

- (a) Nonsurgical.
- (b) Surgical.

Nonsurgical treatment: After a knowledge of the general condition is acquired, the refraction is done under a cycloplegic unless the subject is a presbyope. The strongest glass that can be worn is prescribed, cutting the spherical but never the cylindrical corrections. Prisms should be prescribed only in certain selected cases. In hyperphoria they are very useful and usually give good results when combined with other measures. In exophoria, with the exception of the so-called "Accommodative Exophoria" in which I do prescribe only for near work; I see no reason to prescribe prisms. If the cause is removed, the patient put on the proper exercises and properly treated, we can do without them. Muscle exercises: The pencil pointing exercise is the most

simple and if carried out properly, will give good results. General treatment: These patients should be put in the best possible condition and instructed along these lines. It is good to advise these patients to undergo a semi-annual general physical examination by a competent internist. Cases of esophoria I usually refer to the neurologist for an examination to rule out vagotonia or allied conditions. The cases of esophoria are given doses of 1-40 grain of strychnine sulphate three times a day.

Surgical treatment: This consists of an operation and the type is left to the judgment of the surgeon, but it should not be resorted to until certain that the condition will not and cannot be remedied by other means.

CONCLUSIONS.

- (1) Tests for heterophoria for distance and near should be done routinely in every case of refraction.
- (2) Heterophoria can be secondary to pathology in other parts of the body.
- (3) This pathology when corrected often results in a relief of this condition.
- (4) If no other pathology is found, then and then only can we say it is congenital.

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DISCUSSION.

Dr. Marcus Feingold (New Orleans): Heterophoria is one of the many affections in ophthalmology about which we know the symptoms, the discomforts, and even the treatment very much

better than we know the cause. The reason for our lack of knowledge of the cause of heterophorias is comparatively simple. The defect producing the lack of balance is so slight that no anatomic cause can be found, and a distinct heterophoria, well observed during life time according to all the rules of ophthalmology, will on a thorough anatomic study, show nothing to explain it. We must assume then there must be something underlying which is beyond our present ways of exact determination. And similar conditions exist in other directions. We are all born with biceps, triceps, deltoid and the many other muscles, but not all of us are expert tennis players, not all of us can equal Babe Ruth, and all of us do not even write alike. That means that, while all of us are provided with the same number of muscles, these muscles do not function the same way in all of us, and the complete and finer control of these muscles is not the same in all of us. The conclusions then must be that the heterophorias are based not so much on anatomic as on some peculiar constitutional, protoplasmic disturbances of the nerves and muscles which control the correct muscular balance of the eyes. Because we find an error of refraction, because we find tuberculosis in the patient, because we find him having some nose and throat trouble, or some abdominal condition, does not follow that these conditions are the cause of the heterophoria (heterophorias). It is much easier to assume that a muscular equilibrium which is just on the borderline of perfection will be destroyed by the slightest disturbance, general or local. Thus, general disease, fever, loss of weight, loss of sleep, or errors of refraction and so forth, having produced a greater drain on the neuromuscular apparatus, will destroy the small amount of reserve power which was necessary, because of a slight congenital defect, to maintain the normal balance. This additional drain bankrupts the patient; his muscular balance has gone because he has lost the reserve force that just kept him in proper equilibrium.

There exists though a physiological heterophoria, the so-called accommodative exophoria of advanced age. In all older people without exception, if we examine them carefully enough, and slowly enough, an exophoria ranging from 8 to 15 to 20 diopters of weakness of convergence can be found. I cannot help thinking—and in Tennessee I might not dare to stress what I am about to say right now—that the binocular action of the muscles, especially the function of convergence is, phylogenetically, a rather young acquisition of the human race, and for that reason one of the first functions that gives way. The exophoria of advanced age may therefore be

looked upon as a neuromuscular weakness because advancing age is diminishing the tonicity of muscles and of nerves necessary for the proper balance. I do not mean to assert that there are no acquired heterophorias. Some heterophorias are apparently the last stages of a healing paralysis of the muscles; others are the result of inflammations, affections of adjoining sinuses, tumors, etc.

To sum up: The heterophorias seem to be based on congenital defects in the neuromuscular apparatus; these defects are ordinarily overcome by reserve energy and become more or less manifest when some external factor comes in, destroying the small existing margin of control.

As to treatment, I must agree with every point made by Dr. Young. Put the patient in excellent condition physically, make him sleep well, let him stop worrying; above all, let him not worry about his eye, give him correct glasses; order pencil exercises; by no means operate; be sparing with prisms, and many of these patients will be benefitted.

Dr. Henry Blum (New Orleans): I would much prefer in so short a time allotted to one for discussion to take up the treatment of heterophoria rather than its etiology, because this can be done more satisfactorily in a short time.

It has been my custom in case of hyperphoria to correct the full error by prisms, and I believe that this is the recognized practice today. It is generally taught that in these latent deviations the hyperphorias are more responsible for the symptoms than are the esophorias or exophorias. Whereas in exophoria or esophoria a correction of only a small amount of error will sometimes give some measure of relief, in hyperphoria it is necessary to correct the entire amount where the deviation does not exceed several prism diopters.

It must be understood that we are not now discussing tropias, but only phorias. In cases of esophoria it has been my custom to prescribe as high a plus sphere as is consistent with good vision, and, in exophoria, as weak a plus sphere as is consistent with the comfort of the patient. I do not like to prescribe prisms in these conditions since I believe that their use will only exaggerate the condition, and especially is this true of esophoria. In exophoria I use convergence exercises and exercises for prism convergence, together with a muscle exercise which I learned from Dr. Reber many years ago. This latter consists of having the patient move his head directly toward an object straight ahead, and then without moving his head to look to the

responsibility for all local health work done in the community. Any interest which subscribes to this plan should be encouraged, informed and set to work attending first to its private health problems and second to supporting community health work.

Any latent interest, antagonistic to this plan of health work, lurking in any individual or group, should be allowed to remain latent. When opposition persists it should not be ignored. Generally speaking, the attention given it should not be denunciatory and nothing more. A good plan is to rub its delicate, flimsy shins, ignorance and prejudice, firmly, persistently and dispassionately with a hard rough brick of facts, which will either cause withdrawal from the contact or the wearing will render them no longer capable of supporting the opposition.

Voluntary health agencies at work on specific problems should transfer their activities as soon as the governmental agency is able to receive them and continue the work with efficiency. In giving over its work, the agency's interest in the work transferred should not cease. Established operating organizations with such broad minds are not always met with. The clash of ideas and personalities and the magnifying of small unimportant details are all too frequent when changes such as these are contemplated or are in process of accomplishment.

It is as important for health departments to confine their activities to health work as it is to extend their activities to the entire health field. Medical relief should be left to hospitals. Welfare and social service work and moral and religious reforms should be left to their proper agencies, and most of health education to departments of education. Each agency should be made to see its public health opportunity and duty and should be assisted, if need be, to secure the information and means necessary to perform this duty. De-

partments of health can be of great assistance in this.

Health departments cooperating with hospitals, might lead the latter to see and enter a wider field of community service if they feel certain that the department of health is not interested in encroaching upon medical relief. The same holds true for welfare and social service work and reform movements.

Departments of education will leave school medical inspection to departments of health where they are sure that routine school procedure will be benefitted and not interfered with by such action. Their proper business is education. It would be regarded as absurd if some official or unofficial agency other than the department of education should undertake to teach all of the writing needed by a community. It is more than possible that the same is true of health education here. Certainly, departments of health will have done their most effective health education when they have performed well, while handling health problems which confront them. This is the only good base from which to launch easily and safely health propaganda and publicity. Through these we reach a part of the public, but as a rule, it is that part best informed and least in need of health information. All too frequently health propaganda and publicity are accepted as health education which is true only to a slight degree.

It is hardly true that a special system of pedagogic methods is required successfully to teach health to children. The greatest obstacle to adequate health education in our schools lies in the fact that teachers are lacking in health information. The universities, colleges and normal schools, where teachers are trained, should recognize this deficiency and remedy it. Departments of health might, through special courses to teachers, temporarily and partly remedy this while the proper training institutions are neglecting this duty for one cause or another. Studying health affords

facts for mental training as well as useful information applicable to our daily regime.

Proper relationship with the above and other agencies can be built in no way except through mutual confidence, which will arise only when effective procedure, honesty of purpose and fair dealing are employed.

There is too little honest co-operative work attempted between agencies and too much antagonistic talk. There is too much neglect of important legitimate fields of work outside one's proper sphere, where, on this controversial ground, antagonism most frequently springs up and flourishes. There is too little frankness about our own and too much ignorance about other's work. All of this must be overcome before the health work of a community will prosper to the fullest extent.

How shall such a department of health be built and maintained? The procedure is not different from that used in successful business.

(1) *An accurate plan* based on the communities' needs must be made. In this plan, building and maintenance can be separated. Accurate information concerning the health needs of the community must be made the basis of this plan. Many failures in health work are due to the fact that the plan of an improperly qualified person has been attempted. Generally speaking, the department should be developed division at a time with adequate maintenance available from the start.

(2) *A detail budget is indispensable* to the proper financing of the department for in it you express in dollars the relative value and importance of the activities engaged in.

(3) *Since the business* of operating a department of health is in the *last analysis governmental*, there must be authority at law regulating its activities. The right type of personnel will thoroughly familiar-

ize itself with the provisions that the law makes and direct all official activities accordingly.

(4) Administrative and technical personnel should have *special training and experience*. They should devote their entire time to departmental work.

With an adequate plan, an expressive budget, clear authority and trained, diligent personnel, a department of health can hardly fail. When it comes to deal with courtesy, with dispatch, with accuracy, with thoroughness, with firmness and with courage, but, these should be tempered with common sense and fairness without prejudice or preference.

DISCUSSION.

Dr. J. B. Black (Jackson): I have enjoyed very much the paper by Doctor Durrett. It is very concise and to the point. Relative to the organization of a city health department, my experience is rather limited, but one of the first things we had to confront when we started to organize our city health department was the matter of personnel. You know if you go into eastern cities where they have had health departments for some time, these departments being organized during the period when health departments were looked upon as sort of rubber stamp affairs, you will notice a lot of decrepit and old, worn-out men sitting around at different desks—just relics of the beginning of the organization of the health department. And if you go to organize a health department now in any city where they have had no organized effort along that line, if it leaks out that you are after sanitary inspectors, for instance, it is very interesting to see the kind of men that apply for employment. The halt, the lame, the one-eyed men, all kinds of decrepit-looking individuals come because they have heard the city was organizing a new department and they want employment.

Sometimes you find some embarrassment when you refuse to accede to their demands and insist on employing a younger man who has a disposition to get out and do things. If these men can exercise political influence, they will try to disturb your equilibrium along that line and sometimes it really makes us shaky and we think we are up against it. Doctor Durrett made a good point when he said that in organizing a health department you must have people who are trained to know what they are doing, people who

know something about making sanitary inspections, nurses who know something about public health work. Then when you get in it you will find a good many old ideas about public health work. For instance, in almost any city when you begin you will find the people will beseech you immediately to fumigate houses, they will want you to take care of weeds. If I had cut all the weeds in Jackson that I have been called upon to have cut I would not do anything but cut weeds. One of the first things you must do is to get before the people the idea that this is something that is getting at the fundamentals of public health, that it is not just fumigating houses and cutting weeds. You must outline the particular thing. First, you must look over the situation and see what the things are that are important and then begin to direct your efforts towards these things. It is not well to start too many at one time, but select the most important things and direct your efforts towards the ones that are most needed. Then as you proceed you can take in these other things, but do not let them swamp you with these minor details of public health work.

You will get a good many obstacles in organizing public health department in cities, and one of the most formidable is the question of financial backing. People who own quite a bit of property do not, for instance, want to connect the negro houses with the sewerage system. They are perfectly willing to screen the houses, but they do not see any sense in putting those houses on the sewer line, and when you begin to press it they will come in and work every wire that can be pulled in order to get away from that, but you must go right after it—do not think about your job, but just shut your eyes and mouth and go right after it, whether you lose your job or not.

In most cases it is a good thing to listen to people. When these men come in and sit down and you reason with them, you will be surprised how reasonable men are, although they may have money involved. The other day a man came into my office, a real estate man who had several houses, and it was going to be a large expense to connect them with the sewerage system. I had a map and pointed out that they had 25 cases of typhoid fever last year. I told him our aim was to better the health conditions in this city, and after I had talked to him and explained it to him for a while he left in a good humor and was perfectly willing to go ahead and make the sewer connections. You must also protect their interests as much as possible. They complain oftentimes that the sewerage system will be abused. The first thing we did was to get an ordinance that would make it an offense for any

person to abuse the sewerage disposal system, and then we outlined a plan how to proceed, how to build these houses, so that they might know whether they were abused or not, and therefore protect the man against the carelessness of his tenants.

Doctor Durrett said you must know what you are going to do. If you do not know just how to proceed do not proceed until you do know. Delay until you fully establish in your mind how you are going to do it, but once you have made up your mind how you are going to proceed, go right out and do not let anybody turn you aside.

Dr. J. J. Durrett (closing): The doctor has made some very good points, for which I thank him.

Arriving in Memphis in 1920, I found a long list of applicants for positions in the department. They had every reason why they should be employed except that they were qualified to do the work. You can't employ such personnel and run a department of health successfully.

Already employed were many old persons who couldn't work and some younger ones who wouldn't work. The old employees were treated with courtesy and fairness. They were given tasks suited to their age and ability and some were pensioned. Those who could but would not work either resigned voluntarily or involuntarily. We now secure all nurses and sanitary officers through civil service examinations with a three months' probationary period before permanent employment.

Tenant property is a serious problem and we have finally come to the practice of vacating it if the owner refuses to keep the property in a condition of repair so that reasonable sanitary conditions can be maintained.

This sort of procedure will get results. It will also make temporary enemies for the department of many persons affected by it. If a person is unwilling to face this he has no business trying to be the head of a department of health in a large American city.

FURTHER DISCUSSION OF THE GALL BLADDER.

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As I stated in a former paper on this subject, I will not try to cover all details of gall bladder surgery; I will endeavor in a

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brief way to write a paper that will bring out a discussion which will tend to make some contribution to the recent work done in the proper treatment of gall bladder disease. The text of this paper will be conclusions drawn from my own personal experience, and what I have learned from others.

Many points are to be considered in treating gall bladder disease successfully:

First, we must be sure whether or not the condition being treated is primarily a gall bladder condition.

Second, we must agree that the great majority of the diseases of the gall bladder and ducts are due to an infectious process arousing distinct changes in their walls.

Third, we must remember that changes in the gall bladder and ducts may often be secondary to some other more or less pronounced primary condition, and should surgical intervention of the gall bladder alone be resorted to, we do not cure our patients and have poor results.

Fourth, we should not overlook the gall ducts in all gall bladder diseases.

Fifth, subsequent diseases often cause patients to be dissatisfied with the results in gall bladder surgery.

Sixth, and most important, gall bladder surgery should not be resorted to until we are sure the gall bladder is involved.

To take up the more definite and frequent conditions which are attributed to the gall bladder and biliary passages, the mildest of these is a simple cholangitis in the acute form, or more often catarrhal jaundice; the symptoms of which are simple jaundice usually progressive in type, accompanied with or without fever and usually associated with gastro-intestinal upsets, loss of appetite, etc. This condition is undoubtedly caused from a mild infection or edema of the ducts and is essentially obstructive. In this disease, the surgeon has no place; the treatment should

be entirely medical, the treatment also being directed to the accompanying gastro-intestinal condition. Acute cholangitis usually runs an uneventful course from a few days to a few weeks and leaves no bad effects, however, such attacks may be the starting point of other diseases of the biliary tract.

Chronic cholangitis is rare without some permanent severe lesion of the biliary system, such as cholelithiasis, cancer, etc., but may occur independently in which case if a diagnosis can be made, the treatment should be medical.

Cholecystitis is most frequent of the biliary lesions and is most frequently caused from a stagnation of bile in the gall bladder. This stagnation of bile itself is secondary to the infected process of bile ducts. This condition is both acute and chronic in form.

Acute cholecystitis may vary from a very mild catarrhal condition to a virulent suppurative or gangrenous type. Inflammation may subside quickly with drainage through the cystic duct, in which case symptoms disappear very rapidly; on the other hand, the process may continue suppurative or gangrenous in type. The symptoms in the acute form are usually pain and tenderness in the upper right quadrant, moderate temperature, spasm of the rectus muscle, usually accompanied by nausea and vomiting. Surgeons differ as to the proper treatment, but it has been my opinion that operation should be deferred until the acute symptoms have subsided, in which case we use an ice bag to the abdomen, the patient kept under observation in bed and given saline cathartics. After these acute symptoms have subsided, I believe cholecystectomy should be resorted to. Should the attack progress and not subside on treatment, then it would be better to do a cholecystostomy, and at some later date do a cholecystectomy. Simple acute cholecystitis may or may not be followed by other attacks, but as most

frequently the causative factor remains, subsequent attacks will follow; this is often followed by a chronic cholecystitis, frequently hydrops of the gall bladder is apt to follow.

Empyema of the gall bladder or suppurative cholecystitis usually follows the milder catarrhal cholecystitis, but may be independent starting suddenly with chills, fever, great pain, tenderness and rigidity in the upper right abdomen, accompanied by nausea, vomiting and elevation of temperature. These symptoms may be only of moderate severity, or may be very severe indeed. The condition may subside only to return again, or it may progress to a gangrenous type with rupture of the gall bladder. As I have stated, it is not wise to wait too long before operating in acute cholecystitis, but some time should be taken to see if the attack will subside, for it is much safer and easier to operate after an acute attack, has subsided, and also at this time the gall bladder can be removed at the primary operation. In the acute stage of empyema of the gall bladder, the gall bladder is very much distended, edematous, tense and cannot be emptied. The cystic duct is in all cases, very much edematous and obstructed. If previous attacks have occurred, there may be pericholecystitic adhesions.

It is difficult to differentiate a phlegmonous cholecystitis and gangrenous cholecystitis, but as both conditions are severe and demand immediate operation we are not interested in differentiating them. In gangrenous cholecystitis the gall bladder if it has not been ruptured is very dark in color and rigid and its walls friable. The contents consist of bloody, dark pus and sometimes sloughs. If the gall bladder has ruptured then the symptoms are those of peritonitis and the case is most often fatal. Rather than do a cholecystectomy at the primary operation in this condition, it is usually better to wall off and drain the contents, and then remove the gall bladder at a second operation.

The symptoms of various types of acute cholecystitis are most variable, varying from mild to very alarming and may be gradual or sudden in onset.

Pain is a constant symptom and may be dull and aching or severe and continuous with exacerbations. Pain may be local in the epigastrium or diffuse. It may be referred to the back or right shoulder, or though rarely, the pain may even be referred to the appendiceal region.

Nausea and *vomiting* are variable, usually present at the onset, but may be very slight or absent.

Rigidity is always present over the gall bladder, but is also varying in degree.

Tenderness is usually marked, this may be local over the gall bladder or diffuse over the entire abdomen.

The gall bladder may often be palpated, especially if it is greatly enlarged, but due to the tenderness it is often not felt.

The blood count is always increased.

As stated, the treatment is surgical. Removal of the gall bladder is the operation of the choice, but where it cannot be quickly and safely removed in the acute attacks, we should resort to drainage of the gall bladder, but surely a cholecystectomy should be done at a subsequent time.

Simply to repeat what I have stated above, I differ with the surgeon who always operates in the acute attack, and I believe this is the opinion of most other surgeons. Whenever possible the acute attack should be allowed to subside, but should the symptoms not subside or become alarming, then immediate operation is my choice. Should the operation be deferred, the patient should be kept in bed, fluid diet, or better, no diet, only water, purgation with cathartics and an ice bag to the abdomen.

Acute cholecystitis may be followed by chronic cholecystitis or chronic cholecystitis may be low grade infection with in-

fection with insufficient biliary drainage, or it may follow in patients with biliary calculi. The symptoms are those of cholecystitis of varying degrees of intensity, and it is impossible to determine in many cases by the symptoms whether or not calculi are present.

Chronic cholecystitis is the one condition of the gall bladder where there is much room for a more definite understanding among the surgeons and physicians, and even among the surgeons themselves.

In a case where a stone exists or where the symptoms are vague, we are not all certain as to the proper treatment.

In a simple chronic cholecystitis, the gall bladder is usually greyish in color, its walls thickened and somewhat edematous, especially near the cystic duct, the duct itself is usually thickened and often the common duct is also thickened; the gall bladder does not empty readily; the bile is very dark; thick and viscid. This type of gall bladder sometimes causes symptoms of cholecystitis, but often the symptoms are very vague. To me this is the most interesting type of gall bladder. Some complain of dizziness, headache, dyspepsia, constipation and with an uncomfortable feeling in the upper abdomen with some slight tenderness but give no history of acute attacks or previous attacks, no distinct pain is complained of. The X-Ray usually shows a thickened gall bladder with the characteristic crescentic or flattened deformity of plainly made out with the fluoroscope. The duodenal cap. The gall bladder at operation is distinctly pathological and in most cases there is no other pathological lesion found, many cases coming to operation having been previously operated and the appendix removed without relief from symptoms. I have removed a great many of these gall bladders, believing that where there is pathology it

should be removed. Previously I drained these gall bladders, but the results were about the same and I may say, disappointing. The patient often continues to complain of the same symptoms.

I have come to the conclusion myself that in a great majority of cases, a gall bladder of the above type without definite symptoms, should not be operated upon. I believe these gall bladders are simply secondary to certain inflammatory changes in the duodenum and duodenal ducts.

As has been pointed out by Pottenger in recent months, many of these cases which have previously been operated upon, have had their symptoms referred from a tuberculosis of the lung or pleura. Several years ago I made the observation that many young people have had a gall bladder operation for these vague symptoms. It has also interested me to see in a series of cases where the X-Ray revealed an enlarged thickened gall bladder, and this condition was confirmed at operation, that these cases all showed hookworm infection, and in the cases where the hookworm treatment was given after removal of the gall bladder, they all improved, but where the patient did not take the hookworm treatment, they were not greatly benefited by the operation. I believe in these cases the hookworm caused a duodenitis and also the primary cause of the symptoms. I have endeavored to demonstrate the hookworm in the gall bladder, but have been unable to do so, but I have no doubt that a great many so-called chronic gall bladder disturbances are secondary to the duodenitis caused by the hookworm infection. The infecting agent of the gall bladder may not be the hookworm, but it is caused by the hookworm in duodenum. Pathologic gall bladders are seen accompanying nearly every case of chronic ulcer of the duodenum. This again shows to me that the gall bladder is often secondary, although I most always remove the gall bladder in these ulcer cases where it is diseased. I have had occasion to see the gall bladder

symptoms clear up if they were present following the cure of the ulcer by operation, without the gall bladder itself being operated upon. I believe that many thickened gall bladders are not at all responsible for any symptoms, although they themselves were the result of diseased condition.

I wonder if some of our poor results in chronic gall bladder infections are not because there is some other primary focus of infection which keeps up an inflammation in the gall ducts. In the case of the hookworm infection I have wondered also, if the reason that we cannot entirely get rid of the hookworm infection in the intestine by medication, is not because the hookworm may implant itself in the gall ducts and the appendix. This chronic gall bladder without definite symptoms in my opinion, should rarely be treated surgically until all other efforts have failed.

It may be well to state here that a simple hydrops of the gall bladder may produce no symptoms, or may be followed by acute symptoms of cholecystitis. It probably should be classed as a chronic gall bladder and certainly is always a menace and should be treated surgically by removal. These gall bladders occasionally reach enormous sizes and are filled with mucoid fluid which cannot be emptied through the duct.

More frequent than simple cholecystitis is cholelithiasis with an accompanying cholecystitis.

The etiology of gall stones is surely an invasion of the biliary tract by bacteria with a mild infection in the presence of a stasis of bile. The stagnant gall bladder is again a source of danger, because it is primarily an infected gall bladder. Most frequently in cholelithiasis we have a previous history of cholecystitis.

The classical symptoms of cholelithiasis, are pain which may be at first dull, burning or gnawing in character and confined

to the epigastrium and may resemble the pain seen in case of gastric or duodenal ulcer. This is usually followed by typical "biliary colic", which is an acute colicky, severe pain the upper right abdomen which causes the patient to writhe around in bed in great agony. This is caused by the gall bladder's effort to dispel or displace a stone which is lodged within it or within its duct. Pain is very often referred to the back, the right shoulder or to the diaphragmatic region.

Tenderness is always present over the gall bladder. Some surgeons give a point, or more specific area of tenderness, but have found this point to depend on the individual case and not constant, and such specific points of tenderness are usually absent.

The gall bladder is enlarged in the majority of cases, but may or may not be palpable because of the position of the gall bladder or the rigidity of the muscles. When the distended gall bladder can be palpated it is felt as a smooth pear shaped mass, usually easily movable.

Fever is present when the infectious process is sufficient to cause it, but in cases of a simple cholelithiasis, it is more often absent. When the infection is confined to the gall bladder, the fever is usually only slightly elevated and when it is very high, there is almost always some involvement of the peritoneum or bile ducts. In these latter cases, it may reach 104 degrees and be very rapid in onset, with a quick rise and fall. Surely there is no reason for a high temperature where the infection is latent, and where the gall bladder is simply trying to displace a stone.

Vomiting is usually present during an attack of biliary colic, but usually absent between attacks. Jaundice is not present

The X-Ray is a great help to us in diagnosis, but negative findings never eliminate the possibility of gall stones and

positive findings are not as constant in our hands, as Case of Battle Creek reports.

The gall bladder in cholelithiasis varies. The enlargement may be very slight or very marked. The gall bladder walls are usually thickened and edematous. The bile as a rule, is thick, ropy and dark in color. The "cholesterin gall bladder" as described by Moynihan, is usually normal in appearance, but the mucous membrane has imbedded in it quantities of cholesterin as fine as sand; in such cases the treatment is cholecystectomy. McCarty described the strawberry gall bladders which may or may not contain stones. They are chronically inflamed and their walls show yellow spots against the reddish background and are attributed to deposits of lipoids and cholesterin. The treatment of this form of gall bladder is also cholecystectomy.

A perforation of the bladder may follow empyema of the gall bladder or cholelithiasis. In any case it is a very grave condition and demands immediate operation and where possible, cholecystectomy. The symptoms are very severe and those of peritonitis being most pronounced at first in the region of the gall bladder. If a localized abscess forms, the symptoms may be entirely localized.

Perforation with localized abscess formation is usually not an acute perforation and usually follows ulceration of the gall bladder wall caused by stones.

The treatment of cholelithiasis is surgical. Cholecystectomy is the operation of choice and should always be done at the primary operation, but where for any reason it is not done at the first operation, it should be done at a secondary operation. It is my opinion that for a permanent cure, cholecystectomy is the only effective treatment.

Just to mention the variety of gall stones—they may be solitary or multiple, sometimes 1,000 stones have been taken

from one gall bladder. They may be of pure cholesterin, or the laminated variety which are composed of cholesterin and calcium salts. A third type is the most common and yellowish or brownish in color and is known as the mixed cholesterin stones. A fourth type which are greenish in color and usually much larger than other types, get their color from the preponderance of bile pigment salts. The pure bilirubin—calcium are usually put in this class.

Statistics show that stone in the cystic duct occurs in about 20 per cent of cases of cholelithiasis and its symptoms are those of an impacted stone as described under cholelithiasis. The severity of symptoms depending on the size of the stone, the acuteness of the inflammation, the roughness of the stone, and the completeness of obstruction. Paroxysms of pain occur until the stone is lodged. In about 70 per cent of cases this pain is referred to the right scapular region. Jaundice is not present in uncomplicated cases. The gall bladder may be large or small, depending on the character or degrees of inflammation in the organ before the stone enters the duct and upon the completeness and duration of obstruction.

The treatment of stones in the cystic duct should also be cholecystectomy; being sure to displace the stone upward before ligating the duct, however, in some cases it will be necessary to remove the stone and simply do a drainage of the gall bladder, in which case cholecystectomy should be done at a subsequent operation.

Stone in the common duct is not infrequent. The symptoms are somewhat like stone in the cystic duct, but are accompanied by jaundice and in many cases, intermittent fever with chills and sweats, following this the intensity of jaundice increases.

There is no enlargement of the gall bladder in uncomplicated cases.

The treatment should be medical at first and after the acute symptoms have subsided, operation with removal of stone should be resorted to. If I am satisfied that there is no great damage to the duct and that there are no more stones in the duct, I remove the gall bladder if it shows pathology, however, if I am afraid of damage to the duct which might result in a stricture to the common duct, I never remove the gall bladder, leaving it so if necessary, I will have some way to divert the bile by doing a cholecysto-duodenostomy. In any case, should one find it necessary to operate on a stone in the common duct during the attack, especially if jaundice is marked, you should be certain that a patient is secreting some bile in the stones before removing the gall bladder; even if no stone is found in the common duct. In case of stricture of the common duct where the gall bladder has been removed, you can sometimes resort to an anastomosis between the common duct itself and the over-lying duodenum.

Stones in the hepatic duct alone are rare, but are found there frequently associated with stones in other locations.

In all gall bladder or gall duct diseases where there is an enlarged common gall duct, it should be explored even though patients have no jaundice and no stones can be palpated from without. An enlarged duct means an infected duct and should be drained; often in such cases stones are found in the common duct, where there are no accompanying symptoms which usually occur in common duct stones.

Carcinoma of the gall bladder and bile ducts occurs more frequently than is commonly thought. Chronic progressive jaundice, without fever, with decoloration of the stools, absence of sharp pain, moderate enlargements of the liver, a distended gall bladder and continuous emaciation are characteristics of obstruction of the common duct due to cancer.

When a nodular tumor of the gall bladder is felt which can be readily diagnosed cancer, the case has progressed too far for surgical intervention. The symptoms of early cancer of the gall bladder are vague; they may be simply the symptoms as seen also in carcinoma of the liver, or there may be symptoms of chronic cholecystitis with progressive emaciation. X-Ray is occasionally of diagnostic value, but usually the diagnosis is made at exploratory operation.

I cannot go further into the diseases of the gall bladder and its ducts, but it may be well to bear in mind that there are many conditions such as injuries and complications after operations. There are also various anomalies, etc.

I believe no paper should be written on the gall bladder without at least stating "Courvoisier's Law," which surely holds good in the majority of cases. "In obstruction of the common duct due to stones, there is contraction of the gall bladder; while in cases of the enlargement of the gall bladder, the obstruction is due to causes other than stones."

In closing this paper I wish to apologize for a great deal of repetition of a former paper on this subject, and I wish to make a few remarks. It is my opinion which is based on a series of gall bladder cases and also on experiences of others, that the operation of choice in gall bladder diseases, is cholecystectomy, and although it is often necessary for us to resort to cholecystostomy, it is a palliative procedure, and should be followed by cholecystectomy. It is my practice in each case where there is an enlargement of the common duct and more especially where multiple stones exist in the gall bladder, to explore the common duct thoroughly and to drain it. The absence of jaundice is no sign that stones do not exist in the common duct.

The differential diagnosis of cholecystitis with stones and cholecystitis with-

out stones, is usually very difficult and often can be made only at time of operation. It is my belief that the chronic gall bladder without definite symptoms, should be operated on with reluctance, and only after every other diagnostic procedure has failed to show a primary condition in some other part.

In the operation for cholecystectomy, I might say that it is only necessary that a large enough incision be made to get sufficient exposure, then the gall bladder can be removed without difficulty, either from above downward, or from below upward. It is important to expose thoroughly the cystic duct in order to prevent trauma of the common duct. I have never felt justified in closing the abdomen after cholecystectomy without drainage, though this is frequently done by some surgeons.

I believe that even in a surgical paper on the gall bladder, I should state my experience with Lyon's duodenal drainage. It has been my experience that this method has no place in the treatment of gall bladder or the ducts, is essentially an infective process of the tissues and no drainage could get rid of this pathology. Lyon's drainage surely does not even drain the gall bladder or its ducts, it simply gets rid of bile which has already been excreted into the duodenum. It stands to reason from the anatomy of the gall bladder and the ducts, that a tube in the duodenum from this tube can do little more good than the oral administration of cathartics. A fairly large series of cases which I have collected, have been drained by the Lyon method and have shown little or no permanent improvement and all cases have come to surgery. The advocates of this method seem to use it not only in gall bladder conditions, but in any condition where the patient will submit to it, and I have seen salpingitis cases and cancer cases drained over a prolonged period by this method with rather disas-

trous results. I mention the Lyon method of drainage simply to condemn it.

DISCUSSION.

Dr. J. W. Barksdale (Winona): I am sure we have all listened with a great deal of pleasure and profit to these two most excellent papers. Indeed, they cover the field of gall bladder surgery so fully that it leaves very little to be said except in commendation. I want to agree most heartily with several points made by both of these gentlemen, and, first, to emphasize the position that Dr. Miller has taken with reference to the history. As Doctor John B. Wyshy used to say, "Let us have the story of the case." I believe in this day we are tending to depend too much on laboratory-made diagnosis in various conditions, and I think it is time we are going back to the fact that we are primarily doctors and we should be clinicians. The man who depends upon the laboratory for diagnosis is not a good clinician himself.

The relative merits of cholecystectomy versus cholecystostomy have been so much in the forefront of medical investigation in the last eight or ten years and have led us nowhere at all, that I think it is a good thing to stay away from. I think the doctor has summarized the attitude of most operators when he says that the operator knows nothing until he gets inside the abdomen. That in my opinion is the proper attitude in which a man should approach every case—to be guided by conditions as found at operation, not by the condition of the patient in general. Not to go in with a set idea of a certain condition and a certain procedure, but to go in with the idea of doing what seems best for the patient at the time of operation.

As to operation early or late in acute attacks, I have just recently had occasion to send out a questionnaire on this subject, as well as one or two others, and I am surprised to find men who operate as soon as diagnosis is made in an acute attack, and those who prefer to delay a little, are just about equal. Out of 138 replies received, 68 said they would operate immediately during the acute stage; 62 stated they would wait for a subsidence of the acute inflammatory condition unless there was present toxemia, gangrene, a rupture, or some urgent symptoms that denoted immediate operation. Personally, I am inclined to believe that the earlier we operate in these cases, the better, because statistics do show that we run across conditions that necessitate operation at a later date when the patient is not in a good shape, and we have gained nothing by waiting, but have subjected the patient to a good deal of risk.

I know that the abdomen is being closed many times today without drainage after cholecystectomy. Personally, I have not had the temerity to do it. One of my friends a few years ago said he had done 20 cases and closed the abdomen without drainage, but my recollection is that two of them had to be re-opened. Doctor Miller says he has not had that accident happen to him. If we can do this without drainage, we will of course have accomplished a great deal for the patient, but there is no doubt that a drain in the abdomen causes disturbance and of course brings on adhesions. I repeat that if we can close the abdomen without drainage, we will surely do a great thing for our patients.

I have enjoyed both of these papers and I am sure we have all listened to them with a great deal of profit to ourselves.

Dr. V. B. Philpot (Houston): I, too, have enjoyed these two very excellent papers and the reports of Dr. Miller from the patients themselves were very interesting indeed.

I would like to report a few cases I have had within the last two years, I believe about 50. I have not kept up with them as Dr. Miller has in securing the end results. In about 41 of these cases the gall bladder was removed entirely, and the rest of the cases were drained. About the only thing I know about the end results is that I have heard no complaints out of any of these patients except two. These two were cases that were drained and returned for a second operation.

Two of the series mentioned above died, and I want to report more in detail one of the cases that died because of the youth of the patient. A child four years old had an acute, suppurative cholecystitis, a gall bladder badly distended and entirely full of pus. I might say that our pre-operative diagnosis was acute, suppurative appendicitis, as the whole right side was rigid and distended and nearly as tender over the region of the appendix as over that of the gall bladder. The blood count showed 32,000 whites, 92% neutrophils.

The fluoroscope showed that the child had, in addition to what we thought was acute, suppurative appendicitis, a badly enlarged heart, but as we considered the case an emergency, we took a chance on operating with the intention of putting in a drain only. On opening the abdomen we found the condition mentioned, i. e., an enlarged gall bladder filled with pus. The patient did well for the first 24 hours, but died suddenly the next day from cardiac trouble. This is the youngest case I have ever seen with such a condition.

Dr. John Darrington (Yazoo City): About ten years ago I had the pleasure of reading a paper before this Association regarding the advisability of draining the gall bladder or removing it. We had quite a discussion. I believe there is only one other subject that will bring forth more discussion than this, and that is the indication for a use of forceps. We might keep it up all day. We were somewhat in doubt at that time and we are somewhat in doubt now, which methods to pursue, but the truth is that in some cases drainage is indicated and in other cases removal is advisable. If either of these methods would give us 100 per cent recovery, we could settle it at once, but you can drain cases and they come back complaining; and you can remove, and they will come back complaining. We do know, however, that infection is probably the cause of gall bladder inflammation. If focal infections are the greatest cause of gall bladder trouble, the thing to do is to look for the infections and remove them. But we are not through with the case when we take out the gall bladder or drain it. The patient requires further investigation regarding the original cause. As the essayist advocated, in certain cases he would drain the gall bladder and then follow with a cholecystectomy. My idea on that is that after I have drained the gall bladder I would wait for further trouble before I removed the gall bladder, because we have all had the experience of perfect recovery and permanent results from simple drainage. Curing the patient is what we are after. Many of these patients will come to you that are not good surgical risks, they have bad hearts, kidneys, their age may be against them, or something else. I think it is good surgical judgment in those cases, and I have done it in several instances, with entire satisfaction, to use a simple local anesthesia and go in there and drain the gall bladder. We know they will get results for a few years anyway, and they may live out their expectancy. Drainage of the gall bladder under local anesthesia should not carry any mortality rate.

Regarding removal, it is always wise to bury the cystic duct after it is ligated. Pull a little bit of perineum over it and nature will take care of it. Where the liver has been damaged by removal of the gall bladder it calls for drainage of the wound. I slip a little drain in the wound in those cases in order that I may sleep better.

But the fundamental principle in all surgical work is to get as nearly 100 per cent. recovery as possible. We are far from that in gall bladder surgery and in many surgical conditions, but I believe we are on the right road when we

are trying to eliminate the original cause of these ailments.

Dr. C. C. Hightower (Hattiesburg): Doctor Gordin spoke of permanent cure. There is "no such animal" as far as I have been able to see in gall bladder surgery. Doctor Miller reports only 67 per cent. permanent cures from cholecystectomy. Every surgeon and every general practitioner knows that every case of gall bladder surgery is not cured, but I have been practicing the last three or four years a little measure which I believe is a great aid in rendering permanent cure in cholecystectomy. It is not original with me—I do not know who first began it—but it has worked out satisfactorily in a number of cases. The trouble is the adhesions following the operation which drag upon the pylorus and duodenum. We break up adhesions, take out the gall bladder and prepare the field the best we can and leave it. What happens is that the duodenum and pylorus are soon adhered to the operative area and we have the same symptoms as before. Any one who has looked at the action of the pylorus and duodenum through the fluoroscope can understand why the dragging and pulling on the pylorus and duodenum would cause the return of symptoms. That is what causes the trouble, according to my belief, in a greater percentage of cases that do not receive benefit from a cholecystectomy. What is the remedy? In a number of cases it cannot be remedied, because the adhesions are so extensive that it is impossible to break them all up. My mother died of adhesions following a cholecystectomy and I have been studying this condition very thoroughly ever since and have exerted every effort to determine why these adhesions re-form. You cannot break them all up in many cases, but in a great majority of cases where you have simple adhesions around the gall bladder and liver, or the duodenum and pylorus, you can break up the adhesions, take out the gall bladder, and take the end of the omentum, provided it is long enough, and pull it up and without too much dragging on the colon you can pull it down around the duodenum and pylorus and tack it there so that it lies between the liver and the duodenum and pylorus and prevents these structures from uniting. In every case I have operated during the past three or four years I have done this. I have not had any bad effects in a single case. In one or two cases where I could not do it on account of the shortness of the omentum, I have had some disagreeable post-operative symptoms. It is a very simple thing to do and I want to urge you to try this and then I would like to hear your results after you

have tried it in a number of cases. I had a case about eight years ago that I operated because of gall stones and when I got in I found very bad adhesions of the gall bladder, duodenum and pylorus. I broke up the adhesions and got ready to take out the gall bladder when the patient suddenly collapsed. After repeated efforts to revive her for about an hour, and failing, I did not feel justified in continuing the operation, so closed her up. She gained in weight, the symptoms disappeared, and while the gall stones are still in her she was perfectly well the last time I heard of her.

Dr. H. A. Gamble (Greenville): Doctor Hightower's remarks cause me to amplify a little what he said in regard to protection of the duodenum and the pyloric end of the stomach. I have used the method he speaks of in practically all cases and in cases where there has been a good deal of raw surface and it is impossible to utilize the omentum for that purpose I have found from the procedure of taking a flap from the abdominal wall and suturing it over the raw surface acts very well and prevents complication. So often people complain of digestive disturbances that really are due to adhesions, and they can be obviated in that manner. One other question has been brought out this morning and that is whether to drain or remove the gall bladder. One feature of the pathology of gall bladder disease was not touched upon and it is one which I feel is a very important factor in deciding this question. That is that in approximately 205 operative cases of cholecystitis we have always found associated with it a varying degree of hepatitis. Sometimes it is localized merely around the gall bladder, and other times it very extensive in its character. I think that is one of the major reasons why the gall bladder should be removed, because the liver is involved in all cases to a greater or less extent.

Dr. A. G. Payne (Greenville): These two papers have covered the subject so thoroughly that there is very little to be said. However, there are some points that I would like to emphasize. A few years ago Doctor Richter, of Chicago, and Doctor John Bottomley, of Boston, began a series of these non-drainage cases after cholecystectomy. A good many men still look upon drainage in the lower abdomen as a necessity when in reality the drain is a very provocative source of trouble, such as adhesions, stasis of the bowel, all of which cause the abdomen to be opened later. We have found that in the upper abdomen there is not nearly so much danger from closing the abdomen completely as in the lower abdomen. The infection is not so great in the upper abdomen as in the lower,

therefore we can with impunity close the abdomen tightly and I am satisfied that in a great many cases—Doctor Miller quotes 67 per cent. of complete relief, which leaves 33 per cent. of them with symptoms following, which in my opinion is caused from the drain.

Recently it has been brought to my notice that the liver cells are diseased from the use of arsphenamin. I recently had a case that after the administration of several doses of arphenamin became jaundiced. There was a question as to what the condition was—what form of jaundice it was. Upon watching this man we found just what we had suspected, that the arsphenamin had caused the jaundice. This case has run for a long time and has grown progressively worse. What are we to do in those cases? In my opinion no patient should be allowed to succumb without the outward drainage of bile, which in many instances gives relief and prolongs life.

Dr. W. W. Crawford (Hattiesburg: Gall bladder surgery resolves itself largely into the question of the personal equation of the surgeon. The thing that is most successful in your hands may not be so in mine. If you have had sufficient experience to warrant you in making deductions, then you certainly are warranted in following certain lines of procedure in any given case. The question certainly of drainage or non-drainage of the gall bladder conditions is based upon the individual surgeon's experience. I once heard Doctor Charles Mayo asked the question which was his preference, and he said, "Personally, I either take the gall bladder out or let it alone; I do not drain it. Other men do differently in this clinic." The question of drainage of the acute gall bladder or the removal is certainly a personal one. I am afraid I cannot agree with Doctor Barksdale that an acute gall bladder is as much of a menace to the individual as an acute appendix. Statistics will not bear out that conclusion. It is the rarest thing that we ever see a ruptured gall bladder, but a ruptured appendix is a common experience. There is no question but what you can serve your patient better if you can carry him through the acute attack of cholecystitis and then at a later operation remove the gall bladder and such a case should have cholecystostomy.

Just one point I want to stress in Doctor Gordin's papers, and that is with reference to the involvement of the liver and particularly of the bile ducts. A great many cases of cholecystitis have an associated cholangitis, and an infection extending up into the liver. Such cases are almost invariably jaundiced, sometimes mildly, just an

involvement of the sclera, not the skin. I feel that any cases belonging to this group that are subjected to the surgeon's knife, whether the gall bladder is removed or not it should not be drained. A cholecystectomy should be associated with drainage of either the common duct or through the stump of the cystic duct. I think if we bear that in mind we will very often get much better results. I know of more than one case that we have closed after a cholecystectomy with mild jaundice in which we have been disappointed in the results.

Dr. J. A. Crisler (Memphis, Tennessee): I started my young professional life as a member of this Association and still feel an interest, the same interest, that I did then. I marvel at the great progress we have all made conjointly. I remember that one of the first papers that created so much discussion here 28 years ago was entitled, "The Use and Abuse of the Curette." After that came the discussion about appendicitis, whether it was medical or surgical. Now we have a subject opened up to discussion which would be interminable if we all carried out to the ninth degree of conclusion. But it would probably be the best day this Association could spend if we all stayed here all day and let everybody talk on these two papers.

The surgeons who have spoken have really expressed my sentiments and ideas exactly. It is, and I fear always will be, a question of personal equation and personal judgment based upon experience from the individual man's viewpoint.

Doctor Gordin's paper rather dealt with the medico-surgical aspect of the case and very thoroughly, too, and I agree with him that the gall bladder can be dalled with, with a great deal more safety than can the appendix. However, I am not prepared to say that we can dally with an acute gall bladder. I used to think the best way would be to drain a phlegmonous gallbladder, because the surrounding tissues were more or less involved, but when I got to removing these gall bladders it was such an easy job, all the connective tissues had been removed by edema and we had very few fibers of blood vessels intact. I have had two gall bladders to come off in my hand without any interference except trying to get under them. To me it has always been and I believe always will be a matter of personal judgment at the time of operation, both as to what I am going to do and as to whether I am going to drain after the cholecystectomy. I have left undrained quite a number of cases that had got along fine, and then I have drained a few that for some reason I believed were safely tied off, that the results were not good. Then I have tried to tie off the cystic duct in some cases that had

no apparent reason for drainage and in five cases hand running they drained bile.

Doctor Hightower's idea of carefully protecting the raw surface so as to keep the stomach and duodenum away from the raw areas is of course not new, but it is very important. The omentum is ideal in such cases but in many cases you can strip the peritoneum from the gall bladder, cut it wide so as to form a complete cover, and in that case you rarely have any results referable to post-operative adhesions. But if you do not do that you will have bad results in many cases that could have been avoided by carefully closing or covering all these raw surfaces.

I do not know that I can add anything further to the discussion. I think Doctor Miller's paper is about the last word necessary from the surgical viewpoint.

Dr. V. P. Street (Vicksburg): In regard to the history, of course it is all important, but the history may be misleading and we need the laboratory to help us out.

In regard to drainage, I think it would be better if the size of the drain was reduced to say a couple of strands of cat gut, and we have reduced the size of the drain considerably.

Dr. A. E. Gordin (closing): Drainage after a cholecystectomy; it is true the the drainage tube invites drainage, but this is a very welcome invitation when drainage occurs. We put the tube in to invite drainage. In my opinion it is just as well to put in the drainage tube; I cannot see that it does any harm and it certainly saves us from opening some cases.

I had hoped some one would discuss these cases that have indefinite symptoms. In our hospital eight or ten surgeons are doing the same thing and we are all disappointed in our results, that is, where we operate on these gall bladders that have vague symptoms, or that simply show by the X-ray a pathological condition, and some of which are found to be definitely pathological at operation. I believe the gall bladder in these conditions secondary, and that the reason we do not get rid of the symptoms is because we have not found the primary condition, which may be the duodenum itself.

As to the frequency of permanent cure after cholecystectomy, every case is not cured, but certainly it is more dangerous to leave in a gall bladder that is infected than it is to take it out. In my short experience of about ten years I have had five cases comes to me with carcinoma of the gall bladder. All had had former cholecystostomies. I have had something like ten cases who

have returned to me with gall stones or every acute symptoms of cholecystitis, and they also had cholecystostomies previously. If that is the percentage in my limited experience, what must it be in the total number of gall bladder cases? To me this is an argument for removing the gall bladder. We limit the possibility of carcinoma and also recurring cholecystitis. I believe that a great many of the bad symptoms we get following cholecystostomy are from not examining carefully the common duct, because as we know, in most cases of cholecystitis, we have a disease of the duct itself, and where cholecystectomy is done, many cases should have the common duct drained. I believe that in every case where the duct can be palpated and is enlarged we should go into the duct. This was brought to my attention by Doctor Downs, of New York—that in every case where there is an enlarged duct we should explore the common duct. Recently in my experience I got 16 stones out of a common duct and the patient had had no symptoms at all of stones in the common duct. She had 50 stones in the gall bladder and if I had not gone into the common duct she certainly would have had a recurrence of symptoms.

Doctor Payne said infection of the upper abdomen is not so dangerous. Of course usually we do not get as virulent infections in the upper abdomen as in the lower abdomen, but when such infections do take place the mortality is greater. It was for this reason that Fowler first put his patients in the Fowler position so that the drainage could go toward the lower abdomen.

Dr. C. Jeff Miller (closing): I have enjoyed very much the discussions and have picked up some very important points for practical use. The first question is the matter of adhesions. More than one doctor has claimed that our chief trouble after operation has been some adhesions. I question that very much and I think if we could make a thorough analysis of the real conditions following these operations we would find that the habits of the patient have a good deal to do with the ultimate outcome of the operation. In following the reports from these patients many of them showed no evidences of gall bladder trouble per se. One trouble is bile—in fact many cases get into trouble in the beginning because of bad habits in regard to diet, environment, methods of work, sedentary life, and so forth, and I believe if these could be overcome, and these patients could be shown the necessity of constant attention to diet and exercise, that we would be able to eliminate a large percentage of cases now set down to adhesions.

In regard to closing the abdomen, I am doing that in some cases, but it is in the selective cases.

The case that shows enlarged glands along the common duct is the case for drainage and even have a small drain in afterwards| For a long time I hesitated to close without drainage, because in many of them the duct closes well and they would have a small discharge of bile. That meant that I had put the drain down into the stump, and that caused liver flow and a discharge to take place. In the last two years the results in those cases where I removed the gall bladder and did not consider it necessary to drain the common duct to clear up the infection, the convalescence was unusually smooth and a larger percentage of them reported no complications afterwards. This is only to be used of course in selective cases, but I do believe we may close more of these without a drain than formerly.

But the thing I wanted to stress and the thing I had hoped some of the internists would speak about is the question of the proper preparation of these patients for operation and more especially the follow-up system afterwards. As to the question of diet, we need to cut down the cholestrin content. In the cases of women just before menstruation and during pregnancy there is a gradual increase in cholestrin contents until in the last two or three months of pregnancy it is almost double. What is the cause? It is not due so much to infection as to the type of diet and the sedentary life of many such cases.

As to the question of closing, instead of using the omentum we strip off a wide area of the peritoneum and if you do this you have practically no oozing.

The question of operating in acute attacks, unless it appears to be an ugly case, where you can mark out a distinct gall bladder, and where you have symptoms of trouble in the liver, I believe it will be wise, not in the individual case, but in a large series of cases, to wait a few days until the acute features subside. But I have gone into cases where I thought it just meant a scattering of the infected process, but yet as Doctor Crisler said, that case probably did the best. For a long time I delayed removing the gall bladder in the presence of impending gangrene, but in later years I have removed several of these with excellent results, so after all, in an acute case, without any symptoms of impending liver, I do not think you are doing that case any harm to wait until the acute features subside.

THE THORACIC AORTA. THE DETERMINATION OF ITS NORMAL SIZE.

A. E. FOSSIER, M. D.

NEW ORLEANS.

The study of the aorta is of paramount importance, because of the great frequency of its disease, which often produces sudden death, and as an important factor in causing the increasing premature mortalities in persons of middle ages.

At no time in the history of medicine has more thought been given to this problem than now. In very recent years works of monumental import have originated in different parts of Europe. The dreaded angina pectoris was the subject of classical researches by Albutt, Mackenzie, Wenckebach, Eppinger, Hofer, Danielopolu, Vaquez, Bordet, Gallavardin, Brown, Coffey and many others. Whilst opinions differ and experiences conflict, nevertheless, the vim and energy with which this important phase of this problem is attacked, portends its early solution.

Diagnostic errors are frequent. Many persons free of aortic diseases have been condemned to the mental agony of an ever present Damocles sword, and restricted in their activities by a well meaning but mistaken physician; on the other hand, many serious lesions of that vessel have remained unrecognized and untreated and the patient doomed to a premature death. Vaquez and Bordet stress this important point and state that it is common to find on post mortem examinations many different lesions of the aorta which have not during life been recognized; and that sometimes considerable dilatations or aneurisms are seen, more often these "middle states" of aortitis, consisting of moderate enlargement of the vessel together with the gelatiniform or atheromatous patches on the walls, and that these types of aortitis may escape observation completely, and not be

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indicated by any perceptible sign on auscultation or percussion. They predict that the number of these accidental findings will diminish with the progress of roentgenology which already shows the most minute alterations in the shape of the aorta in the incipient stages.

The exact delineation of the size and shape of the thoracic aorta is of the greatest importance to the recognition of its diseases. Errors of diagnosis are mostly due to the frequent inability to delimit the area of the great blood vessels, and to a great extent to the failure correctly to interpret what structures produce the supercardial shadow and area of dullness. The classical radiological works on the heart and on the great blood vessels disagree in their interpretation as to which structures compose the borders of the supercardiac shadow. The main difficulty heretofore encountered, was the determination of the vessel which normally constituted the right border of the radiologic shadow of the great blood vessels. As long as this was not definitely known, it was impossible to arrive at any exact conclusions as to the size of the aorta. The following opinion of Charles L. Martin on this subject, expressed the views generally held, and still held, by a great majority of the radiologists and clinicians:

“In considering the great blood vessels, it is important to remember that the superior vena cava casts little or no shadow on a roentgen plate, and that the right border of that vessel as shown in the roentgenogram is in reality the right border of the ascending aorta.”

Theo and Frantz Groedel, Dietlen, Vaquez and Bordet, Jauceas, Albert Weil, Lutembacher, and others, entertained that opinion, and contended that the shadow of the right border of the great blood vessels was due both to the superior vena cava and to the ascending aorta. (Line B.-C. Figure 1.) Their opinions conflict with the anatomy of this region. It is defin-

itely stated by anatomists that the right border of the great blood vessels is formed beyond all doubt by the vena cava. These contradicting radiological and anatomical standpoints as to what vessels produce the shadow at the base of the heart and constitutes its borders, were cleared up by the illuminating anatomical roentgenological studies of Robert Chapron published in 1922. He definitely determined that the right border of the cardio-vascular shadow is formed above principally by the superior vena cava, and below by the right auricle and the inferior vena cava. He further states that, depending on the volume of the heart, and the variable width of the sternum, the superior vena cava may be partly hidden by the sterno-vertebral shadow, especially above, and in young subjects; but as a rule, it overlaps the spine and the sternum to the right. These conclusions reached by Chapron were confirmed by the clinical roentgenological studies of Granger and also by the reader by means of percussion. LeWald in an article published in 1923, stated that the ascending aorta is situated behind and is entirely covered by the sternum, and corroborates the works of Chapron that the right border of the upper portion of the median shadow is formed by the superior vena cava.

Anatomically speaking, the right border of the great blood vessels is formed beyond all doubt by the vena cava, and the left border is formed by the arch and the descending aorta, and the pulmonary artery.

The thoracic aorta consists of an ascending portion (the ascending aorta), which begins at the left ventricle, and passes upwards and to the right, on the left side of the pulmonary artery. It ascends near the anterior thoracic wall as high as the second right chondrosternal articulation. It then turns backward and to the left, forming an arch, which reaches the posterior thoracic wall, at the left side of the fourth thoracic vertebra.

Piersol states that the upper border of the arch of the aorta reaches about one inch from the suprasternal notch, and that in small chests it may reach as far as the angle of Ludwig.

Gray says that the height to which the aorta rises in the chest is usually about one inch below the upper border of the sternum; but that it may ascend nearly to the top of that bone. Occasionally it is found one and a half inch, and more rarely two inches or even three inches below this point.

Delherm and Chapron state that radiology shows that the aortic hemicircle is about two centimeters below the clavicle.

The anatomical size of the ascending aorta is approximately 5 to 5.5 cm., in length, and about 2.7 cm., in diameter. The Japanese observer Iwakici Kam, has shown that the circumference of the aorta increases progressively from birth to the most advanced age, and that its caliber is greater, at identical ages, in men than in women.

There are no definite measurements by which the normality of the size of the aorta may be determined from a clinical or radiological standpoint. Vaquez and Bordet in their classical radiological work on the aorta have given us the following table on the size of the different portions of the aorta.

Normal subjects. Men. Standing positions

Age	Transverse Diameter	Chord of Aortic Arch	Diameter of Ascending Aorta
Years	cm.	cm.	cm.
16 to 20	4 to 5	0 to 2.5	1.5 to 2
20 to 30	5	2.5	2
30 to 40	5 to 6	2.5 to 3.3	2 to 2.5
40 to 50	5.5 to 7	2.8 to 3.5	2.5 to 2.8
50 to 60	6 to 7	3 to 3.7	2.5 to 3
Over 60	6 to 8	3 to 4	3

Their measurements of the diameter of the ascending aorta are taken from the conclusions arrived by Iwakici Kam, and not from their radiological studies, and besides, they describe the transverse diameter of the arch as represented by

the maximal distance which separates the contours of the median shadow, which therefore, includes the full width of the superior vena cava. (Line B-C., Figure 1.)

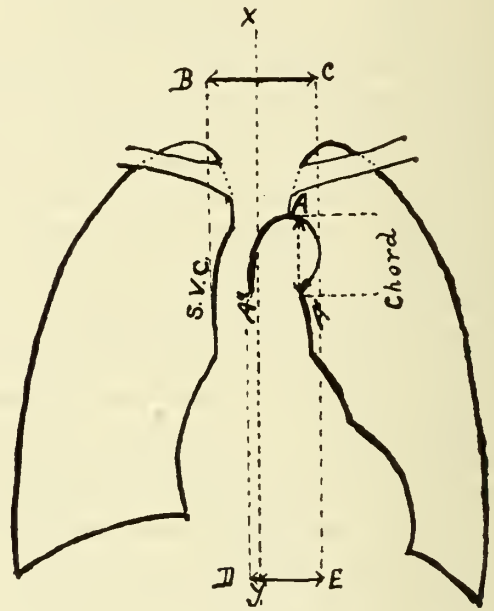


FIG. 1.

Line X-Y—mid-sternal line.
Line B-C—trans-diameter of aorta and superior vena cava.
Line D-E—trans-diameter of aortic arch.
A-A'-A"—arch of aorta.

—From Author's article, *Annals Clin. Med.*, Vol. III, No. 8.

Lutenbacher in his book published in 1924, claims that the transverse diameter of the normal aorta includes the most extreme points of the shadow of the great blood vessels, and its measurements in men who have not reached the age of 50, are from 5 cm., to 7 cm. He also states that the size of the chord of the arch of the aorta gives important indications as to its enlargement, and that it measures normally from 2.5 cm., to 3.5 cm. Again this authority has included the size of the ascending vena cava in the measurements of the aorta.

Granger believes that the measurements of the transverse diameter of the arch of the aorta is 2.5 cm., at twenty years of age and that it increases to 5 cm., at seventy.

The reader believes that the normal limits of the transverse diameter of the arch of the aorta are in the male adult, from 3 cm. to 4.5 cm., and that any measurements of that diameter more than 4.5 cm., are abnormal and are significant of some underlying pathological conditions. (Line D.-E. Figure 1.) Neuhof in his book "The Heart," (1923) writes as follows:

"As with standards of measurements for the cardiac orthodiagram, similarly there are several objections to a standard measurement of the normal aorta. Some of these objections are the indefinite point of the origin of the aorta, the difficulty at times of determining its borders, the high or low portion of the arch, the normal variations in size and shape of the heart in each individual. In aorta dilatation of moderate degree, the diagnosis may therefore depend upon abnormal contour rather than upon abnormal size of that vessel."

Reid in his book, "The Heart in Modern Practice," (1923) states.

"If the width of the great blood vessels, obtained by Roentgen mensuration, is more than one half that of the heart, syphilitic invasion of the aorta is almost certainly present. In doubtful cases, the mensuration should be repeated in a few weeks or months, to note if the aorta is increased in size."

The chord which subtends the left aortic semicircle is defined as follows: It begins above at the point, where the convex line which marks the arch issues from the mediastinal shadow and begins its outline on the left pulmonary field, and ends below, at the point of intersection of the semi-circle with the contour of the pulmonary artery. (Line A.-A.' Figure 1.) The study of many cases has revealed this chord to be practically of the same size, or slightly narrower than the width of the transverse diameter of the arch. A

pathological condition of that vessel is usually indicated if the width of this chord exceeds that of the transverse diameter of the arch. A study of the relativity of the length of the transverse diameter and the chord is of great importance in the measurements of the size of the normal aorta.

The right border of the vena cava usually extends normally 0.5 cm., to 1 cm., beyond the right border of the sternum; and the right border of the ascending aorta is adjacent to or slightly to the right of the mid-sternal line. The transverse diameter of the arch of the aorta corresponds to a line drawn from or near the mid-sternal line and ending approximately 0.5 cm., to the left of the left border of the sternum.

The transverse diameter of the great blood vessels may be increased, first, normally, by the height of the diaphragm, by the amount of abdominal tension and by the habitus of the subject; and second, abnormally, by hypertension.

As a rule, the size of the transverse diameter of the great blood vessels, that is, the combined width of the superior vena cava and the aorta, depends upon the stature of the individual, irrespective of his age. I am also of the opinion that the increase in the size of the aorta, attributable to increasing age, is greatly due to degenerative changes in that vessel. In my past experience, aged subjects with normal cardio-vascular systems, did not have any increase in the size of their aorta, that is, their aorta corresponded to the size it should have been normally in their earlier years.

The stockily built, wide chested, high diaphragmed subjects, with large but short sternum, have a wide transverse diameter of the great blood vessels. (Figure 2.) Charles Martin writes that it

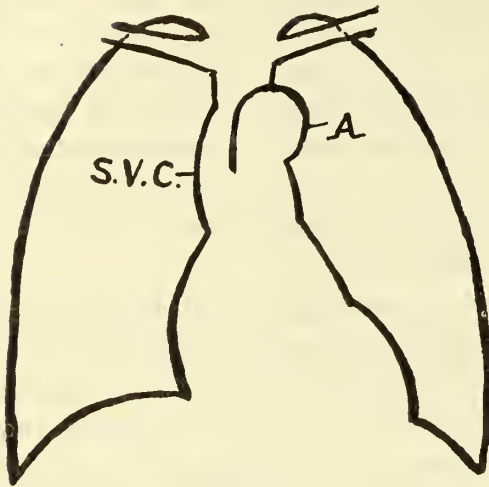


FIG. 2

Wide Chest, High Diaphragm, Well Supported Heart; Bulging Right Border of Superior Vena Cava, and Large Normal Aortic Arch.

From Author's article, *Annals of Clin. Med.*, Vol. III, No. 8, Feb. 1925.

seems that a high diaphragm, is in itself, a cause of widening of the aortic arch. Those of the enteroptotic habitus, with elongated chests with slanting ribs, narrow costal angles, have narrow elongated sternums with diminutive ensiforms, and a narrow transverse diameter of the area of the great blood vessels. (Figure 3.) It is thus explained:—It is a proven fact that the heart is mainly

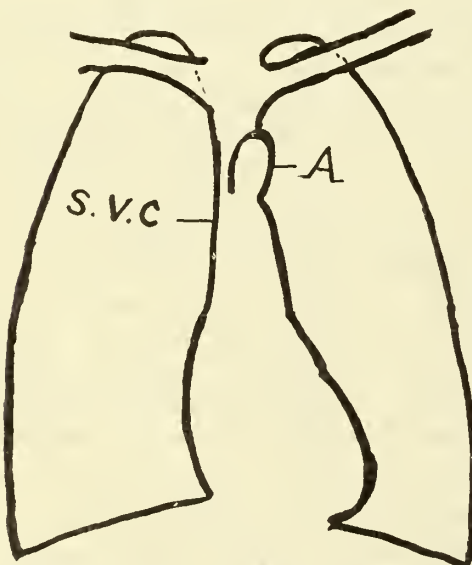


FIG. 3.

Elongated Chest, Low Diaphragm, Drop Heart, Elongated Narrow Superior Vena Cava and Ascending Aorta, Small Normal Aortic Arch.

—From Author's article, *Annals Clin. Med.*, Vol. III, No. 8, Feb. 1925.

supported by the diaphragm, and if the diaphragm sags, the heart becomes more vertical and assumes a more elongated shape or position, but if the phrenic muscle is placed high, this organ increases its obliquity, and assumes a more squatty and compact form. It is also an accepted fact, that the weight of a heart, which is poorly supported by the diaphragm, draws upon the vessels at its base, and causes them to undergo a certain elongation: and vice versa, a high diaphragm exerts an upward pressure both upon the heart and its vessels, which causes the vena cava and the aorta to become more compact, and to increase in width. In other words, in the first instance, the length and not the width, of the aorta is increased, and in the second, the breadth is increased, while the length is greatly diminished. The semi-circle of the arch is lessened in cases of vertical hearts, and widens as it assumes a more oblique position. In the latter case, the aorta is high, sometimes its upper contour reaches the supersternal notch, and is also relatively very wide due to the widening of its arch, and both the heart and its great blood vessels have the appearance of being more compact. (Figure 4.) These attenuations and elonga-

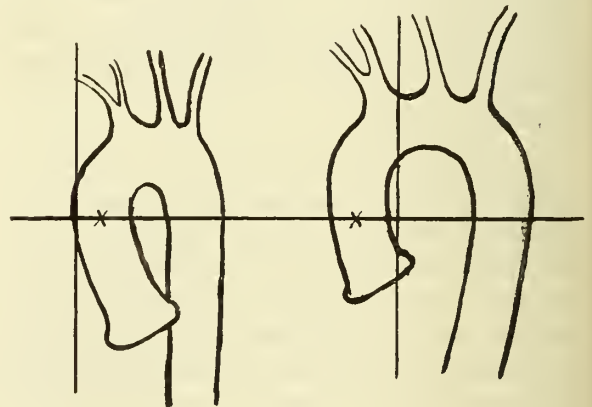


FIG. 4.

tions, in a minor degree, have been observed on change of position, and likewise during respiration. The traction on the aorta by the weight of the heart, is not generally of sufficient force to stretch or

attenuate that vessel, even in a very young subject, and certainly cannot possibly do so in an old one, because with advancing age its elasticity progressively diminishes. Contrariwise, the caliber of the aorta is not increased by the upward pressure caused by a high diaphragm. This traction on the aorta by the weight of a poorly supported heart, causes a lowering and narrowing of aortic hemi-circle; whilst the pressure of a well supported heart increases the width of the arch. The increased convexity of aorta thus produced, causes this vessel to press upon the superior vena cava and forces it to bulge to the right. Therefore in a thorax with a wide sternum and a high diaphragm, the heart being well supported, the right border of the superior vena cava bulges to the right and assumes a distinct convexity; but in an elongated chest with a low diaphragm, the heart being poorly supported, the right border of the vena cava straightens out, loses its convexity, and frequently becomes slightly concave.

Delherm and Chapron recently published their new "Radiologic Syndrome of Aortic Hypertension" wherein they give the following diagnostic signs of probable hypertension from a radiologic standpoint:

(1) The arch of the aorta is pushed up, its hemicycle is more prominent, and often is increased in size.

(2) The right border of the superior vena cava is more convex, which indicates that it is displaced to the right by the ascending aorta.

(3) The transverse diameter of the great blood vessels is greatly increased; but they also state that the enlargement of this diameter alone, without other signs of hypertension is of negative value.

They state that the aorta being a living structure once it has adapted itself to hypertension, does not readily return to its former shape and size, and although there may be at the time no indications of hypertension, their syndrome often in-

dicates a former state of high blood pressure.

They claim that the aortic arch in children is always small, and that it increases in size with advancing years; and that the vena cava in children is vertical, is fairly convex in the adult, and that it increases its convexity in old age. They explain these mechanical modifications and changes in the aorta due to hypertension by the well known fact that increasing pressure in a flexible tube bent in the form of a circle, will cause the tube to unwind itself, and to straighten out, thereby, increasing the size of its circumference.

Here are presented for our consideration two positive mechanical factors that cause an enlargement of the area of the great blood vessels. One, the physiological, the upward pressure on the great blood vessels by a heart pushed up by the diaphragm; and the other, the pathological, the increase in width and shape of the aorta due to hypertension as explained by Delherm and Chapron.

Again I must repeat that the variations of the build and conformation of the body have a greater bearing on the inconstant size of the normal aorta than the subject's age, which is relatively insignificant and secondary in importance, provided the subject is free of cardiac vascular deterioration.

The width and length of the sternum vary with the different conformations of the chest and the various habitus and structures of the subject. Elongated flattened chests of the paralytic type, so commonly found in splenchnoptotics, have narrow sternums with diminutive or almost absent ensiforms, whilst broad chests have wide sternums with large well developed xiphoid processes. Morris says that the xiphoid process is the least developed part of the sternum, and is subject to many variations in form, being sometimes pointed, thin and again broad, etc. In fact the size of the ensiform is a good indication of

the size of the sternum, a wide sternum has a wide ensiform and a narrow sternum has a small or practically absent xiphoid process. These variations in the width of the sternum may be as much as 3 cm., in subjects of the same age and sex.

A well supported heart is found in a broad and short chest, which has a short, but large sternum, and a well developed ensiform; the diaphragm is high and the area of the great blood vessels is correspondingly large and short; and again, the reverse holds true, a pendulous heart is found usually in a paralytic chest, which has a long, but narrow sternum, with a diminutive ensiform; the diaphragm is sagged, and the area of the great blood vessels is long but narrow. As a rule the same factors which influence the size of the sternum affect the width and length of the arch of the great blood vessels. Both are dependent upon the some variations in the individual stature and chest conformation in persons grouped according to sex and age. A wide sternum with its large ensiform indicates that the area of the great blood vessels is wide but short, whilst a narrow and long sternum, with diminutive sternum, denotes a long and narrow area of these vessels. The width of the transverse diameter of the vessels at the base of the heart indicates the corresponding width of the aortic hemi-circle, and is a practical basis by which its normality may be determined.

This correlation of the size of the great blood vessels with that of the sternum, as a basis for the determination of the normality of the size of the aorta, has to my knowledge, never been before expressed.

The topography of all organs is so affected that it is impossible to determine their normality unless the stature and build of the subject be considered. The variations of the size, shape, and position of the heart, liver, stomach, etc., as well as those of the great blood vessels and likewise the aorta depends on the indi-

vidual factors. What would be considered a normal organ in one type of bodily conformation would be decidedly abnormal in another type. As a rule the same conditions modifying the size, shape and position of the heart, influence the size of the great blood vessels and the arch of the aorta.

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DISCUSSION.

Dr. J. B. Guthrie (New Orleans): This subject is more or less technical, and I am sure that everybody here has been as enlightened as I was by the discussion of Dr. Fossier. He has been an enthusiast on this subject for some time and has worked these things out, and we are very much in his debt for clearing up clinically a method by which we can arrive at the size of the aorta. I have had a certain amount of pride in the percussion method I use, and I thought I was reasonably skillful in percussing the heart, and the vessels, and I was content for many years to percuss down under the clavicle and arrive at the width which I thought was the clinical width of the aorta. You remember he brought out the idea that the vena cava increased with the size of the aorta. It is a fortunate thing for us clinically that such a thing does exist. I am convinced that we should not consider simply the dullness on either side of the sternum as the main factor of aortic width. More recently I have attempted to do what Doctor Fossier did not

tell you that he does, because he did not have time, and that is to make a differentiation between the vena cava and the aorta, and it is my opinion that it can be done. I have not given it up, and I have succeeded a number of times to my amazement. You think it cannot be done, that Doctor Fossier has hypnotized himself about it—you are afraid that you believe you are doing something that you do not do. But I believe clinically what Doctor Fossier says can be done in this manner.

The practical thing is that we can prove our methods on clinical examination so if we can get at this thing we will be able to send a larger percentage of our cases for radiographic examination. With some of us it is matter of routine, we have competent radiologists and departments where it can be done; but with some of us who are not so fortunately situated, and it would be a great boon to be able to say with a fair degree of certainty—there is dilatation of the aorta, and to what end? To the determination of the diagnosis of aortitis. It is vague at present. The literature confuses the picture of heart failure and aortitis. Heart failure very often goes with aortitis, but I feel as we enlarge our study in the line of such instruction as we have in the literature, we will be misled by attributing the symptoms of myocarditis to aortitis, because the two very often co-exist.

A number of years ago I worked on a study of the thoracic changes of ascites, and one of my findings was that in ascites we have something like this—high diaphragm and increased aortic width. That was pretty constant when we evacuated the ascites. It was one of the signs that we put down as a thoracic sign of ascites, that increase of the aortic width and the diminution after evacuation. That is beautifully explained in the matter of the high diaphragm. That is another point that is vastly important. We cannot have a coefficient that expresses the normal

width of the aorta unless we have some equation which shall express the angle of the aorta. It is futile to say the aorta width is so many centimeters, and not take into consideration the other factors of the age and the build of the individual. There are many phases about Doctor Fossier's paper that we can think about with a great degree of stimulation. I think we are very much indebted to him for his zeal in making these studies.

Dr. H. P. Jones (New Orleans): I want to express my deep appreciation of the work Doctor Fossier has done. It is certainly very helpful. You remember two years ago I read a paper on this same subject, but my measurements included the total width. At that time the refinements of differentiation were not known, or at least I had not seen them. To know what probably is the normal size of the aorta in certain persons helps tremendously in making a diagnosis of some abnormality of the aorta, and the work is intensely important.

Dr. A. E. Fossier (closing): It is my hope to bring out strongly the use of percussion in delineating the size, shape and position of the aorta. Unfortunately, in this day, the teaching of physical diagnosis has been greatly neglected, and has been too frequently left to teachers who are not expert in its use. Again many of our textbooks belittle its results, and but too often reflect the skill, or lack of skill, of the author as a percussor. This creates a wrong impression as to the accuracy of the method. This fact was recently demonstrated in an abstract of one of my articles in *Radiology*, issue of April, 1925, in which the abstractor used the following quotation, "Cabot states that it is impossible to outline the heart by percussion, and one has only to try it with his eyes shut to see how wide of the mark he will come." Such statements, coming from such a noteworthy source, are unfortunate, because they are incorrect and misleading.

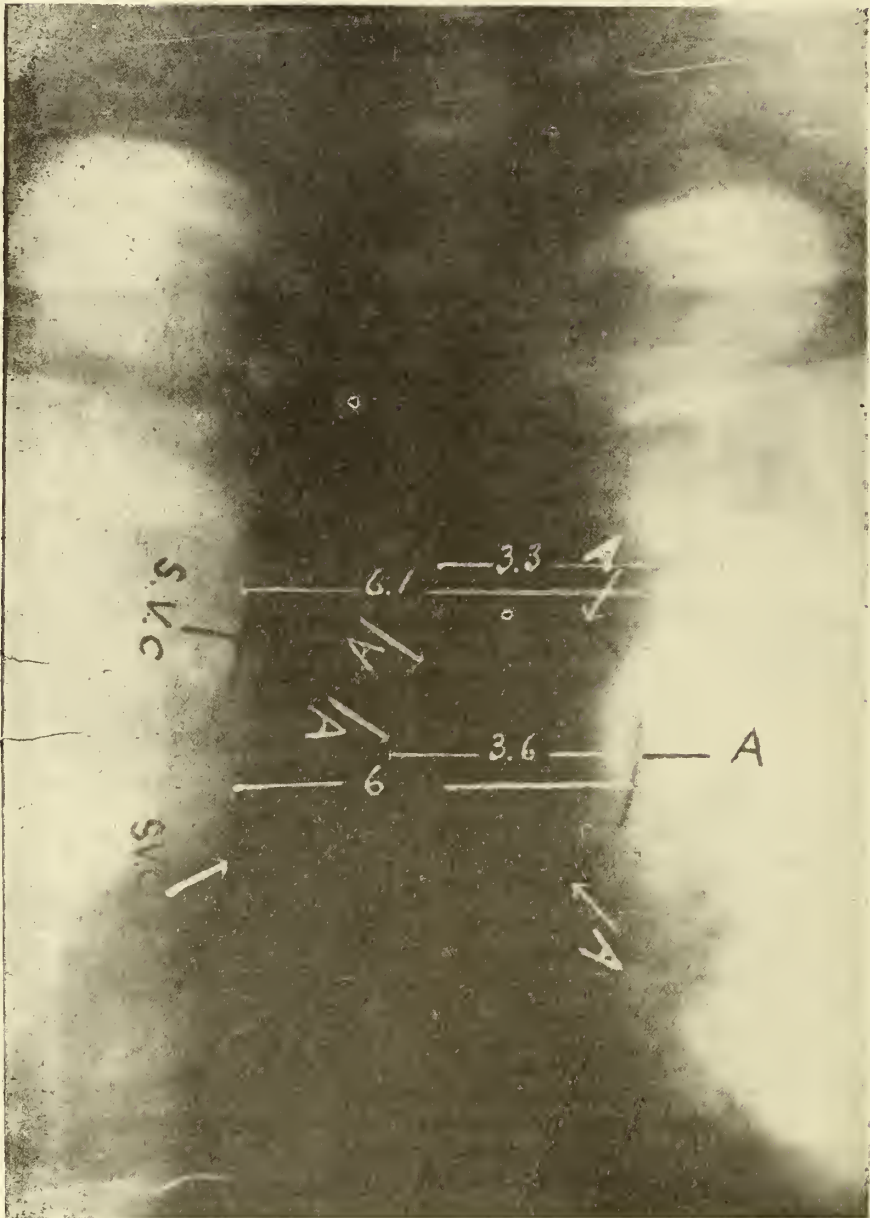


PLATE 1. NORMAL AORTA AND SUPERIOR VENA CAVA.

Measurements by Dr. Amedee Granger.

Width of arch of aorta by percussion: 3.6 cm.

Width of arch of aorta by Roentgen-ray: 3.3 cm.

Width of aorta and superior vena cava by percussion: 3.3 cm.

Width of aorta and superior vena cava by Roentgen rays: 6.1 cm.

—From Author's article in *Annals of Clinical Medicine*, Vol. III, No. 8, Feb. 1925.

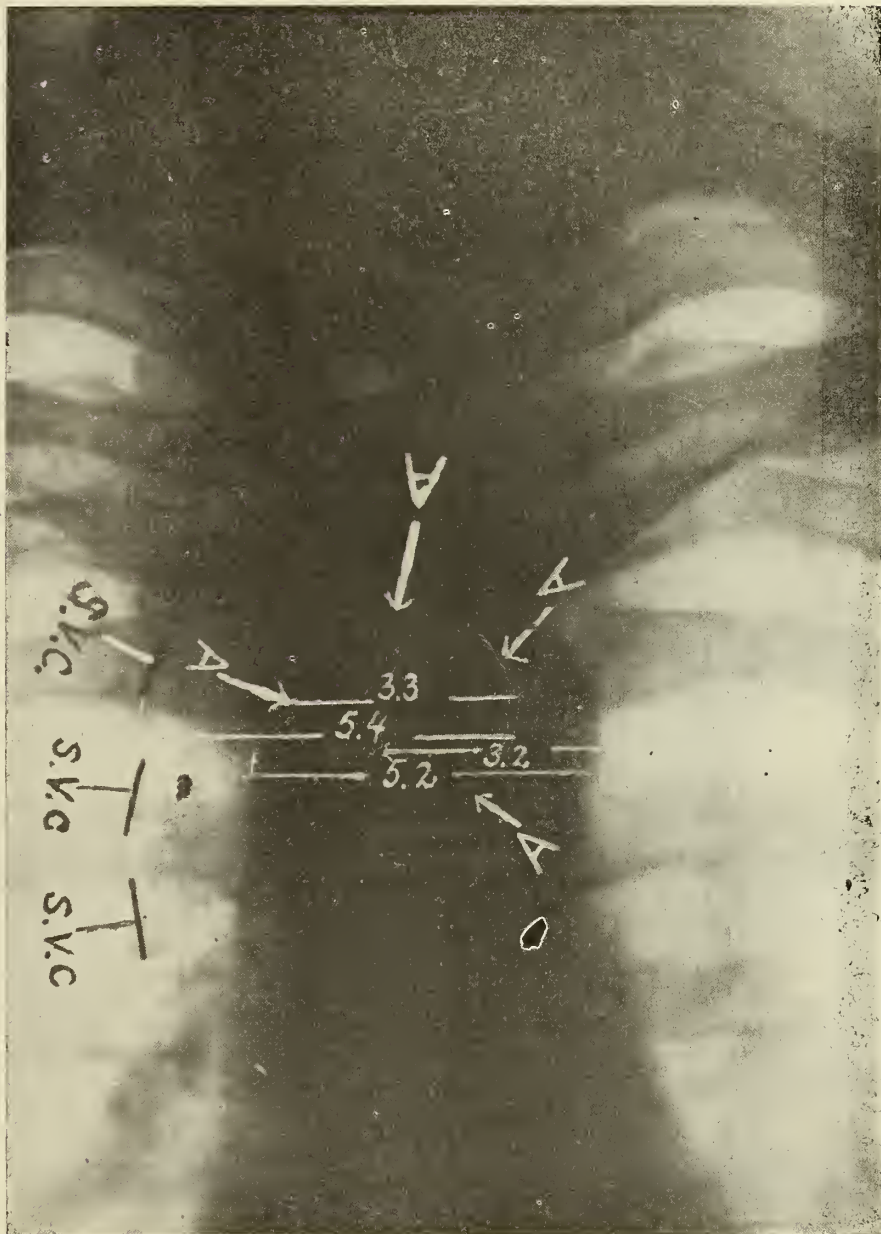


PLATE 2. NORMAL AORTA AND SUPERIOR VENA CAVA.

Measurements by Dr. Amadee Granger.

- Width of arch of aorta by percussion: 3.3 cm.
- Width of arch of aorta by roentgen-rays: 3.2 cm.
- Width of aorta and superior vena cava by percussion: 4 cm.
- Width of aorta and superior vena cava by roentgen-rays: 5.2 cm.

—From Author's article in *Annals of Clinical Med.*, Vol. III, No. 8, Feb. 1925.

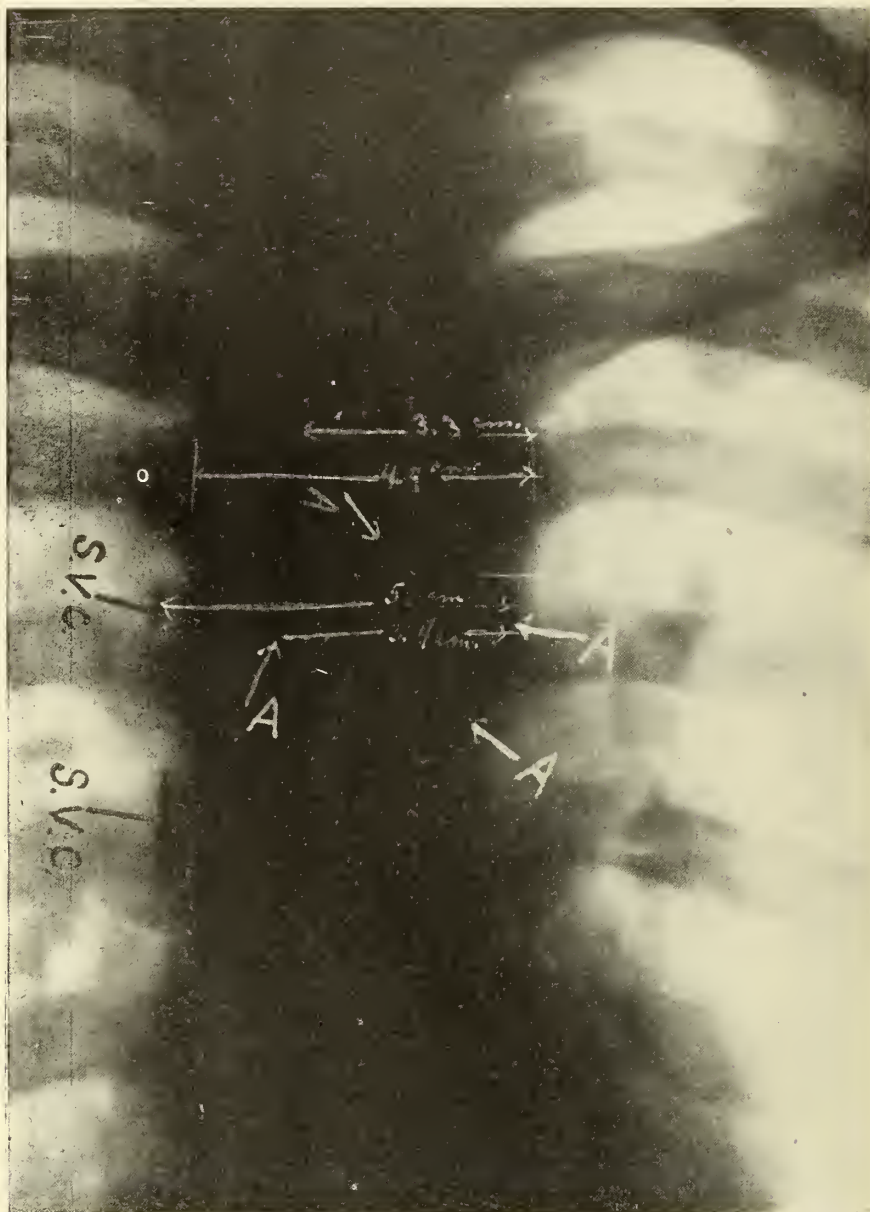


PLATE 3. NORMAL AORTA AND SUPERIOR VENA CAVA.

Measurements by Dr. Amédee Granger.

- Width of arch of aorta by percussion: 3.4 cm.
- Width of arch of aorta by roentgen-rays: 3.3 cm.
- Width of aorta and superior vena cava by percussion: 5 cm.
- Width of aorta and superior vena cava by roentgen-rays: 4.9 cm.

—From Author's article in *Annals of Clinical Med.*, Vol. III, No. 8, Feb. 1925.

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THE PASSING OF THE CULTS.

News comes that "the first annual report of the Board of Chiropractic Examiners of the State of California, 1923-1924, discloses the fact that any chiropractic school, in order to be in good standing and to have its graduates admitted to examination in California, must include in its curriculum the study of elementary chemistry and toxicology, 100 'hours'; bacteriology, 100 'hours', and obstetrics and gynecology, 100 'hours'. An 'hour' is defined

as forty five minutes 'or the equivalent thereof'.⁽¹⁾

This seems to be another instance of history repeating itself. It has not been so many years since the osteopaths (who seem to be closely akin to the chiropractors—though each denies the relationship) began to include such things in their curriculum. The Journal of the American Medical Association is undoubtedly correct in its surmise that this is but a method to obtain "the unreserved right to enter the practice of medicine and surgery by its own carefully-planned back door."

Since we have seen the curriculum, as taught by various other cults and "isms," expanded, it may be safe to infer that in the fullness of time we shall see the same thing happen with the chiropractors. Homeopathy has finally accepted bacteriology and other scientific teachings of modern times and has now practically merged into scientific medicine, with the result that year by year we hear of the closing of colleges which taught nothing but homeopathy.

Scientific facts are and always will be the same to any impartial observer. No one has even suggested the existence of cults or "isms" in mathematics. We have never heard of homeopathic astronomy, and it is to be doubted very much that any one will ever discover the existence of osteopathic biology, or chiropractic geology.

It seems, then, that even the cults and "isms" go through a process of evolution. Time will tell.

(1) Ed., Jr. A. M. A., v. 85; 440 (August 8) 1925.

LIGHTING THE HOME.

Poor lighting rather than good lighting is the rule in most of the homes in our country, according to a report of the Eye Sight Conservation Council disclosing conditions in homes and schools.

While lighting conditions generally are far from what they should be in the industrial field, the households and the school rooms are neglected to an extent that is harmful to the eyes of the human race.

"One reason for this," according to the Council, "is that in a great many homes the lighting equipment has not been changed to keep pace with the rapid development in the art of lighting.

"A great many of these old residences are rented and the occupants are reluctant to make improvements at their own expense, even though they recognize the inadequacy of the faulty illumination. Such conditions, however, can usually be modified with a small expenditure so that, to a considerable extent at least, the advantage of modern illumination may be enjoyed.

"One of the most common evils found in home lighting is the bare lamp. It is usually so low as to be directly in the line of vision, causing eyestrain, at the same time providing poor illumination. There are specially designed fixtures for correcting not only this condition but also the many other objectionable features of the old style equipment.

"Where the present installation does not provide sufficient light, portable lamps in great variety are available and can be used advantageously. Floor lamps, table lamps and small ornamental lamps in addition to augmenting the lighting are appreciated by the householder because of their flexibility and decorative value.

"Although the essential requirement of lighting in the home is the elimination of eyestrain, the decorative possibilities should not be overlooked. The most pleasing and comfortable effect is produced by skillfully combining utility and ornamentation.

"Artistic shades and colored lights are mediums of expressing individuality in furnishing our homes. However, great care should be taken in the use of colored lights, in order not to defeat their real purpose. Colored lamps and dimly shaded lamps are not intended for reading and close work, for eyestrain is caused by improper and insufficient light."

"Glare," says the report of the Eye Sight Conservation Council, "is one of the most insidious causes of eyestrain, and is "un-

questionably the most prevalent and objectionable concomitant of improper lighting."

Experts find difficulty in defining glare. One definition is "light out of place." Another is "glare in any brightness within the field of vision of such a character as to cause discomfort, annoyance, interference with vision or eye fatigue."

Science has revealed three chief sources of glare—excessive brightness, excessive volume of light and excessive contrast. Excessive brightness of light source is, the Council's report says, now believed to be the worst offender.

Methods of lighting the home, to promote health and comfort, are becoming a vital factor of domestic science, continues the report, distinct treatment being demanded for living rooms, dining room and kitchen.

TREATMENT OF SYPHILIS.

The indiscriminate use of the word "cure" in the treatment of syphilis should be discontinued and in its stead the patient should be made to think merely of an arrested condition as in tuberculosis. According to a report just made public, such is the opinion expressed by the conference of the United States Public Health Service and State venereal disease control officers last December at Hot Springs, Arkansas. This conference advised that persons undergoing treatment for syphilis should expect and seek observational control at appropriate intervals, and under proper medical care, throughout a period of years—instead of considering themselves cured after a few months' or a year's treatment—in order to avoid the late involvement of the heart, blood vessels and nervous systems. The adoption of this attitude by the conference is disclosed by the report of the Hot Springs meeting which has just been published in pamphlet form by the Division of Venereal Diseases of the United States Public Health Service.

According to the printed report, the conference passed resolutions concerning the policy, management, methods and standards

of examination, diagnosis and treatment to be followed by clinics supported in whole or in part by Federal or State funds. The report says that medical responsibility for the health of a patient who has acquired syphilis or gonorrhoea is not discharged by mere routine treatment during the infectious stage, but extends to the prevention of crippling, degenerative lesions during the patient's later life. One of the first essentials to such prevention is complete observational control with periodic re-examination. It is urged that such systematic checking must be carried out through a period of years. Such a course is necessary, says the report, because a complete relapse of a patient treated for syphilis may occur in any case, however apparently hopeful at the start.

Among other things, the conference found that three years may be prescribed as the average period of treatment for the early case of syphilis before it is placed on observation. Five years has been widely accepted as the lapse of time required to reduce the infectious possibilities to a point where marriage may be contemplated.

BREATHING CAPACITY IN WOMEN.

There is apparently an important connection between breathing capacity and delinquency among women.

Recent investigations by Dr. Frederick L. Hoffman, consulting statistician of the Prudential Insurance Company of America, into the present day human physique, with a due regard to age, sex and race, has revealed among other interesting results the striking fact that normal women usually have a chest expansion about three centimeters greater than delinquents at corresponding ages.

"While delinquents apparently have a slightly better general physique than normal women, as indicated by a somewhat larger chest and abdominal circumference, their breathing power is distinctly less," says Dr. Hoffman. "And this vital inferiority," he adds, "may have an important bearing upon mental development, for

otherwise physically delinquent women exceed rather than fall below the averages for the different bodily proportions as ascertained by painstaking measurements."

Dr. Hoffman's investigation included a larger number of individuals and has covered a considerable period. In normal women at 30 years of age the chest expansion averages 11.2 centimeters against 9.8 for delinquents. At ages beyond this, the difference is still more marked, being 10.2 for normal women and 7.6 for delinquents. Expressed in inches the differences are:

Under 30—Normal women, the chest expansion is 4½ inches; delinquent women, 4 inches.

Over 30—Normal women, the expansion is 4 inches; delinquent women, 3 inches.

Only in breathing capacity did the measurements disclose an inferiority among delinquents. Thus, says Dr. Hoffman, the abdomen, which is a fair index of nutrition, was 88 centimeters circumference for normal women under 30 years, while for delinquent women it was 90 centimeters. Among normal women over 30 the abdominal circumference was 94 centimeters against 93 among delinquents. Average weight under 30 was 125 pounds for normal women and 130 for delinquents; over 30 the corresponding weights were 142 and 135 pounds.

Incidentally, Dr Hoffman says he is decidedly of the opinion that the tendency toward increased weight with advancing years among American women is to be viewed with apprehension as indicative of premature senility and greater susceptibility to a variety of serious organic diseases.

The data from which he derived his findings and conclusions included more than 4,000 measurements of both sexes of Caucasians, Negroes, Caribs and Indians of North, Central and South America. These measurements were all made under uniform methods either by himself or under his direction through the co-operation of health officers and physicians in charge of reformatories and correctional institutions.



J. J. HARALSON—An Appreciation.

Just as we go to press comes the news of the sudden death of Dr. J. J. Haralson, President of the Mississippi State Medical Association, 1924-1925.

Every one of us, in the face of a trial like this, feels the inadequacy of words, but those who have known him, who have worked with him for years in the State Association, and who have been in the habit of looking forward to the pleasure of seeing him from year to year at each Association meeting, can not help but give

expression to their sense of loss in a case like this. A gentleman and a doctor of the old school, he was widely and well-known throughout the state. Let us pause, then, for a moment, in order to show reverence to his memory, which must always be a sacred thing to us.

The Mississippi State Medical Association, and the New Orleans Medical and Surgical Journal, take this occasion to offer their sympathy to the bereaved family.

NEWS AND COMMENT

DEPARTMENT EDITORS.

Lucien A. Ledoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the up-building of the profession to which he belongs."
—Theodore Roosevelt.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

Since our last report the Society has had one meeting of the Board of Directors and one meeting of the General Society which has a quarterly meeting.

The following Doctors have been elected to active membership: Dr. J. E. Doussan, Dr. Carl Granberry and Dr. Curtis H. Tyrone. Dr. J. T. Halsey and Dr. E. F. Salerno were reinstated to membership.

The following applications for active membership are pending: Dr. W. F. Henderson, Dr. A. J. K. Genella and Dr. A. J. Azar. The following applications for Interne Membership are pending: Drs. M. W. Miller, S. B. McNair, F. J. Beyt, J. F. Lucas, J. N. Lockard, M. A. Young, Jr., J. A. Johnson and R. C. Hill.

A contract with the New Orleans Medical and Surgical Journal terminating in 1926 has been signed, the subscription allotment being \$300.00 a year.

The proposed Pre-Convention Clinic which was to be held under the auspices of this Society has been indefinitely postponed owing to information received to the effect that railroad certificates will not be issued until November 5th. They call for the shortest routing possible and as a result very few physicians will be able to attend the program arranged for them.

The Legislative Committee of this Society has been requested to study the pending and projected legislature with the view of preparing a program for the next Legislative Session in 1926.

Final action of the Society in regard to the Koch Cancer Treatment was contained in a motion made at the General Meeting, October 12th, 1925, by Dr. F. W. Parham and seconded by Dr. Landry, "That the reports of the Judiciary Committee and the Board of Directors be considered entirely satisfactory to the Society." The motion was unanimously carried. In addition to this motion Dr. Parham stated that from this day Dr. Carroll W. Allen not only renounced his connection with Dr. Koch and his treatment but had

given up any patients that were under his observation or that had been referred to him.

The following is a report of the Cancer Committee of the Hotel Dieu Staff:

"Because the laity of this City and State have become much excited and interested in the Koch Cancer Cure, and because certain surgeons and physicians of standing in this community have used and suggested the investigation of this cure, the Staff of the Hotel Dieu of New Orleans, Louisiana, has appointed a Committee to investigate this alleged cure. The Committee accepts this mandate, in no sense in rebellion or criticism of the findings of the American Medical Association or of the American College of Surgeons, but in order that the Staff of this hospital may have first hand knowledge of the matter, so as to protect and benefit both themselves and their patients.

"Your Committee has met some eighteen times during the last six months. It has examined directly and indirectly some fifteen cases of cancer, and has treated, or observed the treatment of these cases by the Koch Method. The diagnosis of these cases has always been controlled by microscopic section, with the exception of two cases, nevertheless the committee feels that there can be no question that they were cancerous. The treatment, as outlined by Koch, has been rigidly adhered to. The cases treated have been in all stages of the disease, both early and late. Some of the cases have had Radium, others have had no treatment, and a few have had some surgery and Radium. The Committee has heard of other cases in this community, that have had the Koch treatment, and has endeavored to keep informed of these cases.

"After an impartial review of the evidence accumulated during the last six months of investigation, this committee concludes that the Koch treatment has no merit; that it is probably inert, and that the so called "reactions", occur in the majority of cases of cancer; that it is harmful and probably shortens life, inasmuch as the rules of treatment laid down by Koch forbid the use of well recognized therapeutic measures which relieve pain, sustain body weight and vigor and etc.

"This Committee recommends to the staff that this Koch Treatment be forbidden in the Hotel Dieu." Louis Levy, M. D., Chaille Jamison, M. D., M. Couret, M. D., J. T. Nix, M. D., J. J. Wymer, M. D.

The above report was read at the general meeting of the Society, October 12th, and was ordered to appear in the Journal as a part of this bulletin.

A new automobile emblem of the American Medical Association has been adopted by the Society as its official emblem. These may be secured by making application to the American Medical Association.

The Committee appointed to devise ways and means of financing a projected advertising campaign entitled, "Pay your Doctor", is composed as follows: Dr. F. M. Johns, Chairman, Dr. Emil Bloch, Dr. Paul J. Gelpi, Dr. J. E. Dupuy, Dr. E. A. Ficklen and Dr. W. A. Reed.

Members intending to go to Dallas may make reservations by applying to this office

The attention of the membership is called to the scientific meeting to be held November 23rd at which time Dr. George Gelhorn of St. Louis will address the Society under the auspices of the New Orleans Gynecological and Obstetrical Society. Dr. Gelhorn has stated that he desires as very open discussion of his paper as possible.

The program to the end of the year is as follows:

Monday, November 2nd, Board Meeting.

Monday, November 9th, Scientific Meeting and election of Delegates to Louisiana State Medical Society.

Monday, November 23rd, Scientific Meeting and Nomination of Officers for 1926.

Monday, December 7th, Board Meeting.

Saturday, December 12th, Election of Officers.

Monday, December 14th, Scientific or Clinical Meeting.

Monday, December 26th, Scientific Meeting.

PROF. CASTELLANI COMES TO TULANE.

Just as this issue of the JOURNAL goes to press we have been informed by Dr. C. C. Bass, dean of the Tulane school of medicine, that Dr. Aldo Castellani, professor of Tropical Medicine at the London School of Tropical Medicine, has accepted the chair of tropical medicine at Tulane and will arrive from England during November to take up his work here. Dr. Castellani is a world authority on tropical medicine and tropical research and Tulane is indeed to be congratulated upon getting him. Dr. Castellani graduated from the University of Florence, Italy, that being his native land. Early in his career he was called to London to serve in the tropical medicine school there. He has also occupied the position of director of the Ross Institute of Medical Research, London.

There was a meeting of the Executive Committee of the Louisiana State Medical Society in New Orleans on October 2nd. Other than disposing of the routine matters, it became necessary for the Executive Committee to change the dates of the meeting of the Louisiana State Medical Society from April 19th to 23rd, to April 15th, 16th, and 17th, 1926. The Meeting will now be on the last part of the week preceding the American Medical Association, which is to be held in Dallas, thus affording all those who might desire to take in both meetings in one week's time away from the City.

The Council of the Louisiana State Medical Society also held one of their regular meetings at this time.

On the afternoon of October 2nd, the Tuberculosis and Public Health Association of Louisiana held one of their regular meetings, attended by the officers of the organization, and the officers and Councilors of the Louisiana State Medical Society.

The Louisiana State Board of Health held one of their regular meetings in New Orleans. One of the most important things considered at this meeting of the State Board of Health was the part to be played by Louisiana in the campaign of the eradication of mosquitoes. The State Board of Health attended the Conference of Louisiana, Mississippi and Alabama, which was held in October. At this Conference, which was presided over by Martin Behrman, Mayor of the City of New Orleans, it was decided that a mosquito survey of the three states should be made; secondly, that it should be made under government supervision; thirdly, that the expenses of the survey should be borne by money raised in Louisiana, Mississippi, and Alabama.

We have every reason to believe that great good is to follow the institution of this important campaign for the levigation of being bothered by mosquitoes.

In attendance at this Conference, other than prominent men of the three states, were representatives from various railroads of this Section, prominent among whom were G. G. Dowdall, chief surgeon of the Illinois Central Railroad. This railroad is taking active steps in the development of this section of the country, and is sure to lend their support and co-operation in this campaign of mosquito eradication.

It is with a great deal of regret that we learn of the illness of our President, Dr. E. M. Ellis of Crowley, who for the past three or four days has been confined to his bed. We wish for him a speedy recovery.

Dr. George Gelhorn of St. Louis will be the guest of the Orleans Parish Medical Society at their regular Scientific Meeting to be held Monday, November 23rd. Dr. C. Jeff Miller will also appear on this program. The title of both papers will be announced later.

This meeting promises to be well attended, not only locally, but from outside of the City, and it is hoped that these very interesting papers will be freely discussed.

TULANE GRADUATE COURSE.

According to the schedule just issued, the first of the six weeks course in the Graduate School of Medicine, Tulane University, begins November 2nd.

At a recent meeting in New Orleans, the State Coroner's Association was formed, electing Dr. George Roeling, coroner of the City of New Orleans, President; Dr. Marvin Cappel, Alexandria, Vice-President, and Dr. Emile Bertucci, New Orleans, Secretary-Treasurer.

Dr. John Spelman, Superintendent of Touro Infirmary, and Dr. Wm. W. Leake, Superintendent of Charity Hospital, New Orleans, are attending the Annual Meeting of the American Hospital Associations.

DR. PAUL GELPI HEADS CHARITY STAFF.

The Annual Meeting of the Charity Hospital Staff was held Tuesday, October 13th in the Miles Amphitheatre, Charity Hospital. The reports of the Surgical and Medical Sections were presented. The Retiring President, Dr. H. W. Kostmayer, read his report in which he stressed that the entente cordiale existing between the Board of Administrators and the Staff still prevailed and that a number of progressive steps had been made during the year, chief among which was the establishing of a Cardio-electrograph Clinic, the completion of the first modern hospital unit and the driving of the first piles for the John Dibert Tuberculosis Hospital. He also informed the Staff that data had been compiled by the Board of Administrators regarding Hospital Abuse, and that in view of the nearness of the next Legislative Session that definite arrangements should be made to correct the abuse by legislative enactment.

Dr. W. W. Leake, Superintendent, addressed the Staff outlining the progress made in the Hospital during the year, and expressing his gratitude for the co-operation unstintingly given to him which had greatly facilitated his tasks.

The election of Officers for the ensuing year resulted as follows:

President, Dr. Paul Gelpi.

Vice-President, Dr. Jerome E. Landry.

Secretary-Treasurer, Dr. Lucien A. LeDoux.

Dr. Chaille Jamison and Dr. A. E. Fossier, elected for one year.

Dr. H. B. Gessner and Dr. Randolph Lyons held over for the second period of their two year term as members of the Board.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:

At Washington, D. C., December 7, 1925; at Chicago, Illinois, December 7th, 1925; at New Orleans, La., December 7th, 1925; at San Francisco, Calif., December 7th, 1925.

NURSING STANDARDS, MASSACHUSETTS.

A committee of Massachusetts nurses and physicians are formulating standards for prenatal and obstetric nursing for the nurses of the State Division of child hygiene. Dr. Mary Lakeman is chairman of the committee and Dr. Robert L. DeNormandie is advising.

ST. RITA'S CLOSES.

After a five years period of struggle against many adversities, the St. Rita's Surgical Infirmary, of New Orleans, of which Dr. Milton P. Tilly was Surgeon-in-Chief has closed its doors. Dr. Tilly deserves much credit for his tenacity of purpose in keeping this institution going throughout the period in which it has well served its patients and staff. During this period Dr. Tilly promoted the Sisters of Mercy, an order which had been in the State for more than fifty years without a Hospital Service. These Sisters had served at St. Rita's through the period of its existence and did much toward the furtherance of its success. Recently through the munificence of Mrs. Soniat, there has been given to the City the Leonce M. Soniat Memorial Hospital, and the Sisters of Mercy who were formerly at St. Rita's have now taken over the Soniat Memorial. Now through further efforts of Doctor Tilly, the Sisters of St. Joseph, who have been in Louisiana for over seventy years, and who are known as the great hospital order of France, will be given charge of the new Archdiocese Hospital which is soon to be erected in Carrollton.

MISSISSIPPI.

Vicksburg, Mississippi,
September 18, 1925.

Dear Mr. Editor, News and Comments:

Will you kindly pause in your hot chase for Mississippi News for your "organ" long enough to remind our doctors that the Legislature meets in January and that the Committee on Legislation has a "Lye Legislation" bill that needs support?

Lest your massive brain has failed, so far, to get the true inwardness of this bill, permit me to tell you:

1. That commercial lye is marketed in innocent-looking packages.

2. That as there is nothing on these packages to call attention to the deadly character of their contents, they are frequently left lying around where children get at them.

3. That as their contents are also innocent in appearance, children frequently eat it.

4. That within a few minutes after such a meal, somebody realizes there is hell to pay.

5. That the child who dies shortly after such a meal is really luckier than the one who survives.

6. That the A. M. A. has asked legislation in this matter, and the A. M. A. committee and the lye manufacturers have agreed on a model bill.

7. That this bill provides for a suitable poison label so that the purchaser of lye may be warned of his possible danger.

This bill has been passed in a number of states—it is not being fought in any way. Provided it does not die of inertia, it will pass any legislature. But it is up to the doctors to treat the inertia. Kindly put a little kick into this "comment" and pass it on to the Mississippi doctors.

Anyone who fails to support it may be the cause of some kid dying—it's just possible that it may be his own kid. Yours,

E. F. HOWARD.

(The Editor feels that the above could not be improved. We therefore publish this screed in the hope that the medical profession of Mississippi will not let this bill die of inertia.)

DR. JAMES JORDAN HARALSON.

Dr. James Jordan Haralson was born in Scott County, Mississippi, December 31, 1857. He moved in early childhood to Newton County, Mississippi, and was educated in the old Cooper Institute, Daleville, Mississippi. After clerking in the general store of Eastland & Thornton at Lake Mississippi, he acquired ownership of a drug store in

Lake, which he later sold to take a position in a drug store in Meridian, Mississippi. From there, he matriculated in the Louisville Medical College at Louisville, Kentucky. On graduation he practiced his beloved profession at Conehatta, Mississippi, until 1892, at which time he was appointed quarantine officer at Ship Island, serving one year, being the last such officer under the State administration, the United States Marine Hospital and Public Health Service taking the work over at that time. Resuming practice in Conehatta, Mississippi, he continued in active practice until his death on October 12, 1925.

Dr. Haralson was a member of The American Medical Association, Southern Medical Association; Tri-State Medical Association; Tri-State Railway Surgical Association; Mississippi State Medical Association; Secretary of the Mississippi State Medical Association, 1904; Scott County Medical Society; President, Mississippi State Medical Association, 1924; Mississippi State Board of Health at the time of his death; Examiner for the Draft Board of Scott County and Member of the Medical Advisory Board of this District during the World War; Local Surgeon A. & V. R. R. for twenty-six years; Chairman of the Scott County Democratic Executive Committee for many years, and Value Director of the Bank of Forest for more than twenty years. He was prominent in all Masonic Bodies of this State, being Supreme Representative Hamasa Temple, Mystic Shrine, 1919; Master China Grove Lodge for a number of years; Master Forest Lodge for nearly twenty years, and at his death he was Worthy Patron Forest Chapter No. 168, Order Eastern Star; also an active member of Excelsior Lodge 86, Knights of Pythias. He was President of the Board of Managers of the Masonic Home of Mississippi. Of all his activities this last was no doubt nearest to his heart. The care and protection of the orphans of his fraternal brothers was his greatest concern. He loved these helpless little ones.

It was while attending a meeting of this Board in Meridian on the night of the 9th that he had an attack of angina pectoris. Recovering temporarily, he returned to Forest on Saturday morning he had a sinking spell in the W. S. Vance Drug Store where he kept his offices. Sunday afternoon and night he had apparently recovered and was in a cheerful mood, chatting with his family and friends. Monday morning, feeling well again, he announced his attention of going to his office. Against the protest of his wife he went out to his car, and, the car not moving, Mrs. Haralson suspected something wrong, and went out to find him sitting at the wheel with life extinct.

Funeral services were held in a beautiful and impressive manner in the Forest Presbyterian Church, in which Dr. Haralson had served as deacon for many years, at 2:30 o'clock on Wednesday afternoon. A large congregation of friends from all parts of the state were present. Services at the grave were under the auspices of Forest Lodge F. & A. M. 437, Grand Master Ellice with other grand officers officiating.

RESOLUTION.

INASMUCH as it has pleased Almighty God in His divine wisdom to take unto Himself our fellow laborer,

Dr. J. J. Haralson, of Forest Mississippi, member of the State Board of Health, member of the Scott Medical Society, formerly president, and for many years, one of the most loyal and efficient members of the Mississippi State Medical Association, be it, therefore,

RESOLVED, by the Warren County Medical Society that we do express our appreciation of the great services of Dr. Haralson to the cause of organized medicine and through it to the people of the State, and be it further

RESOLVED, that a page in the minutes of this Society be set aside for these resolutions and that copies be sent to his bereaved family, to the State Association, and to the official publication of the State Association.

E. F. HOWARD,
LEON S. LIPPINCOTT,
For the Society.

Dr. J. Sidney Eason, Health Officer of Tate County, reports that during the month of August sixty patients were given typhoid vaccine; during September one hundred and thirty-eight were vaccinated against typhoid, and six against smallpox; vaccine for six hundred and sixty-five patients was furnished to other doctors throughout the county. All business places in the county were visited, and those found in unsanitary conditions were condemned, twelve to fifteen slaughter-houses were ordered built, the poorhouse and jail were repainted and repaired, new bedding put in both institutions, and other improvements made.

The Health Officer also wrote twenty-five letters in regard to health matters, thus stimulating those discussions which result in the education of the citizens along the lines of sanitation.

The County Health Officers' Conference will not be held during Fair Week this year as usual. The meeting of the American Public Health Association conflicts. Several of the

County Health Officers' conferences will be held early in December. The State Board of Health will hold a meeting at the same time, clearing up all matters for the year.

Dr. R. N. Whitfield, Director of the Bureau of Vital Statistics, entered Johns Hopkins on October first for a course in Vital Statistics.

Mr. Tom Townsend, State Sanitary Inspector, State Board of Health, for the Northern District, has resigned to accept a position with the LeFlore County Health Department as City Inspector for Greenwood and Itta Bena.

Twenty-one counties in the State have made appropriations for health work on a full time basis.

Bureau of Sanitary Engineering—State Board of Health.

The Bureau of Sanitary Engineering of the Mississippi State Board of Health maintains for the service of the people of Mississippi the following divisions:

Division of Water and Sewage; Division of Malaria Control; Division of Municipal Inspection.

The services rendered by these divisions are chiefly technical advice and assistance on all matters of sanitation and the enforcement of the sanitary regulations of the State Board of Health.

These activities may be summarized as follows:

Division of Water and Sewage.

1. Investigation of existing water supplies and sewerage systems and securing improvements and corrections when needed.

2. Investigation and approval of proposed new or improved water supplies and sewerage systems, including water purification and sewage treatment plants.

3. Promotes installations of new water supply and sewerage system and alterations to existing systems.

4. Investigation and certification of water supplies for use of common carriers in co-operation with the United States Public Health Service.

5. Examination and advice relative to water supplies and sewerage systems of state institutions and schools.

6. Sanitary surveys of municipalities and advice relative to waste disposal.

7. Investigations of sanitary conditions of school buildings.

8. Inspections and advice relative to rural sanitation.

9. Sanitary inspections of camps, resorts, and watering places.

10. Examination and advice relative to public swimming pools.

11. Laboratory service through co-operation with the Hygienic Laboratory, including examination of water and sewage, etc.

12. Investigation of disease outbreaks that may be water borne, in co-operation with other departments.

13. Publishes and distributes free bulletins on the Sanitary Privy, Sewage for Farm Homes and Unsewered Communities, Water Supplies for Rural Homes, and furnishes free, plans for sewage disposal systems for schools, court-houses, etc.

Division of Malaria Control.

1. Investigations and studies on the prevalence of malaria.

2. Co-operation with full-time County Health Departments in the organization and institution of a county-wide anti-malaria program.

3. Renders advisory aid to municipalities in the inaugurating of mosquito eradication campaigns.

4. Publishes and distributes free, literature on malaria, its cause, prevention, and cure.

5. Works to prevent the creation of new man-made mosquito breeding places.

6. Renders advice to road and construction crews on the prevention and cure of malaria.

7. Educational work by means of addresses, exhibits, motion pictures, correspondence, etc.

Division of Municipal Inspection.

1. Inspection of food vending establishments and public service places.

2. Enforce the sanitary regulations of the State Board of Health.

3. Institute court proceedings against violators of the sanitary laws.

4. Investigates complaints and secures corrections of nuisances affecting the public health.

Dr. J. C. Inman, of Hosford, Florida, began work as Assistant Medical Director of the Hinds County Health Department on September 20th.

Dr. Inman is a graduate of the Medical Department, University of Virginia.

Dr. C. W. Norwood, Corinth, Mississippi, has returned from Chicago where he did some post-graduate work.

Dr. C. F. Gilbert, Corinth, Mississippi, is taking a two weeks' vacation, and will visit clinics in the East.

Dr. W. M. Robertson, Rienzi, Mississippi, is attending the National Convention of the American Legion in Omaha, Nebraska, this week.

The quarterly meeting of the Homochitto Valley Medical Society was held in Natchez on October 8th, with the president, Dr. C. E. Catchings, in the chair.

Miss Gladys Eyrych, of the Division of Mouth Hygiene, Mississippi State Board of Health, addressed the Society.

The election of officers for the year 1926 resulted as follows:

President—L. H. Lamkin, Natchez.

Vice Presidents—W. H. Aikman, Adams County; C. W. Stewart, Amite County; L. W. Walker, Franklin County; B. R. Clark, Jefferson County; J. W. Brandon, Wilkinson County.

Secretary-Treasurer—L. S. Gaudet, Natchez.

Dr. W. H. Aikman was re-elected as member of the Committee of Medical Defense.

Delegates—E. E. Benoist, Adams County; W. R. Brumfield, Amite County; C. E. Mullins, Franklin County; J. C. McNair, Jefferson County; C. E. Catchings, Wilkinson County.

A committee of Drs. E. E. Benoist, Chairman, J. C. McNair and J. S. Ullman was appointed to investigate the possibility of establishing a library for the Society in Natchez.

Plans were adopted for holding a special meeting of the Homochitto Valley Medical Society in Natchez, at 4 P. M., of November 12th, at which time a lecture by Dr. Cooper, of the American Birth Control League, will be given. Our colleagues, both in Mississippi and Louisiana, are cordially invited to attend this lecture.

BOOK REVIEWS

A Compend of Diseases of the Skin: By Jay Frank Schamberg, A. B., M. D. Seventh Edition, Revised and Enlarged.. Philadelphia F. Blakiston's Son & Co. 1925.

This is a complete summary of the more important affections of the skin. The author has followed in this revised edition as in his first edition Duhring's classification. The work is intended for a quick, ready reference for the general practitioner, the student, and as a key to the study of Dermatology.

The author outlines on several instances a very complete differential diagnostic chart. In the group of inflammations he differentiates the different forms of Eczema with Impetigo, Sycosis, Erysipelas, Psoriasis, Tinea Circinata, Herpes Zoster and Scabies.

The chapters on Acne, Tinea, Impetigo and Dermatitis Venenata are very comprehensive and to the point. The special therapeutic agents, such as X-ray, Finsen Light, Carbon Dioxid, Liquid Air, the use of Vaccines and Bacterins, and Foreign Protein Infections are well discussed, but no attempt is made to teach the reader the details of their application, for which I think the author should be commended.

The chapter on syphilis gives a very modern, practical and conservative view on the diagnosis, prognosis and treatment. However, in the chapter on Dermatitis Medicamentosa, under the discussion of the arsenical eruptions, no specific mention is made of the salvarsan dermatoses.

The illustrations are modern, well selected and add very much in making a little book of three hundred pages such a valuable text for reference and study.

M. T. Van Studdiford, M. D.

Insanity and Law: A Treatise on Forensic Psychiatry. By H. Douglas Singer, M. D., M.R.C.P. (London), and William O. Krohn, A. M., M. D., Ph. D. Philadelphia. P. Blakiston's Son & Co. 1925.

In view of the recent series of sensational murder trials in the Illinois criminal courts and of the activity and industry of Chicago's gunmen and bandits, it seems appropriate that a good, reliable book on forensic psychiatry should emanate from the Windy City where the doctors are so successful in saving the murderers.

The work is divided into two parts: Part I, Mental Disorders, and Part II, Legal Aspects. It only contains about five hundred pages but a great deal of valuable information that might require a large amount of reference work is contained in them. Part II will be most helpful to physicians when called upon for advice on

medico-legal subjects bearing on insanity, as they frequently are confronted with such problems. Among the topics discussed may be mentioned guardianship and insanity and marriage. One chapter is devoted to the physician in court. The perusal of it should put a physician at ease, when called upon to give medical testimony.

Francis M. Munson, M. D.

Abt's Pediatrics: Vols. V, VI and VII. W. B. Saunders Co. 1924 and 1925.

Volume V of this excellent work covers the diseases of the face and jaws; orthopedic surgery; tuberculosis; hereditary syphilis; the infectious disease and infection and immunity. The contributors are all men recognized for their special knowledge of the subject upon which they have written. The bibliography is unusually complete.

Volume VI takes up the physiology of the body temperature and its regulation, infectious diseases continued; local and general anesthesia; the peculiarities of surgery in childhood; fetal malformations; vulvovaginitis and arthritis deformans. This volume is thoroughly up to the minute, and of especial interest is the chapter on Scarlet Fever, with discussion of the important work of the Dicks, the application of the Dick Test, and the use of the scarlatinal antistreptococcus serum.

Volume VII comprises chapters on the physiology of the nervous system; surgery of the head and spine; the brain and spinal cord; diseases of the nervous system; psychopathology of the child; defects of speech and the sexual life of the child. It would be difficult to find in one volume a broader, more comprehensive and thorough discussion of the subjects treated in this work by men of recognized prominence.

L. von Meysenbug, M. D.

Consultations du Medicin-Praticien: Guide de Pratique Medico-Chirurgicale Journaliere. Par Le Dr. Fred. Blanchod. Paris. Libraire J. B. Bailliere et Fis. 19 Rue Haute-feuille. 1925.

This rather ambitious manual, published in French, is intended as a handbook of treatment, medical and surgical, for the busy practitioner. It takes up, alphabetically, all the infirmities to which the human organism is heir and gives the most approved treatment to them. To the extent to which such a feat can be performed in 560 pages, the book is authentic and will doubtless prove useful as a desk reference book for busy medical men having a working knowledge of the French language.

Francis M. Munson, M. D.

Operative Surgery: By J. Shelton Horsley, M. D., F.A.C.S. With 666 original illustrations. Second Edition. C. V. Mosby Company, St. Louis. 1924.

Covered in one volume, we have in this book an excellent survey of general surgery. From beginning to end the work shows evidence of careful forethought and planning. The headings under which the various topics are presented have been carefully selected, and as a result the author has been able to prepare a volume that is pleasing, particularly to the general practitioner, and especially for him who includes a certain amount of surgery in his practice.

To begin with, the author gives us an excellent idea under the heading of general considerations, where, in a relatively concise space, he presents the various important elements that come under this subject. While all topics have been excellently handled, his surgery of the blood vessels and of the gastro-intestinal tract are particularly interesting and presented in a simple and masterly manner.

The element that is one of the brightest features of the book is the illustrations. These are quite abundant, carefully arranged, and excellent drawn; and doubles the value of the book.

Frank L. Loria, M. D.

Practical Clinical Psychiatry for Students and Practitioners: By Edward A. Strecker, A. M., M. D. Illustrated. Philadelphia. P. Blakiston's Son & Co. 1925.

Doctors Strecker and Ebaugh have produced a convenient little book that is well named "Practical Clinical Psychiatry." It is very practical and the subject is presented by the case system. It is not intended for the psychiatric specialist but for the novice that he may learn the fundamentals of this important branch of medicine, and for the busy practitioner that may obtain the psychiatric point of view, which will help him out of many a tight place. The nurse, whether she be engaged in bedside, district, or school nursing, may gain an insight into the principles

of psychiatry from it that will be of great value to her in the practice of her profession. The same applies to the social worker.

The book contains twelve chapters and a glossary. The first chapter is devoted to general etiology, diagnosis, prognosis and treatment; the second to the classification of mental diseases. The classification used by the authors is the one commonly employed by psychiatrists, and is in use in all mental hospitals. The last chapter discusses mental deficiency. The arrangement of the book and use of bold-faced type and small capitals for section and chapter headings makes it handy for reference.

Francis M. Munson, M. D.

PUBLICATIONS RECEIVED.

Lea & Febiger, Philadelphia and New York: "Modern Medicine," edited by Sir William Osler, Bart., M. D., F.R.S., Third Edition, re-edited by Thomas McCrae, M. D., Volume 1. "Surgery of Pulmonary Tuberculosis," by Alexander, M. D. "Diseases of the Nose, Throat and Ear, Medical and Surgical," by W. L. Ballenger, M. D., Fifth Edition.

C. V. Mosby Company, St. Louis: "Physiological Chemistry," by C. J. V. Pettibone, Ph. D. "Objective Psychopathology," by G. V. Hamilton, M. D.

W. B. Saunders Company, Philadelphia and London: "The Art of Medical Treatment," by Francis W. Palfrey, M. D.

F. A. Davis Company, Philadelphia: "Feeding and the Nutritional Disorders in Infancy and Childhood," by Julius H. Hess, M. D.

Fleming H. Revell Company, New York and Chicago: "The Faith, The Falsity and The Failure of Christian Science," by Woodbridge Riley, Ph. D., Frederick W. Peabody, LL.B., and Charles E. Humiston, M. D., Sc. D.

Miscellaneous: "Development of our Knowledge of Tuberculosis," by Lawrence F. Flick, M. D., LL.D.

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Louisiana State Medical Society, Monroe, April 15, 16, 17, 1926
Mississippi State Medical Association, Jackson, May 11, 12, 13, 1926

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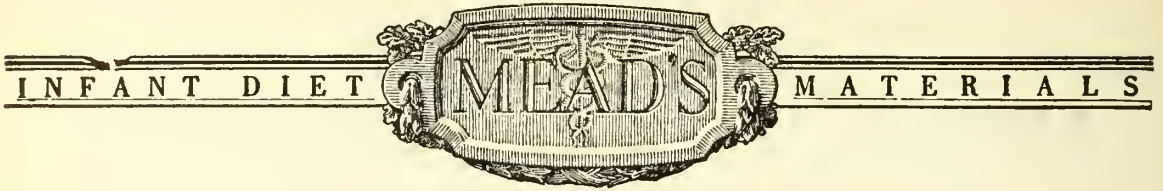
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GREATER SAFETY FOR LOUISIANA BABIES*

R. T. LUCAS, M. D.,

SHREVEPORT, LA.

The country is waking up to the importance of preventive medicine, which includes public and personal health problems and it is becoming increasingly popular for people to have periodic physical examinations, without waiting to get sick. In infancy and childhood this is particularly noticeable.

This healthy tendency has been brought about largely by education, which must prepare the way for anything involving the public. Millions of dollars are spent annually to improve our stock and farm products. Our baby crop is entitled to at least equal consideration and it is seemingly just beginning to be realized. Whether we realize it or not, all of us are concerned with the welfare of the babies who are our future citizens. It is the State's duty to its future citizens to contribute towards giving them the best possible start in life, and that start, of course, begins well before birth.

There are several nations having a smaller child death rate than the United States, and a dozen with a smaller rate of maternal deaths from child birth.

A practical line can be drawn between educational and preventive measures and

curative measures. The latter should be left to the private physician. The State and the private physician both have rights and duties in the education and prevention and cure of diseases. It is not always clear just what each party's rights and duties are.

There is some misunderstanding on the part of many who believe the State is trying to take over the medical care of the people. Such problems, though, will be solved by enlightenment on both sides and by the test of time. All reasonable physicians, I believe, would rather treat patients who are properly informed on health problems than to have to combat ignorance as well as disease.

The Sheppard-Towner Act, a federal enactment, for the promotion of maternal and infant welfare carrying federal aid has been adopted by most of the states including Louisiana. As most of you know, through the provisions of this Act, a state's appropriation for maternal and infant welfare work is matched by the Federal government, the available amount being determined by the population. I believe Louisiana's maximum amount available is \$17,000.00. The Federal government may withhold a state's appropriation should it become convinced the money is not being properly spent.

There has been considerable opposition to it, but now it is adopted, it deserves a fair trial by receiving our heartiest support. Its administration is practically left to the individual state and there is little

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

uniformity in the work in the different states, but with more experience, the differences will tend to disappear as certain plans prove more efficient. However, the thing we are primarily concerned with is to have healthy, sound babies, to make the sick well, and to keep the well healthy. To accomplish, or rather promote this is our object.

The State Bureau of Child Hygiene is the logical head for such an undertaking. The State and local medical societies, women's clubs, parent-teachers' associations, and other organizations should be thoroughly informed of the plans and details of the work as part of the first of the program, and their aid and co-operation enlisted. Each organization should have a program of study and work best suited to its own qualifications and opportunities. A committee on maternal and infant welfare should be appointed in each such organization to have charge and take the responsibility of carrying on the work. Necessarily, a mothers' club would have a program different from that of a medical society, yet with the proper co-ordination and co-operation, each group may contribute a great deal towards the end in view.

With these various organizations studying the subject, a greater realization of its importance and possibilities will be brought about, with better appreciation of the responsibility to help in the education of mothers in the problems of rearing their children properly. Incidentally, a good advertising expert might well be included on the staff of such an organization to help keep the subject properly advertised.

These subordinate groups with education and some guidance could and should become potent factors in the dissemination of proper information. Mothers' clubs for infancy and childhood study, may be organized and help given in the working out of their problems, which should include the subjects of discipline and applied child psychology as well as the study of child care,

personal hygiene and diet and disease. Actual demonstrations of how to care for babies, and moving pictures should be given before groups of mothers and all girls in high school. Many new mothers do not know the simplest fundamentals of infant care. Each girl before graduating from high school should actually be shown how to handle, bathe, clothe and feed an infant and be taught the fundamentals of infant care in such a way that she will not be helpless, as many are at present when the responsibility of motherhood rests upon her.

In many states, including Louisiana, letters, some of them monthly, are mailed to expectant mothers giving them pertinent advice and information. This is an excellent idea in that the mothers know better what to do for themselves and for their babies and the physician is relieved of some of the responsibilities of education, which he too frequently overlooks.

Care should be taken not to attempt, or appear to attempt, to supplant the attending physician and to impress upon the expectant mother the necessity of putting herself under the care of a physician.

Education of the physician as to just what is being attempted is a necessary prerequisite in this particular matter. It would be well to send every physician a set of the letters for his own inspection with a blank return card for his approval or disapproval before sending them to his patients.

Incidentally, birth registration can be increased by urging the mothers in these letters to be sure that the child's birth is registered.

I shall not presume to go into particular details as to the organization of such work. However, what work is done in the demonstrations, schools, better baby movements, etc., should be done thoroughly, the necessity of corrections impressed upon those responsible, and proper follow up work carried out. The absence of proper follow up work

makes the undertaking little more effective than shooting at a target with blank cartridges.

Among the organizations contributing to the work under consideration may be mentioned the State Bureau of Child Hygiene, Louisiana State Fairs, Better Babies Movement at Shreveport, Dr. De-Buys' Newborn Clinic here in New Orleans, and the American Red Cross.

The active campaign for better milk which the State Board of Health has put on is also a potent factor. It goes without saying that as important and easily spoiled a product as milk is, should undergo constant strict supervision, and all cows furnishing milk for sale should be tuberculin tested. Certified milk should be available for the majority of babies instead of the extremely small minority as is now the case. Milk should be obtained from healthy, tested cows, by healthy, clean workers, in clean containers and every step from the cow to the consumer should be carefully safeguarded. The bacterial content should be determined often enough to keep a good check.

It might be a good plan to require the dairyman to supply his customers with his actual and relative rating and the bacterial content of his milk for the preceding period. This would certainly make him alive to his responsibility and his customers would know better what they are getting. The next step is to educate the public on the value of milk and milk products.

I cannot refrain from emphasizing the importance of educating the public to the superiority of fresh milk over proprietary foods as an infant food with the earnest plea that those of you who do not know how to modify cow's milk for infant feeding, learn the few fundamentals necessary to do so or refer your babies not getting breast milk to someone who does understand how to use it.

In her discussion, Dr. Loeber will, I hope, give us a review of the work of the State Bureau of Child Hygiene. It goes without saying that those having in charge such work as this, requiring as it does special training, should not be hampered by politics but their office made dependent upon proven ability.

I am presenting these few thoughts for your consideration to try to emphasize the importance of this particular phase of health work. I do not believe the medical profession and other possible participating organizations are sufficiently informed as to possibilities, plans, and the actual work being carried on to obtain their best co-operation.

In closing, I again want to emphasize the importance that education must play in work of this character.

DISCUSSION.

Dr. Maud Loeber (New Orleans): Doctor Lucas has given you such an excellent outline of the position of the people who are trying to make Louisiana a safe place for babies, that there is hardly anything left for any one from the Child Hygiene Bureau to add.

In discussing one particular feature of the paper, I would like to say that the Child Hygiene Bureau and the State Board of Health have under the appropriation of the Sheppard-Towner Bill, \$12,000, and then \$5,000 additional, making what Doctor Lucas calls a \$17,000 appropriation. This appropriation is to be matched by a similar amount from the State Board of Health, which has been done. Under the Sheppard-Towner appropriation this money is to be used for Little Mother Clubs, it takes care of the suggestions that Doctor Lucas mentioned for the schools, it also takes care of maternity and infant welfare work, including the pre-school age, and also take care of the midwife. The inspection for school work, however, is not included under the Sheppard-Towner Bill, but the State Board of Health provides for the inspection of school children under the Bureau of Child Hygiene. We are very fortunate in the Louisiana State Child Hygiene Bureau in having on our staff three women physicians who are out in the field, and who are exceptionally qualified to do this work and have done very excellent work. We have also four nurses. One of these nurses is a colored trained nurse who co-operates in the work of the colored people. Since the beginning of

this work—not quite a year—there have been 4,000 children examined of pre-school age, including the babies under one year, and 4,000 school children. So far as follow-up work is concerned, we have tried to have a community see the necessity of having an all-time public health nurse in that community. I would say that the communities have more than done their share in co-operation through the Mothers' Clubs and Parent-Teachers' Clubs and health officers, and particularly health units. They have given most hearty encouragement and co-operation in getting together groups of mothers and helping us in the educational work.

In the letters that are sent out from our Bureau to the physicians, we have endeavored to get the co-operation of the physicians, and request their suggestions or recommendations on these letters before we put them into the field. We are more than anxious to get recommendations and suggestions from the physicians, and in one instance we found we were met more than half way. That physician asked us to send him 50 letters to use in his family work.

The milk supply is most essential and we have found the state-wide survey made of Louisiana on the milk situation has proved most beneficial to the babies.

The Child Hygiene Bureau this year is endeavoring to secure better birth registrations so that we may be able to put Louisiana into the registration area. I think Doctor Lucas has covered the field very well and no doubt if his suggestions are followed Louisiana will certainly be a safe place for babies.

Dr. P. B. Salatich (New Orleans): Doctor Bel, in talking about the prevention of heart trouble, said to get them young. I think we would want to get them younger if we want healthy babies—in other words, before birth. If you attempt to build a house you buy the best material you can possibly get, and that is just what the woman is doing with the infant that is coming—she is building a house, and if she is taking care of herself, and puts herself in the best possible condition, there is no reason why she will not have a good, healthy baby, other things being equal.

As was said at different times today, about syphilis—that is the great bugbear. The important thing is to get the history. I can illustrate that by telling you about a case. I had a patient who was very anxious to have children; she had had one or two abortions. She went on and was delivered of about an 8½ months' old baby. When it was born it was very little, weighed only about four or five pounds, but by very good care in the hands of specialists it lived about six

months. We had a spinal Wassermann made in both mother and father and it was absolutely negative. Ignoring that, I put both of them on anti-syphilitic treatment. Immediately, the woman became pregnant again, I put her on that treatment, and she was delivered of a fairly healthy looking baby. The baby now is five months old and is thriving.

Unfortunately, the doctor sees small percentage of babies born compared to those the midwife sees, and women should make it a rule that if they cannot afford to have a doctor, and if for no explainable reason they have one or two abortions, they should consult a doctor, and with that history they should be put on anti-syphilitic treatment. I tell my patients that for 18 months—the 9 months they are carrying the baby and 9 months afterwards, their life belongs to that baby and the woman should take as good care of this baby the 9 months before as she does the 9 months after the baby is born.

If the baby is born and is deformed, that ought to be an inkling that before the next pregnancy we should look for some syphilitic condition. But do not think that it is only syphilis that is the cause of deformed babies. We know that bad teeth will cause some interference in some part of the placenta, the circulation may be disturbed and the part that is depending on that may show this when the baby is born.

Dr. J. Geo. Dempsey (New Orleans): In promoting child welfare the Bureau of Child Hygiene of the State Board of Health sends women physicians through the country parishes in an attempt to secure the co-operation of the midwives, who attend more than fifty percent of the births. The large number of cases that they attend makes them an important factor in promoting child hygiene. Pre-natal, natal, and post-natal care which has been recognized as a paramount point in child hygiene could be greatly increased and bettered by instructing these midwives in the proper manner. In a certain sense they are better able to render this care than the doctor. Being thrown in contact with the families and particularly the mothers they are afforded better opportunity to observe whether malignant or other abnormal conditions exist. It is apparent that if they are instructed to summon the family physician at the proper time much will have been accomplished towards the forwarding of pre-natal, natal and post-natal care.

I believe that this organization could supply the required instruction to the physicians in particular and that one of the outstanding results would be an accurate registration of the accomplishments of pre-natal, natal, and post-natal care.

THE INFANT'S PYLORUS: SPASM AND STENOSIS*

FRANKLIN G. RILEY, M. D.,

MERIDIAN, MISS.

Our knowledge of this interesting condition is comparatively young, the first description we find, though not under this title was by Dr. Beardsley in 1788, to be republished in May, 1903, in *Archives of Pediatrics* at the suggestion of the late Sir William Osler. Martin in 1826, Paul in 1828 and Williams of Leith in 1841, describe cases. In 1887, the subject was brought prominently before the medical profession by Hirschsprung in a paper read before the German Pediatric Society. Since then the condition has been observed quite frequently and numerous papers, dealing with various phases of the subject have appeared. The main discussion now seems to be whether the condition is one of congenital hypertrophy, the result of spasm, acquired hypertrophy or whether the stenosis is the result of the spasmodic contraction of a normal pylorus.

This subject has been of great interest to me since my entrance into the field of Pediatrics. This interest especially dates back to 1921 when Drs. Deaver and Alexander, my surgical chiefs at St. Christophers' Hospital for children in Philadelphia, Pa., asked me why we were not having more babies with pyloric stenosis in St. Christopher's clinics, while at Mary J. Drexel Home only a few blocks away there were finding many (comparatively). This put me on my guard and by careful study of all our vomiting babies, to my great surprise we found some 6 or 7 cases during that year. These cases were included in a series of cases reported by Dr. E. G. Alexander, *North American Clinics*, November, 1924.

During my private practice of less than three years in Meridian, I have found two

cases of complete stenosis. One operated on by Dr. Eugene Johnson, Memphis, the other by Dr. S. H. Hairston, Meridian, Miss., by the Fredet-Rammstedt method with recovery in both cases.

I think a remark by Dr. Stuart McGuire in one of his lectures, *Surgical Clinics of North America*, October, 1922, very timely. In diagnosing this condition the baby specialists are preferable, the general practitioner who sees by far more babies, at the time for the institution of proper treatment, should be able to diagnose the disease in question, as with the specialist the cases are rare and usually found in large cities while babies and general practitioners are to be found almost everywhere.

Dr. Martha Woolstein observes from the standpoint of pathology, that the changes in this condition are limited to the submucosa and circular muscular coat, the mucosa being unchanged; there being no inflammatory change, the vomiting we find, must be entirely mechanical. The submucosa is often edematous. The circular muscular coat is often two or three times thicker than normal, this thickness is due simply to larger amounts of muscle tissue in the circular coat. The connective tissue between the muscle cells is not increased nor thickened. The serosa is normal. Haas agrees that the tumor is made up of simple muscle fibers. Palmer claims the tumor is due to edema and gives it the feel of cartilage. Ladd describes two kinds of tumor, one in which the pylorus is hard, inelastic and when cut, hardly bleeds at all, the cut surface being white and appearing almost like cartilage; and when cut the mucous membrane is freed easily from muscular layer and bulges into the wound. In the other type the tumor is sometimes as large, but soft, elastic and bleeds freely when cut. The muscular and mucous layers are not easily separated. This type he thinks may represent the pylorospasm. Holt, Woolstein, Downs and others report cases who have died six months to two years after Rammstedt operation and at autopsy found the

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

tumor to be entirely gone. Morse has never found a normal pylorus at autopsy in children or babies who have supposedly recovered from pyloric stenosis under medical treatment.

Etiology: We find quite a difference of opinion as to the terms spasm and stenosis. The American and English authors classify according to anatomic conditions; stenosis, where we have an overgrowth of muscle tissue causes obstruction. Continental writers claim it is impossible to get complete obstruction from simple muscle contraction alone. Holt said we should not try to divide this condition into the spasmodic and hypertrophic types, claiming that true hypertrophic stenosis differs very much in degree and that in very few was obstruction complete. He thought all were congenital as it seemed impossible for the hypertrophy we find two or three weeks after birth to have developed from simple spasm, and that persistent spasm without hypertrophy had not been established. Many do not accept Holt's theory claiming that when the pyloric spasm has been relieved the condition is cured. Levy frequently failed to find the tumor after opening the abdomen although the tumor was felt very plainly before operation. Helle has also found this condition to exist, yet he does not think the tumor will disappear simply on pressure from handling. This confirms Pfaundler's opinion that spasm may exist without a tumor. Barret on his X-Ray findings believes stenosis and spasm to be two distinct entities. Ladd on grounds of his pathologic findings makes a difference. Finkelstein reports a case in a baby in which all the signs of obstruction were present. The baby died on the forty-ninth day and at autopsy normal pylorus and muscle fibers were found. Since this he believes we can have simple spasm of pylorus which can be distinguished only anatomically from the hypertrophic form.

Strauss, Palmer and Harrison think it is yet to be proven that we can have a simple persistent spasm of pylorus. These dif-

ferent opinions and ideas are very unfortunate as they are prone to lead to grave trouble, by causing us to hold off operation too long. Thomson does not claim to know the cause of this condition; however, he favors the theory which regards the muscular hypertrophy as secondary to some form of antecedent overaction resulting from long continued inharmonious working of the various elements of the muscular mechanism, controlling the emptying of the stomach. Strauss thinks the condition exists in utero. He refers to the finding of pyloric tumors in the fetus and new born, and states that in his series of sixty five cases that the sizes of the tumor was in proportion to the age of the baby, claiming that it progressed very slowly in fetal life, but as soon as food was taken into the stomach the increased irritation of the nerves of the stomach caused rapid progress of the condition. Haas thinks pyloric stenosis, only an advance degree of pyloric spasm and that all can be cured by atropine. He thinks it impossible to differentiate between spasm and stenosis. Price thinks it may be due to hyperadrenalism before birth and that other subsidiary post natal causes determine the persistence or recurrence of the spasm. He thinks the hypertrophy exists before birth and that the degree of spasm determines the onset of symptoms.

Symptomatology—In reviewing the literature we find that all authors agree on the general symptoms of pyloric stenosis. Those who believe in spasm and stenosis as separate entities differ as to the importance of individual symptoms. Dr. Thomson's classification of four stages seems the most logical one.

First: Stage without symptoms.

Second: Stage of primary symptoms; violent vomiting, retention of food in the stomach, drying of the tissues, arrest of gain in weight and visible peristalsis.

Third: Stage of secondary symptoms; emaciation, debility, dilatation of stomach and toxemia.

Fourth: Stage of recovery if child survive; in which muscular tone becomes normal, peritoneal coat gradually widens, muscular hypertrophy subsides and lumen enlarges. He believes that the condition is self-limited. If the baby does not die of inanition the natural processes of growth and development will in time remove the obstruction. He says there are two distinct types. The mild, in which operation is never needed, the severe in which immediate operation is demanded. Ernberg and Hamilton believe there is tendency to spontaneous recovery. Others who do not say so in so many words, evidently believe this to be true. The symptoms as we usually find them are about as follows: First born, male, proportion to female, about 4 to 1, usually breast fed, age ranging from two or three days, to eight weeks. Those found after several months of age who have previously been healthy, most probably not pyloric obstruction. The first and most important symptom to attract our attention is vomiting, frequently beginning as regurgitation, gradually growing worse, until it is decidedly projectile, or it may begin very suddenly as projectile, the mother telling you almost to the hour, the beginning of the vomiting. There is nothing distinctive about the character of the vomitus. It may be a few minutes after nursing or as late as two hours, or may occur after several nursings. The vomiting is the most distressing of all symptoms. Peristalsis comes second in importance. Thomson mentions it as of very great importance while Downs states that it was absent only once in his series of one hundred seventy-five cases. This will be as a wave passing from the cardia to the pylorus best elicited by giving the baby two or three ounces of water or milk, with the baby on its back in a favorable light, you will be able to see the wave passing across the abdomen; then comes the tumor,

which when felt is to the right and above the level of the umbilicus; then the scanty urine and stools with progressive loss of weight. Other symptoms mentioned by Haas are pallor, lividity, loss of tissue turgor, circumoral cyanosis, cold, clammy and cyanotic hands and feet, subnormal temperature unless over-shadowed by starvation fever. There may be spasm of the larynx, pharynx, cardiac, esophagus, various portions of the intestines as well as of the skeletal musculature even to the degree of oposthotonus often presenting the classical picture of infantile tetany. Henske reports a case in 1922 in which there had been other children born to these parents, but only in one did he observe a second case in the same family. I find twins to be reported by H. H. Davis in Journal A. M. A. August, 1924. H. L. Moore, South. Medical Journal, March, 1924, Clyde Moore, November, 1919. All proven by operation. Albert K. Kaiser reports the youngest case I am able to find any record of Archives of Ped. December, 1924, operated on fifth day, first symptoms on second, recovery.

Diagnosis: There is very little more to add to help us in diagnosis unless we want to resort to the aid of the flouroscope and barium meal. Downs, of New York, who has probably had more experience from operative standpoint, claims that we can make a diagnosis in 90% of cases on clinical symptoms and the finding of a tumor, so does not think the X-Ray necessary in the average case, laying a great deal of stress on the danger of delaying an operation while waiting for barium meal in serious cases. Thomson depends on visible peristalsis, tumor and the stomach tube. Strauss thinks the X-Ray very important in helping us decide as to whether we can afford to try out the medical treatment before resorting to surgery. Holt, Thomson and Palmer lay a great deal of stress on the use of the stomach tube to determine the degree of stenosis.

Treatment: This depends a great deal on the individual conception of the disease as to whether one believes in the two entities. Some believe in both surgical and medical, some only surgical and others only medical. Those who believe in both medical and surgical differ materially as to the time to change from medical to surgical. Should you try medical treatment don't continue too long, especially if baby is losing weight as they become dehydrated very quickly. The most generally accepted treatment medically is heavy dosage of freshly prepared solutions of atropine and thick cereal feedings. Haas says the atropine will rapidly deteriorate if solution is made up too long. He insists on giving large enough doses to get the physiologic effect, as red face or until the vomiting has stopped. He begins with 1/1000 gr., before each nursing and increases to as high as 16/100 gr. if needed to control the vomiting. With these large doses we may get constipation due to spasm of sigmoid and rectum when this happens stop for a short while; Haas keeps this treatment up for as long as one year if necessary.

Sauer, on account of the good results obtained by Hahn and McClure in the treatment of the neurotic vomiting of infants with thick cereals, thought it logical to try his plan in pyloric stenosis. The cereal must be thick enough to adhere to an inverted spoon, feeding from two to six tablespoonfuls six or seven times a day. He sometimes gives three cereal feedings and three breast feedings or uses breast milk instead of cow's milk in preparing the cereal mixture. This cereal may be given from wooden tongue depressor or through the hygeia nipple in which the opening has been enlarged for free passage of the cereal. The baby is then placed on right side and kept as quiet as possible.

For those who go to operation I feel that a few words regarding the pre-operative and post-operative treatment should

be mentioned. Starvation acidosis, dehydration, loss of heat during operation, and operative shock constitute the greatest immediate danger to these little fellows and every effort should be made to combat this condition. To fight the dehydration we must get fluids into the tissues, not being able to do this by mouth we find the subcutaneous and rectal routes to be the best in form of normal saline solution, or we may resort to glucose solution, 3 to 5%, in the veins should we feel the condition demand it, giving as much as 12 to 16 ounces in 24 hours. The operating room should be warm, the baby so wrapped that the body heat will be retained, operating table warmed with hot water bottles, all so arranged that they will not interfere with the surgeon. Ether is considered the anaesthetic of choice by most surgeons as it requires very little, if properly and carefully administered. It is thought that there is less danger from the ether than from trying to operate on a struggling baby. A very important step I wish to mention is filling the peritoneal cavity with normal salt solution before closing up. The main thing after operation is to combat shock and feed the baby at the earliest possible time after recovery from anaesthetic which will usually be about one and half hours. The routine followed by Hull and Downs and described by Kerley seems the most logical. First give 10 c.c. water and one and half hours later give 4 c.c. of barley water and 4 cc. breast milk. Following the above plan breast milk is given every three hours gradually increasing in amount and alternating with water until at the end of 48 hours about 30 c.c. are given at a feeding. Then discontinue the barley water and increase the milk 5 c.c. at each feeding until 60 c.c. are given each time. At this point breast milk alone may be given and if unable to get breast milk or wet nurse use weak skimmed cow's milk formula.

In conclusion let me stress the following points as brought out by Apfel *Med. Jour. & Rec.* July, 1924. First make the diag-

nosis as early as possible. Second: Do not condemn the mother's milk, where the fault may be in the mechanism of the infant's digestive organs. Third: Resort to antispasmodics and lavage as soon as possible, but discard them after one week's trial has given no results. Fourth: Give the baby the benefit of surgical relief while its health is still in fair condition. Fifth: When operation is decided upon, let it be a Rammstedt operation and not too much surgery. Sixth: Begin feeding the baby as soon as it has recovered from the anaesthetic, increasing the amount as rapidly as its tolerance will allow. A conscientious and experienced nurse will contribute very much to the successful treatment.

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DISCUSSION.

Dr. N. C. Womack (Jackson): I would like to discuss the paper from the standpoint of medical treatment. Personally, I do not think there is any similarity between the pathology of hypertrophic stenosis, and functional spasm. They are not related. One is frequently a surgical condition and should be operated as soon as diagnosis is made. Hypertrophic stenosis cannot be cured or palliated by medicine, in my experience; it demands early operation. If you have an exsanguinated baby, as a rule it is too late if you wait to try medical treatment and then resort to operation. When the symptoms show plainly, it is not difficult to make a diagnosis of hypertrophic stenosis, and you had better take no chances by deferring operation.

Functional spasm, I believe, is the result of allergy from certain protein in the mother's milk or in food the mother has taken. It partakes of

the same nature as spasm in the lower intestine in which there is contraction of involuntary muscle, and should be treated accordingly. Usually the response to such treatment is satisfactory. The treatment is large doses of atropine and thickened cereal feeding.

Dr. S. H. Hairston (Meridian): I had the pleasure of seeing one of these cases with Doctor Riley, and I want to say that the patient is now a fine healthy boy.

A diagnosis of hypertrophic stenosis is not very difficult. As Doctor Riley has emphasized, it should be made early and operative procedure instituted immediately.

There are a few points in the operative procedure that I want to mention. One is hemorrhage after the obstruction has been relieved and the bowel has been placed back in the abdomen. The traction of the bowel will very often prevent the bleeding of the opened vessel, and as soon as this is released by placing the bowel back in the abdomen, the hemorrhage starts up again. Post-mortem on the fatal cases will often show death due to hemorrhage from this cause. In this case it is best to observe the region for a few seconds to see that no hemorrhage occurs.

The second thing that you must be very careful with is in incising the duodenal band to prevent opening the duodenum. If this does happen, the only thing to do is to sew it up with fine cat-gut. We accidentally opened the duodenum in the case Doctor Riley reports, but we sewed it up and the patient recovered. We were quite uneasy for the next few hours, but were rewarded with good results.

The third thing is that these patients are already depleted of water, and it is best to leave the abdomen full of normal saline solution. This is best accomplished by closing the abdomen and leaving a very small rubber tube at one end of the incision and putting the saline through this tube. In this way you can put a goodly quantity of saline in the abdomen, whereas, it would come out if you tried to do this before closing the abdomen.

If the patient still vomits after the operation, it is well to inject more saline into the abdominal cavity. Doctor Riley has gotten to be quite an expert in this procedure, and I have seen some remarkable improvements in his hands as a result.

SYPHILIS AND EFFECTS OF MERCURIALIZATION IN DOUBTFUL CASES*

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Of the many serious infections, syphilis is regarded as one which is most regular in its phenomena, causing destructive structural and pathological changes in the tissues, and yet rapidly and easily responsive to medication. The regular stages follow, the primary, secondary and tertiary, each having their own destructive and separate pathological lesions, especially when improper and insufficient treatment is given. In treatment an attempt should be made to marshal the various manifestations, so that standardized measures can be employed. A syphilitic infection exists, as we know for a long duration, especially if the primary and secondary stages are permitted to exist, when the standardized treatment of mercury is not adopted. The practitioner needs therapeutic lines for guidance and these should be broad in their scope, for it is usually he, that sees the initial lesion of chancre and the tertiary lesions of tabes and gummata.

In recent years diagnosis has become simplified by the Wassermann reaction, and as a diagnostic means, permits of a positive diagnosis without symptoms of lymphatic enlargement, macular changes in the skin and signs of syphilis in early childhood. It is a symptom positive of syphilis, and when found requires aggressive medication. However, the pathologist in the research work of syphilis tells us that the Wassermann is merely a symptom, and its absence does not imply the absence of *treponema pallidum* in the deep seated tissues.

Fournier, the great syphilologist says; that mercury will always be the fundamental anti-syphilitic and cautions that

we should always be alert to surmise of the great danger of latent syphilis under obscure symptoms. The dangers wrought upon the nervous system, the circulatory system, the lymphatics, the bony and alimentary system are far too many to mention, and it is particularly in those cases where complex and obscure systems tax the ability of the X-ray, the bacteriologist, and the keen specialist in his particular branch of medicine, that we should resort to a thorough and perfect mercurialization. When carried out with discretion on the part of the Doctor, and co-operation of the patient the results will be gratifying and beneficial.

Certain conditions exist in which mercury as a therapeutic test should not be used, as in tuberculosis or an existing chronic nephritis, remembering that mercury is excreted by the salivary glands, the stomach, the kidneys, and alimentary tract, and if used great caution should be exercised. If a positive diagnosis can be concluded by the complement fixation tests by Wassermann and the cultivation of the *treponema pallidum*, and an *intercurring disease is present*, not syphilitic in origin, prognosis for mercurialization is lessened, for it is wise to remember, in spite of the syphilitic factor present, the syphilitic patient is not immune from other diseases and infections.

To underestimate the various symptoms, the penal scar of the chancre, the copper colored spots of pigmentation, the history of mucous patches, lymphatic enlargement of the glands, and the ink smear of the chancre for early diagnosis in primary syphilis before the development of the blood Wassermann, careful inquiry into past and present history of exposure and past symptoms should be the salient points of the careful diagnostician.

The question of doubt often arises in our mind in obscure conditions, and whether we should, for fear of sentiment and of-

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fense to the patient, state our method of treatment "Mercurialization", especially where laboratory tests for blood Wassermann and other symptoms of syphilis are negative. An idiopathic symptomatology justifies in those cases a thorough and perfect mercurialization to the point of physiological tolerance, or to a point where absorption of the mercurial salt will either permit of a positive or negative therapeutic test.

If mercurialization will tend to define and dispel certain symptomatic phenomena effecting the nervous system, headaches, disturbed ocular reflexes, hyper-tension of the arterial system, a diseased myocardium, removal of bony or lymphatic nodules, are we not correct in a continued aggressive treatment and diagnosis of latent syphilis by this therapeutic test of mercury. In the past five months I have endeavored to mercurialize nine patients from an apparent neurosis to an arterial hypertension. In five of the nine, or more than fifty per cent the results were satisfactory.

Many various methods of mercurialization exist, the condition and convenience of the patient should be a leading factor in the method adopted, and the salt and method the individual system will best tolerate. First Orally, Second Endermic, Third, Intravenous, Fourth Intra-muscular, Fifth Rectal, Sixth Vaporization.

The intra-muscular route when it can be carried out is satisfactory as in this procedure the exact amount can be tested to physiological tolerance. Any soluble salt in a sterile aqueous solution injected under strict asepsis into the deep gluteal muscles will have its advantage over the insoluble preparations, as to pain, induration, and danger of a slough to muscular and cellular tissue. The soluble salt is rapidly absorbed and eliminated, must be used oftener for effects and results. The insoluble salt is slow in absorption leaving a mass of mercury under the skin and must

not be used too frequently as the danger of the cumulative effect is present resulting in mercurial intoxication with Ryalism, painful deglutition, acute diarrhea and other signs of acute mercurial poisoning. General rotary massage after an injection of mercury over the needle wound will do much to disseminate the solution under the skin, decreasing pain, swelling and induration. However, the method is a matter of choice but the danger of mercurialization is not in over-treatment, but undertreatment.

The arsenical and bismuth treatment I hope will be taken up in discussion. Intra-spinal puncture is of positive diagnostic determination, especially in neuro-syphilis, but this does not seem to have fallen generally into the hands of the general practitioner at this time.

The following histories will illustrate the use of mercury as a possible means of diagnosis as a therapeutic test.

Case One: Female, age 49; usual diseases of childhood. Consulted five months ago for dizziness and extreme nervousness; complains at this time of an inability to see from the left eye, unable to read and spots of darkness. Extremely hysterical while obtaining a history. Intelligent and refined lady, with a remote possibility of doubtful syphilis by a former marriage. She is now married and her children apparently healthy.

Physical Examination: Heart, slight mitral murmur; lungs, negative; abdomen, negative; vaginal examination reveals a uterus slightly bound down by adhesions; no cervical or perineal lacerations; blood pressure average 160 systolic, one hundred diastolic.

Reports: From special examinations no diagnosis can be made by elimination. Tonsils, antrum and sinuses negative; X-ray examination of teeth, negative.

Fluoroscopic examination of abdomen for possible adhesions and fecal stasis, negative. Blood test, three negative Wasserman's, negative malaria.

Urine: Functional kidney test, normal; slight trace of albumen, few hyaline and granular casts. Slight trace of indican.

Neurological Report: Marked optic neuritis, pictures of skull shows no tumor. Oculist, reports choked disc of optic nerve.

Diagnosis: Either syphilis or nephritis.

Treatment: Non-nitrogenous diet. Begin with small doses of intra-muscular injections of soluble mercury to point of tolerance, with increasing doses. Results: After four months of aggressive mercurialization, pressure maintains an average one thirty-five syst. Ninety dias., against 160 systolic, 100 diastolic before mercury started. Sight is improving, she is relieved of vertigo and dizziness, can see in comfort, and read very much better. Oculist's reports, optic neuritis improved, general condition better. She is still being mercurialized. The urine cleared 30 days after mercurialization of albumen and casts.

Case Two: Female, age 52; single; native of France; has had the usual diseases of childhood; father living, age 82; mother died at delivery of child, having lost several infants still born; knows her brother has had syphilis, and lived in the home with her; present history, intensive and severe headaches, loss of weight and extreme nervousness.

Physical examination reveals a rather emaciated female; lungs, negative; heart, with soft mitral murmur, and rapid pulse. Blood pressure average: 140 systolic, ninety diastolic. Abdomen, negative.

Reports on Special Examinations: Tonsils, sinuses, antrum, negative. Teeth removed with caries and proper plate adjusted. Blood reports, three negative Wassermans; negative malaria; negative for pus organism. Functional kidney test normal. Albumen, sugar and casts negative. Slight trace of indican. Neurologist reports no brain tumor or pressure, symptoms on both physical and X-ray examination. Gastro-enterologist; stomach normal, fluoroscopic examination of the alimentary tract for fecal stasis, negative.

Oculist reports defective vision caused by error of refraction, corrected by lens, and positive headache is not an ocular reflex one.

Diagnosis: Doubtful syphilis.

Treatment: Three months ago began mercurialization intra-muscularly with large doses of soluble mercury, with absorption slow. Results: relief of headaches; they have diminished in intensity and frequency; heart has diminished in velocity; weight has increased beyond expectations; and general conditions much improved; continued mercurial treatment.

DISCUSSION.

Dr. J. E. Knighton (Shreveport): There can be no doubt that we do see cases occasionally that elude all of the specific tests for syphilis, and yet still give us the impression that they must be syphilitic in nature. I think the case cited by the doctor would justify the conclusion that sometimes therapeutic tests are justified. I would like to suggest, however, that before beginning a long course of mercurialization or any other anti-leucitic treatment, there are other means to which we should resort. For instance, many cases that give a negative blood Wassermann under ordinary conditions will have a positive blood Wassermann if a small fractional dose of salvarsan is given just preceding this test. So the therapeutic test should be made if we suspect syphilis if there is a negative test under ordinary conditions; but in a case such as the doctor described, where there was a suggestion of neurosyphilis, certainly a spinal fluid Wassermann should be made. Nevertheless, after all these tests are made, sometimes we do find cases where we get a negative test and still we cannot arrive at any other conclusion than that the patient must have had a syphilitic infection, and in those cases I think we are amply justified in resorting to the therapeutic test such as the doctor has outlined.

Dr. H. P. Jones (New Orleans): In my service at the Charity Hospital, with infectious disease, we treat all the cases of so-called infectious syphilis—that is, those with open lesions which are considered dangerous in contact with other patients. Naturally, it is our desire that they should remain in the hospital as short a time as possible, so that we have followed as a practical routine this treatment. They are given one dose of neosalvarsan a week; the day before the dose and the day afterwards they receive no medication whatever. On the four intervening days they are given, immediately after a meal, a half grain of red iodide of mercury and a certain amount of iodide of soda, enough to keep it in solution. In other words, they get 1½ grains of red iodide of mercury in four days, which makes the treatment consist of 6 grains of red iodide of mercury and an appropriate dose of neosalvarsan. We have found that as a rule these patients have their open lesions closed, unless they are excessively severe, and they can be allowed to leave the service in from two to three weeks. In the last year we have treated probably 100 cases along this line and we have had only one case of salivation that we know of.

THE RELATIONSHIP BETWEEN PUBLIC HEALTH AND MEDICAL PRACTICE*

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According to Greek mythology, Hygeia, or health, is the daughter of Esculapius, the physician god and the grand-daughter of Apollo, the god of healing; and this relationship is recognized in the oath of the great Hippocrates. In our own times this same relationship exists. Almost without exception we can say that every public health advancement of any consequence has been born of the medical profession. Hence the public health consciousness of today, whatever it may signify for good or evil to the medical profession, is the profession's own offspring.

In his famous oath Hippocrates commits himself to the "practice of the regimen which, according to my ability and judgment, I consider for the benefit of my patients". Benefit to his clientele was the paramount consideration. And so today the benefit to patients, must be the first object of the disciples of Hippocrates, whether these patients be considered as individuals or taken collectively to form a community. Certainly the obligation upon the profession to prevent sickness for the benefit of the individual or community is no less binding than the obligation to employ the accumulated fund of knowledge and skill to heal the sick

The very existence of public health is a monument to the profession's faithfulness to this principle. While the chief tenet of public health procedure is the prevention of premature death, the practitioner's share of credit for the wonderful achievements in this direction would form a brilliant page in the story of preventive medicine. Those who would other-

wise die in early life from appendicitis are now being spared by surgical skill. In hosts of other surgical conditions the same applies. And in the field of medical treatment there are few therapeutic procedures which have not been improved by modern medical science. Whereas the syphilitic of former times could look forward only to a lingering illness and premature death, he may now look forward to the prospect of recovery within a reasonably short time. When we think of the old ways of treating typhoid fever as compared with the present, we wonder how any one could have survived the treatment, let alone the disease. In tuberculosis, also, thanks to modern medicine, hope has come to abide where once was only black despair.

Nor are the benefits of medical practice limited to mortality reduction. They are realized also in the field of morbidity reduction which is primarily the realm of the public health worker. Every case of malaria which the practitioner cures is a focus of disease eliminated from which the infection might otherwise gain access to others. So it is also with the treatment of tuberculosis, syphilis, hookworm disease, trachoma and other infections which are not self-limiting. And finally, in the correction of defectiveness, which has come to be recognized as a potent factor in morbidity reduction, the practitioner has contributed much toward the advancement of the public health. Even in the application of practical hygiene the same principles that cure are often found to prevent morbid states.

It is to be noted that the advantage in the inevitable relationship between the practicing profession and public health is not all on one side. From an unbiased inquiry into the subject any physician must become convinced that any services or sacrifices on the part of the practitioner are abundantly compensated for, by the advantages derived from the operation of efficient health work. So far as certain types of work are concerned, it is true

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that efficient health work should curtail somewhat the practitioner's activities, as for example, the treatment of typhoid fever, malaria, and the like. But the work he loses in this way is small as compared to the increased business that comes into his hands by reason of constructive health work as we shall presently see. It is surprising to discover by an analysis of the health program, as a whole, how closely the interests of the practicing profession are paralleled by those of public health. An enumeration of the major objectives of a health service would include: (1) infant and maternal hygiene work; (2) school medical inspection, and the follow-up work for the correction of physical defects; (3) anti-tuberculosis work; (4) adult hygiene designed to discover and alleviate defectiveness among grown people. Now let us consider these problems in order.

Infant and maternal hygiene.—The interest of public health in this problem is first in the mothers of the community, to get them trained to employing a physician instead of a midwife; to get them trained in the habit of placing themselves in the hands of a physician early rather than at the time of onset of labor pains; and so far as possible to reclaim the victims of errors in previous childbirths, by inducing them to seek medical and surgical relief. The second interest that public health has in the subject concerns the babies. Public health seeks not only a strong and healthy parentage for the child, but insists on his having a fair chance to get past the hazards of childhood in safety. Proper medical attention at the right time will prevent a large number of infant deaths which otherwise must occur. It is, therefore, the ambition of the public health worker to have the babies placed under able medical attention, and to have this done at the first sign of trouble rather than when the child is moribund.

School medical inspection.—This work means very little unless the defects found

among school children are somehow corrected. The principal conditions demanding attention are: (1) dental defects; (2) diseases of tonsils and adenoids; (3) eye defects; (4) nutritional defects; and (5) in some localities hookworm and malaria. At all times a certain amount of this work is oozing into the medical and dental professions; but every one knows that if left to their own initiative, the great mass of defectives will continue in their defectiveness as they have throughout all the ages. Some agency financially disinterested must carry education and propaganda into the homes of these people, so as to overcome the stolid inertia and start the mass of defectives flowing toward the practicing profession. This is the interest and the aim of public health.

Anti-tuberculosis work.—The fundamental principle herein involved is the discovery of incipient cases. It has become definitely established that tuberculosis in incipency is curable with comparative ease, but that in the advanced stages it is uniformly fatal. For this reason, therefore, it is all important to the public health worker to have the cases diagnosed early and placed under treatment, rather than to have the physician called just in time to sign the death certificate.

Adult hygiene.—From a study of the causes of death in adult life, it is found that a group of disorders, which for the want of a better name we will call degenerative diseases, supplies a big portion of the death rate, which in fact tends to increase rather than decrease. Conspicuous in this group are kidney lesions, heart lesions, arteriosclerosis, and cancer. All of these conditions have an unobtrusive onset and run a slowly progressing chronic course, so that the victim rarely has any knowledge of his condition until irreparable damage is done. Public health seeks to get these people into the hands of a physician while there is yet time to ward off the final break. Furthermore, there is a vast reservoir of defectiveness among the

lay public for which the practicing physician is not consulted at all. Public health would educate the people to a more universal use of the practicing profession.

Even in that class of services that appear on the surface to be in conflict with the practitioner's business, his interests are nevertheless subserved by public health. Consider, for example, typhoid fever, malaria, and hookworm. The reduction of these diseases takes work out of the hands of the practitioner. But the influence of such diseases is pauperizing upon the individual and the community. Long continued illness and low economic efficiency, as any practitioner knows, place serious obstacles in the way of collection of accounts for medical services. A doctor would be shortsighted indeed deliberately to choose an impoverished community from which to make his fortune, in preference to a community where prosperity reigns. Moreover, any limitation of practice in the field of communicable diseases gives the physician correspondingly more freedom to devote his energies to greater scientific accuracy of diagnosis and treatment in other fields.

The outstanding evidence from the foregoing is that there is no conflict of interests between public health and the practicing profession. Their interests are for the most part identical. The feeling that public health has prospered at the expense of the practitioner, without giving anything in return, is all wrong and entirely out of order.

"State Medicine" is the cry in which those who have never examined the true relationship between the practicing physician and public health vent their feelings of prejudice and rancor toward the latter. Just what is meant by "State Medicine" is not exactly clear. The term is so vague and indefinite that perhaps to no two people is its meaning the same. In the mind of the average physician it seems to denote a summing up of nebulous appre-

hensions that the state sometime somehow may enter into the field of curative physic to do work that should be done by the private practitioner.

To be sure, any infringement upon the rights of the practicing physician should not be tolerated. But all confusion and apprehensions would be promptly dispelled if a logical boundary line between public health and medical practice were established. It is important, therefore, to examine the grounds on which such a dividing line may be proposed.

Definition of public health.—Public health is an expression of the obligation of a community to its citizens, individually or collectively, for *mandatory* protection of their safety against physical hazards arising from conditions or persons other than the individual himself, and for the *advisory* protection of the individual against disease processes within himself, and the promotion practices leading to the highest state of physical efficiency.

Mandatory protection.—Herein lies the primary duty of public health. "So use your own as not to interfere with the rights of others" is a basic principle of common law, which applied to the present discussion, entitles the individual to demand protection against the menaces to health, that might arise from others. All public health activities, therefore, designed with this end in view are beyond successful criticism.

From the foregoing it would appear that the function of public health in the field of communicable disease control by protecting the individual against dangers arising from others is self-evident, but the boundary line is not so conspicuous as would be expected. It is generally assumed that it is the duty of public health to institute various measures of sanitary protection and to control the movements of the infected host and susceptible contacts, but that the treatment of the infected host

is a function belonging solely to medical practice.

It is this last factor on which we must pause for further examination. In that group of diseases which are acute and self-limiting, the objects of public health are accomplished by isolation only. But in those diseases which are chronic, with ambulatory carriers, such as hookworm, malaria, etc., the treatment of the infected host is an essential part of control, or, in other words, essential to the protection of the rights of others. The public has a right to demand that every reasonable effort be made to eliminate carrier states. It is by all means preferable that this should be done by the practicing physicians but the duty of public health to engage in the treatment of such persons as will not seek treatment from private practitioners cannot be contested.

Advisory protection.—The obligations of the community to the individual as regards dangers from within himself, however, are quite different from the obligations which have just been discussed. A non-communicable disease in one individual ordinarily endangers no right of another, yet the community, or state owes it to itself and its citizenry to warn against actual or potential dangers from remediable de-vitalizing conditions of disease and defectiveness, and to urge the importance of proper medical service. Having done this, the State's obligation is discharged. The corrective work must in all cases be done by the practicing physicians, except as hereinafter noted.

Under the influence of modern welfare movements public health has in many instances been led astray into improper lines of curative treatment, on false premises of public economy, efficiency, or expediency. Tonsil-adenoid treatments, dental treatments, etc., have become the routine practice of many health organizations, so that the assertion of rights in this field has fastened itself upon many of the prominent

leaders in public health practice. It must be emphatically urged that public health has no inherent rights in these lines of curative treatment, and is entirely out of order to operate therein, except with the consent and approval of the local organized medical and dental professions. But the physician or dentist with any vision whatsoever must promptly recognize that a limited amount of corrective work fostered by the public health forces is a tremendous asset to his respective professional interests. It is only in this way that corrective work can be popularized, and the hordes of defectives started to the practicing specialists for treatment. The dentists have been quick to appreciate the influence of this class of work, which is to them the same as the distribution of samples is to the merchant or salesman. But physicians as a rule appear to be much more profoundly swayed by prejudices and jealousies, on the one hand, and the spectre of "State Medicine", on the other, so that their own welfare and that of their community is sacrificed.

As for the fear of "state medicine", this bogey will never become a reality unless the doctors themselves create it. The public is rapidly becoming alive to the possibilities for increased health and physical improvement. The family physician is traditionally the adviser as to matters of physical welfare. The individual of former years followed the leadership of his physician in blind unquestioning confidence. But the modern layman takes nothing for granted. He is in the forefront of modern thought as regards hygiene and disease prevention. If the physician is to maintain his time-honored leadership in matters pertaining to the physical good, this leadership must take into account the public's welfare. He must be public spirited, and in tune with every movement of progress. Reactionaryism will bring only discarded leadership, and then only may the advent of "state medicine" be anticipated.

In keeping with what has just been said, the antidote for this state of affairs is the closer alliance between medical practice and public health. Certain phases of the latter may, in fact, become a part of the practitioner's own work. This has already been done, to a certain extent in North Carolina, where typhoid and diphtheria immunizations have been farmed out to local physicians on a large scale with results that have been remarkably successful, both to the practitioners and the State Board of Health. There is no reason why the same principle should not be extended to educational work, certain phases of sanitation, corrective work among school children, and periodic physical examination of adults. But in so doing the medical profession must incorporate a new conception into their habits of thought and action. This is the idea of wholesale service versus the retail system which governs the ordinary practice of medicine. When once this principle is recognized by the practicing profession, the actual enlistment of the latter in public health functions will characterize the next great movement forward, and will forever dispel the spook of "state medicine."

DISCUSSION.

Dr. C. C. Applewhite (Jackson): My only regret is that all the doctors who are in attendance at this Association did not hear Doctor Miller's paper. Public health work may be divided into two main phases: First, the improvement in those things pertaining to the environment in which the individual lives; and second, the improvement in the resistance of the individual himself. So long as the public health agent confines his activities to improvement in the environment there has practically never been a clash with the medical profession. By improvement in environment I mean improvement in the water supply, the control of insect-borne diseases and general sanitation. As long as the public health agent confines himself to these, there is no trouble encountered with the medical profession. We all admit that this is the field of the public health department. It is in the second phase that some friction has arisen, namely in the matter of the improvement of the general resistance of the patient to infection. This work may be divided into two classes, first, the specific immunization

such as vaccination against smallpox, diphtheria and typhoid fever. Most of the medical profession will admit that this is the public health agents' function. It is his business to keep well people well. But it is in the health promotion game where most of the irritation has been occasioned, namely, in the matter of correction of defects. In my opinion the public health agent's work terminates when he shall have examined, say school children, found the defects, notified the parents of the defects, and urged the parents to see that they are corrected. The matter of correction of physical defects is clearly the duty of the medical profession. In the past we have held demonstration clinics, as Doctor Miller has aptly said, as a sample of what corrective work will do for the child and also for the community, but these demonstrations, so far as full time health work is concerned, are practically past.

One thing I want to emphasize is closer cooperation between the medical profession and the public health agent. The men engaged in public health work are graduates of medicine just the same as the general physicians. They have the same high regard for ethics as the medical practitioner, and we want the men in the medical practice to realize this fact, and when the public health agent sends patients to you for correction, I urge you to treat these patients just as if the health officer were a consultant and had called you in consultation. I remember one time many years ago when I was a health officer, I found a clear cut case of organic heart disease in a school child. He had all the typical signs and clinical symptoms of organic heart disease. I referred that patient to the family physician for advice and his verdict was that there was nothing wrong with the heart. I was protecting him, and while the doctors do depend upon the public health agents to protect them, I ask you in return to give us a little consideration.

People have become interested in public health work, but whatever the status of public health work today is in this state and other states is due primarily to the medical profession. That the people are interested in public health is evidenced by the fact that practically every organization has a public health item in its general program. Let the medical profession continue to take the lead in this work and crystalize this public interest into efficient public health service.

Dr. H. R. Hays (Jackson): In talking to boys and girls I usually say that the difference between a public health man and a doctor is the same as the difference between the doctor and the undertaker. When the doctor has done all he can and the patient dies then it is time for the undertaker and there is no place for him

before that. When the public health man has done all he can to prevent disease and the patient gets sick, then the time comes for the doctor to restore to the patient his health. But we do not always find it so easy to differentiate the position of the two. When we first started the control of venereal disease I said it was rather a proposition of treating the carriers of venereal disease in order to sterilize them so they would not carry the infection. We got into trouble because when we began to establish clinics we then began to encroach upon the practitioners' rights to treat that patient, but in thinking about how that thing would best be handled, I believe that Doctor Miller has solved the problem. When we find a case that is infectious we send him to the doctor and we ask that doctor to treat that patient. We do not try to treat the patient as we used to. True, we had these demonstration clinics to show the people what could be done, but they were carried a little too far and we had to divorce ourselves from that; but we do ask the practitioner to treat these patients because we are interested from the public health standpoint that these patients shall not disseminate the disease. If these patients are not able to pay—and we leave that entirely with the practitioner—we will furnish him medicine with which to treat such a patient. I believe the majority of doctors are coming to understand our viewpoint about the treatment of venereal disease, and I am glad to say that I believe we have had more fellowship expressed at this meeting than we have ever had and I believe we are coming to a thorough understanding. I believe the medical profession of Mississippi believes that the department of venereal disease is trying in an earnest way to serve them and to assist them in their great problem but should there be one here today who does not understand that thoroughly, I want to say again that we are here to serve him, that we are doing our best to serve him, and after all we are depending on the medical profession to control and eradicate venereal disease.

Dr. K. E. Miller (Closing): I want to thank the gentlemen for their discussion. I wish the discussion could have been more general, since the matter under consideration is of fundamental importance, and I dare say but vaguely comprehended by most physicians.

Doctor Applewhite spoke of the influence of samples of corrective work as a demonstration. This is, indeed, one of the methods employed in selling the idea of health service to a community, but it must be noted that the end result, if successful, is a more thorough appreciation of the advantages of medical service on the part of the community and a tremendous augmentation of

the stream of physical defectives coming to the hands of the practicing physicians.

Doctor Applewhite, citing his experience as county health officer, also mentioned a factor that is of great importance. We all know of numerous instances where the practicing physicians are not appreciating what we are trying to do. For instance, in Caddo Parish in Louisiana, the health officer there became very much interested in under-nourished children. His criterion of under-nourishment was largely the weight and height table. A pediatrician in Shreveport who has no sympathy with weight tables had a number of these children coming to him for consultation, having been referred to a specialist by the health officer. Instead of his taking the proper constructive view of the thing he pooh-poohed the idea and made sport of the health director for his so-called mistaken diagnosis. This certainly did not do the prestige of the health officer nor the cause of public health any good. Evils of this kind exist among both the practicing physicians and public health workers, and they must be rigidly eliminated if either is to prosper to the fullest extent.

Doctor Hays spoke about venereal disease. This is a good illustration of the principles I have tried to set forth in this paper—namely the line of demarcation between medical practice and public health. Venereal diseases are not self-terminating. They involve the chronic carrier state. Persons so affected are a public health menace, but of course no public health officer should engage in the treatment of carriers unless he is forced to it. The public has a right to demand that these chronic carriers be taken care of for the protection of the public. We want the medical profession to do it, but where they will not do it, it is the duty of the public health officers to engage in the active treatment of these cases for the sake of public safety. I am not advocating this thing, but I am using that as an extreme example of the principle of the rights between the practice of medicine and public health.

TREATMENT OF MALARIAL HEMATURIA*

W. G. KIGER, M. D.

EAGLEBEND, MISS.

Case 1. The writer was called down in Eaglebend, Miss., to see Roscoe Dunn (white), aged six years, who had a malarial chill at 2 P. M., of

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August 23rd, 1907, turned yellow as gold within two hours and had copious hemorrhages from his kidneys with a temperature of 106½ degrees F.

Under the administration of antiperctus, calomel, diuretics and large enemas of hot water the child had black bilious actions from his liver, his urine cleared up and he was free of fever within ten hours, the writer was debarred from giving quinine to prevent a recurrence of the malarial chill at 10 A. M., of August 24, because the child's parents claimed that they had lost two children while living at Alexandria, La., by the family physician then giving the children sulphate of quinine, and as a result the child did have the malarial chill at said hour with a return of the kidney hemorrhages.

Under a like treatment the child had the black bilious actions, the urine cleared up and the patient was clear of fever at 10 P. M. of that day.

The parents again refused to allow quinine to be given to the child (although the writer claimed that he would use bisulphate of quinine which he could guarantee not to produce hemorrhagic effects) to prevent the recurrence of the malarial chill at 6 A. M. of August 25. In spite of the fact that the writer told the parents that the child could not possibly live through another malarial chill attended with kidney hemorrhage, and as a result the child did have the malarial chill with kidney hemorrhage at that hour and died within three hours.

Case 2. The writer was called six miles down in Eaglebend, Miss., on the night of Sept. 10, 1915, to see Spence Montgomery (white), aged 25 years, and when he arrived there at 2 A. M. of that night he found the patient with an intermittent pulse and so thoroughly exhausted by kidney hemorrhages that it did not seem possible for him to live another hour unless the hemorrhage was at once arrested. Then the writer realized that the only chance for the patient was to use the same treatment he had seen used in post partum hemorrhage in women after child birth, and at once gave the patient a thirty drop dose of fluid extract of ergot which was repeated in fifteen drop doses every four hours for a period of four days, and in addition thereto starting at four A. M. of that day gave him bisulphate of quinine in the following prescription:

Bisulphate of Quinine.....gr XVIII
 Powdered Tartaric Acid.....gr XXIV
 Aqua..... ? ? ?

Met Sig: Two teaspoonsful every four hours for four days.

The patient had no return of the malarial chill or kidney hemorrhage, made a rapid recovery and is today working in the Y. & M. V. Railroad shops at Vicksburg, Miss.

Since that time the writer has had calls to cases of malarial hematuria and in each and every instance the treatment suggested in Case 2 of this paper has never failed to stop the kidney hemorrhage and to prevent the recurrence of another malarial chill.

DISCUSSION.

Dr. W. H. Scudder (Mayersville): I remember 25 years ago that in every medical meeting in this state there was a paper on hematuria, but now it seems to have gone out of style. I am from the Delta, and we see more of it there than you do in the other portions of the state and of course we still regard it as an important disease. But I am glad to say it is not as prevalent in the Delta as it used to be. We probably understand it better than we used to. We used to regard it as a condition, not a disease. In anemia we have a reduction of red blood cells by the malaria parasites and we therefore regarded anemia as a disease brought about by chronic malaria. Each succeeding paroxysm reduces the number of these cells, and the trouble seems to be that the blood stream becomes filled with the hemaglobin and debris of the cells themselves, and in some parts of Texas they call it Black Water Fever, because the urine is not red but really is black. A bad case means that a great many of the red cells have been destroyed. Where the fever leaves entirely there is some hope, but where it does not leave entirely, then no matter what kind of treatment you use there is not much hope for the recovery of the patient.

Another thing is that we do not see much of it in the negro race; it is a disease peculiar to a white person or to the white mulatto.

Doctor Kiger spoke of giving ergot. I suppose he got the idea that there was something wrong with the kidney itself. I do not think the kidney itself is at fault. The blood stream becomes clogged with this debris and that simply clogs up the tubules of the kidney, and the treatment, it seems to me should be one of elimination, rather than any sort of astringent to prevent the flow of blood.

Dr. V. B. Martin (Picayune): I lived in the Delta for a few years and learned how to treat hematuria. Doctor Gray, of Clarksdale, taught me. I had been raised in the hills and I never gave over 10 grains of calomel until I went to the Delta. I had a case there and they wanted Doctor Gray, of Clarksdale, in consultation. I

sent for him and when he came down he said to give 60 grains of calomel. I told him I never heard of giving so much, but he gave it—10 grains at once, the other 50 grains in 5 grain doses every two hours. He gave the old English calomel out of a bottle, not the tablets. After we were through with the calomel he gave a tablespoonful of salts every two hours until we had eliminated practically everything there was in the patient. We did not give any quinine at all and the patient got well. I will agree with the last speaker that it is a question of elimination. There are some cases that quinine will benefit. If they have passed any bright red blood it will be all right, but if it is dark, quinine will not do any good. If you give calomel and salts you will cure practically all of your cases of hematuria.

HEART DISEASE—THE CHIEF CAUSE OF DEATHS—CAUSES AND PREVENTION*

GEORGE S. BEL, M. D.

NEW ORLEANS.

No argument is needed to establish the assertion that the prevention and relief of Heart disease is the most vital medical, sociologic and economic problem of civilized races. Heart diseases are present in all countries and among the classes and masses of all ages; their high rate of mortality, exceeding that of any other disease at present, their preventability to a great degree, and curability in many cases, furnish convincing evidence of the urgent necessity for instituting the proper measures towards their limitation and control.

As this paper is intended for both physician and layman, I have purposely omitted matters of a purely technical nature as far as a comprehensive exposition of the subject permits. Moreover, I wish the layman while listening to this paper or reading it, not to be imagining vain things and dire consequences regarding himself.

From time to time in the history of mankind some one disease or another has been

looked upon as the human scourge, and today heart disease is universally regarded as the disease most fatal to the human race.

In incidence and mortality, it is of gigantic magnitude, immense importance, and grave significance. This is well illustrated by the recent statistics compiled by the Bureau of the Census from the so-called registration area of the United States comprising those states which keep accurate records of the causes of death, and including only about 87 millions of a total population of approximately 110 millions; therefore, we must bear in mind that if accurate records of the 110 millions were obtainable, these incidence and mortality figures would be considerably greater.

Here are the facts as compiled and issued by the Association for the Prevention and Relief of Heart Disease:

“Two per cent of all persons examined by insurance companies are rejected because of serious heart defects.

Two per cent of industrial workers are found, on careful examination, to be subjects of serious heart defects.

One and one-half to two per cent of children examined in the schools show serious heart defects.

Four per cent of the men examined in the recent army draft were rejected by the local draft boards and by camp surgeons for organic disease of the heart. Among 5 million men of military age, more than 200 thousand were disqualified for service because of heart defects.

Among the children of school age in New York city there are 20 thousand with damaged hearts.

We can conservatively estimate that at least two per cent of the population, or in the United States over 2 million persons suffer from serious heart disease. (The figures of the draft examinations indicate that there are 4 million persons in

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the United States suffering from heart disease. The fact that these examinations were limited to ages which probably show an incidence of heart disease under the average, would indicate that the larger figure is a conservative one.)

Heart Disease is responsible for one-eighth of the deaths of all ages and for one-fifth of the deaths in persons of forty years of age and over.

Heart Disease is the cause of more deaths than Pulmonary Tuberculosis.

Heart Disease is the cause of more deaths than Cancer.

One industrial worker in every 50 has been found to have a serious heart defect.

Heart Disease has a serious effect on longevity, reducing the span of life practically one-half.

The employment of men with some forms of heart disease in occupations involving the custody of human life may constitute a serious menace to public safety.

Ten per cent of the total bed capacity of our general hospitals is used year in and year out for the care of patients with heart disease.

The economic loss from heart disease is appalling, and if we assume that 2 million persons in the United States are suffering from serious heart disease and are more or less in the position of invalids with partial or complete disability, having to be supported in some other way than by their own efforts, most of them being cared for by private or public help, we find that the incidence of heart disease represents a loss of millions of dollars annually to our country.

Conversely, if we dispel for a moment the picture of economic loss with its monetary aspects, and consider that which these cases mean in sadness, distress, and suffering before the patient's death, and

in torture of heart and mind to the survivors, we must surely agree that there is no other single cause, no other destructive power, misfortune or pestilence that awakens the compassion and sympathy of existence and the cold indifference of Fate to human suffering as does heart disease.

Although the ravages of heart disease have not been exhibited under so terrible an aspect, nor have they been so gruesomely pictured, bear in mind that they, nevertheless, stand pre-eminent in regard to the number of victims. How odd it seems that an epidemic of small pox or a few cases of yellow fever, which may involve the deaths of a mere handful, will create an extraordinary panic with large newspaper headings, while *heart disease* which destroys thousands of persons yearly receives comparatively so little attention!

The etiological factors or causes of heart disease, according to modern interpretation, recent studies, and teaching, are infections of one kind or another. The causative agents are micro-organisms or germs and their toxins or poisons. Portals of infection—or in other words, the channels or means by which the micro-organisms or germs gain access to the body may be diseased tonsils, diseased teeth, adenoids, antrus, sinuses, prostate, gall-bladder, appendix, rectum, colon, kidneys, pus tubes and the like. Any one of the infectious diseases or general infections may cause heart disease, common among which are rheumatism, syphilis, pneumonia, influenza, scarlet fever, measles, diphtheria, gonorrhoea, typhoid, chorea.

Rheumatism and syphilis are the two most frequent causes of heart disease. Rheumatism in the young undoubtedly causes more heart disease than all other causes, acute rheumatism being responsible for between 58 and 80% of chronic valvular lesions encountered in children and adults under 30 years of age. We should remember that the so-called "growing pains" considered as of little consequence

and, unfortunately, readily dismissed by medical attendants as well as parents, are often times really mild rheumatic attacks and may eventually give rise to heart disease.

Chorea, now believed to be due to cryptogenic focal infection and cured by the removal of teeth, tonsils, etc., is regarded by many as rheumatic in type; accordingly, it should have all the serious consideration ordinarily given acute rheumatic fever.

Syphilis is the cause of a considerable amount of heart disease; it has destructive effects not only upon the heart, but upon the blood vessels as well, with resultant aortitis, aneurism and sclerosis.

The time allotted will not permit of a detailed consideration of the various lesions of the heart and blood vessels of which syphilis is the causative factor, but I will quote some of the most amazing and startling figures concerning the occurrence of syphilis as compiled by such eminent authorities as Greene, Turnbull, Vedder and others. Greene states that the United States now contains approximately 2 million 7 hundred thousand adults carrying some grade of syphilitic aortitis, of which 2 million 160 thousand are men, 540 thousand women. Hubert in 8,652 consecutive admissions to a general hospital service found 8.8 per cent positive blood Wassermans. All admissions to Bellevue and Presbyterian Hospitals New York, gave 20 per cent positive blood Wassermans. All admissions to Peter Bent Brigham Hospital, Boston, resulted in 15% positive blood Wassermans. An extended investigation by the United States War Department (Vedder) showed that nearly 17 per cent of accepted recruits were Wassermann positive, and upon the basis of results obtained at a certain military college, it is asserted as probable that 5% of college students are so infected. Greely found a positive blood Wassermann in 8.4 per cent of one thousand or more applicants for peddling

licenses in New York City. From three to six per cent of babies under one year of age are victims of hereditary syphilis.

While the syphilitic infection is regarded as a slow acting poison, insidious in its course and extending, in many cases over several years, we must remember that it may even in its early stages, invade the heart muscles and great vessels.

The endocrines unquestionably play some role in the cause of certain heart conditions, especially those with nervous manifestations—the so-called functional disorders. These are especially characteristic of the thyroid gland dyscrasias. Cabot, in his analysis of 600 cases as to the etiology of heart disease, found that a considerable number were due to goitres.

The excessive indulgence in tobacco, tea, coffee, and alcohol, are frequent causes of cardiac disorders, especially arrhythmias; however, there are many personal peculiarities which depend on the idiosyncrasy and susceptibility of the individual.

Unhygienic modes of living, damp houses, lack of fresh air and sunshine, improper food, and physical exhaustion, are predisposing factors in the causation of heart diseases as they reduce vitality and resisting power, thereby rendering the individual more vulnerable to infection.

In passing, we should briefly mention some of the congenital heart diseases and the causes thereof. Although older day clinicians and pathologists ascribed to inflammatory changes, many or most of the conditions of the heart which we at this day know to be the result of developmental defects, still, disease in the parent, especially in the mother, may give rise to serious congenital affections of the heart.

With the developmental defects such as bilocular or trilocular hearts, stenosis and atresia of the pulmonary artery resulting from abnormal location of the septum dividing the truncus, or structural valvular defects we are naturally not concerned.

However, the congenital endocardial inflammatory diseases resulting from such conditions as rheumatism in the mother are important, as are also certain cardiac conditions the result of syphilis in either one or both of the parents.

In the light of our modern knowledge that all acquired heart diseases are due to infection either systemic or local, the *prevention of heart disease*, to be really effective, must be based on the one idea "*prevention of infection*," and the betterment of all conditions possessing etiologic significance.

The main factors, therefore, in the prevention of heart disease are the promoting and improvement of the general health and living conditions of people, especially children, thereby increasing their resistance and diminishing their tendency to infection.

So also the early recognition of rheumatic and syphilitic infections which are the most frequent causes of heart disease, and the institution of prompt and adequate treatment thereof, together with the removal of foci of infection as soon as possible are extremely necessary to prevent cardiac complications and disability.

Briefly stated, rheumatic fever, syphilis, chorea, and thyroid gland diseases are the main factors in the production of heart disease, and it seems to me that the only logical and successful method of combating this most serious problem is by the prevention of these diseases and conditions as far as possible; by the instituting of sanitary living measures; by frequent physical examinations, and by prophylactic treatment.

Here I wish to emphasize the importance of the family physician who constitutes by far the most responsible agent through whom direct information in regard to the modern teaching and prevention of heart disease must reach the public.

In conclusion, I would recommend as primary in our attempts at reducing the

appealing mortality and disability from diseases of the heart.

First, the immediate organization of a Cardiac Association in Louisiana for the *prevention and relief of heart disease*, this society to affiliate with the American Heart Association, or the Tuberculosis and Public Health Association of Louisiana.

Second, the consideration by industrial plants and units, by insurance societies and welfare agencies of the advisability of systematic blood examinations by the Wassermann method as a means of detecting luetic infections.

Third, increasing the number of cardiac clinics in New Orleans.

Fourth, educating the public by utilizing the lecture syllabus and other printed information of the American Heart Association.

DISCUSSION.

Dr. W. H. Seemann (New Orleans): I had hoped that the internists who have opportunity to see these cases might discuss Doctor Bel's paper. There is a reference in his paper to The American Society for the Study and Relief of Heart Disease, and I might say that our Association, and especially the Public Health Association, is already in communication with that organization with the idea of becoming affiliated with it. I might in passing, although it is not germane to the issue, mention that we are also in close affiliation with The American Society for the Study and Prevention of Cancer, the object of this Association being that we may co-operate with these organizations in every parish in the state, in all those activities which go toward increasing the span of life, better living conditions, and promoting general health. If you have ten or fifteen organizations operating at the same time, there is multiplicity of effort, frequent collisions occur, unintentional mostly, but sometimes damaging to the cause, so we conceived the idea that if we could perfect the Louisiana Tuberculosis and Public Health Association and have the physicians of Louisiana to guide this association, so that there would be a 365 day supervision service of the public's health, we could in that way accomplish something.

I would like to ask Doctor Bel whether this tremendous superiority as to the death dealing agency of heart disease over tuberculosis is a

relative one. In the Framingham experiment it was shown that with active anti-tuberculosis work the mortality was reduced as much as 58 per cent. If every community was well organized the percentage of improvement might not be so great, but I am quite sure it would be very formidable in amount, and I wonder whether it is not a fact that the improvement that has occurred in the tuberculosis situation has resulted in this apparent increase of cardiac conditions.

Another thing I would like to add to what Doctor Bel has said is the necessity for giving serious attention to what are considered minor ailments, especially in childhood. I think that after all, when everything is said and done, the hope of improvement in the future will rest on closer attention to the childhood stage of life.

Dr. A. E. Fossier (New Orleans): A century ago cardiology became a science. The classical works of Laennec, Corvisart, Cruveilhier and Bouillaud, will ever remain the foundation on which our knowledge of cardio-vascular diseases is based.

Today, history repeats itself, and after many decades of comparative inactivity, this science has entered into another great epoch of monumental achievements. We must give credit for this great progress recently achieved to Mackenzie, Allbutt, Vaquez, Bordet, Delherm, Chapron, Lutembacher, Thomas Lewis, Groedel, Wenchebach, Danielopolu and many others. But we are more especially indebted to Einthoven, the discoverer of the Electro-cardiograph.

In New Orleans we have been handicapped in the study of cardio-vascular disease, not because of the lack of the human element, but because of the lack of instruments, especially the electro-cardiograph, with which to do proper scientific work.

In 1903, Einthoven gave the world his electro-cardiograph. Since that time this instrument has been manufactured in nearly every great country, and I dare say that every great hospital and many small ones have been equipped for its use many years ago. Our text books are saturated with this phase in cardiac diagnosis, and our journals are filled with articles thereon.

Lutembacher, the great French cardiologist, wrote last year, "We are now well tooled, and we do not have the right to refuse these instruments which are compasses to guide us in the study of heart disease, and which permit us to regulate their treatment with exactitude".

Recently an electro-cardiograph was donated to one of our leading institutions. I regret to state

that the great Charity Hospital, a great center of medical education so favorably and universally known, has no cardiological instrument of precision.

Realizing this necessity of an electro-cardiograph for the study of cardio-vascular disease, I procured a donation to the Post Graduate School of Medicine of Tulane University of more than ten thousand dollars for this purpose. It is my hope in the near future that New Orleans will have more facilities for the study of this important condition, for this fund will always be available for procuring the necessary instruments so that research in that field can be stimulated.

Last fall the Dean of the Graduate School offered the Administrators of Charity Hospital the use of an electro-cardiograph and other cardiac instruments. This offer was rejected for the time being by these gentlemen.

We are still without those important means of diagnosis; however, I feel that in the near future the Charity will permit us to equip fully a Heart Clinic.

Dr. Ben R. Heninger (New Orleans): I wish to thank Doctor Bel for his paper. It brings before this body a very important subject. I wish also to thank Doctor Fossier for expressing his ideas about the importance of instruments of precision.

I want to tell this body that at the present time Touro Infirmary has a heart clinic under the auspices of the American Heart Association, which association was previously known as the Society for Prevention and Study of Heart Disease. This clinic has been operating for a period of four months. It takes in both adults, children and infants, white and colored. The daily attendance at the clinic is in the neighborhood of 25 to 30 patients.

I wish now to bring up the subject of just what can be done for these cases of heart disease to stay this appalling economic loss to our country. The physician who sees these cases of rheumatic complex allows these cases to go to their daily activities long before they should. Furthermore, as Doctor Bel brought out in his admirable paper, these foci of infection should be eliminated.

The entire problem of heart disease resolves itself into the integrity of the heart muscles at the time the patient is supposed to be well of his infection. The heart muscle is the most important, and after all, heart failure, no matter what it is due to or how it comes about, is always the result of a degenerated muscle or a faulty

heart muscle, and the only accurate way you are able to determine the integrity of this heart muscle is, as Doctor Fossier brought out, with the instrument of precision, the electro-cardiograph, of which this city has two, one at Tulane, for experimental work, and the other at Touro, for the profession.

The electro-cardiograph at Touro Infirmary is not simply for the use of the staff at that institution, but for the benefit and use of all the profession of this city and surrounding country. In the very near future, I feel sure there will be two more, so that this city has no reason to complain of lack of help in making diagnosis of cardio-vascular disease. The plans of the American Heart Association have been brought before the Orleans Parish Medical Society, and a committee will be appointed. After the work is planned for this city, we are going all through the state. Furthermore, when we have finished Louisiana, we expect to go into Mississippi and Alabama.

Dr. Allan Eustis (New Orleans): I had not expected to discuss this paper as Dr. Bel has already covered all points, but I feel I must take exception to what Doctor Heninger has said. Most of us in this room are not in position to have access to an electro-cardiograph, and rather than have you go home and think it is absolutely necessary to have an electro-cardiograph to make a diagnosis of a degenerative heart muscle, I feel justified in getting up. True, there are numbers of cases with beginning deficient heart muscle that can be properly diagnosed only by means of an electro-cardiograph, but there are a large number of these cases overlooked by the general practitioner in his daily work. The important thing is to educate the general practitioner in recognizing a failing heart muscle early. Formerly we used to consider functional murmurs as of no consequence. For instance, in the routine of taking blood pressure you often find the systoles alternate; some systolic beats come through all right at 140 or 190 and another will not come through until you get down about 120 or 130. That means a weakened heart muscle. Again you will find a case where there is a soft systolic blow at the apex. You will find that on exercise this becomes markedly accentuated. If you percuss the heart you will find an enlargement. We do not need an electro-cardiograph to be able to tell that that man's heart muscle is weak.

That brings up another point. We know that the lowering of the tuberculosis death rate has been by the education of the layman. Too often the physician is afraid to tell the patient he has

heart disease; he is afraid of depressing him. The average layman thinks when you tell him that he has heart disease that he is doomed. We know that the only way to lower the incidence of heart disease is by early recognition, and the work of educating the people lies with the family physician. It will not be in the central hospitals that this work is to be done, but it must be in the homes, in the rural districts, and therefore we must warn our patients that when they find they have a failing heart they must curtail some of their physical exercise. In addition to this we must remember that every case of infectious disease, whether it be flu or ordinary measles, is potentially heart disease for two or three months. Every case of long standing nephritis is also potentially a heart case.

Dr. B. A. Ledbetter (New Orleans): I cannot add anything to Dr. Bel's paper regarding the prevention of heart disease. He has so thoroughly covered the field that there is nothing left to be said. However, there is one point that I wish to especially emphasize and that is the importance of heart clinics. Of the two million people who are suffering from heart disease throughout the United States, there are a great number of them performing duties that are detrimental to their health. It is the duty of the medical profession to encourage heart clinics and societies, to teach those that are suffering from heart disease, the character of work best suitable, in order to relieve the over-worked heart muscle, which we all know is the cardinal point in treating heart conditions.

I desire to emphasize what Dr. Eustis has said regarding the electro-cardiograph, whose mechanism and prognostic significance nobody understands. The use of such an instrument only bewilders the doctor and impresses or alarms the patient. In the routine examination of patients the trained physician rarely needs any of these instrumental methods. The essential features of the cardiac case can be made out by simple means, as by the intelligent questioning of the patient and by the use of his unaided senses in a physical examination. In fact, when one finds the physician employing a series of instruments for the examination of his patients, it may be taken for granted that he is in a rudimentary state of development and his powers of observation are likely to deteriorate for the lack of intelligent exercise of his unaided senses. I have little hesitation in saying that the attitude towards methods of examination, which is dominant today, is based on a fallacy, and so far from the clinical methods of examination by the unaided senses being exhausted, they have not been

sufficiently cultivated, and the substitution for the mechanical methods for them shows a lack of understanding of what clinical medicine means and how its study should be presented.

The trained finger can estimate the character of a radial pulse and can give a better knowledge of essential matters than any blood pressure instrument or sphygmograph. The inspection and palpation of the movements of the heart and the percussion of the heart's dullness gives far more valuable indication of the size of the different chambers of the heart than an X-ray examination. Indeed, I am doubtful if an X-ray examination of the heart has ever thrown the slightest light on any cardiac condition. That the X-ray may reveal aneurysms and tumors not perceptible to the unaided senses is no doubt true, but so far as the heart itself is concerned, while it may give a more accurate conception of the size of the heart in bulk, it gives no idea of the particular parts that are increased in size. I am not in any sense decrying the use of instruments of precision. What I wish to point out is that they have but a limited sphere of usefulness in the examination of patients. The nature of the knowledge they reveal has been misunderstood. The place these instruments should occupy is for the detection of obscure signs.

Dr. Adolph Henriques (New Orleans): Doctor Bel's paper was along such general and liberal lines that it is difficult to approach it in discussion save along the line of prevention, which should appeal to all of us physicians and to the intelligent public as a whole. Unfortunately, the ideal state of prevention is one that will not be reached until the general level of public intelligence is increased. It will be many years before we reach the point where heart disease can be prevented satisfactorily. In the meantime, we must deal with the people who have heart disease.

Doctor Bel spoke of syphilis as a prominent cause of heart disease, and I would ask him in closing to state how and where to make a diagnosis of syphilis of the heart and blood vessels.

Speaking of instruments of precision, we all use an instrument which may be called an instrument of precision—the X-ray. With the X-ray for the past 15 years, research has shown that we can recognize the degeneration of the heart muscle. For five years we have been using this method clinically and it has been proven at autopsy. If we are to discard instruments of precision—the cystoscope, the microscope and the thermometer—we will set medicine back 20 to 30 years. Common sense is a good thing, but we cannot do without instruments of precision.

The Bible says, "Render unto Caesar the things that are Caesar's." My association with Doctor Bel has been for the past 19 years, and Doctor Bel has developed his physical diagnosis to a very fine point. I speak now from a sense of fairness rather than censure. Doctor Bel has developed his physical diagnosis to a point where we have frequently seen dilatation of the pulmonary artery recognized by the doctor. I would like to ask in his closing remarks if he will tell us how he does this.

Dr. Wallace J. Durel (New Orleans): I feel from the tone of the discussion that the cardiac man may drift into the same line that the tuberculosis man did 25 years ago. In other words, the clinical side, the laboratory side, the technical side, and so forth and so forth. We realize today that it is neither the specialist nor the laboratory man nor any one else that will make a diagnosis of tuberculosis. It is only by all these men working together that a diagnosis will be made of heart disease. Take my own individual case. Fifteen years ago I consulted some of my eminent confreres and they told me there was nothing wrong with me—that there was nothing wrong with the stomach, the lungs, nor the heart, and that really it was only a change in disposition. Now they tell a different story.

I do not think we can depend altogether on the X-ray, nor do I think that with any instrument alone a man can pronounce definitely on the condition of any organ, but with the help of these instruments, and with the help of his clinical knowledge and history, we will have what we must look for, not only in cardiac conditions, but in all diseases.

Dr. William L. Grace (Plaquemine): As a country doctor, I think Dr. Bel's paper is very timely, and I think if this paper were published in every newspaper of the state, it would do our patients and all the people a world of good. Nearly one-third of the people who die in my town, a town of 5,000 people, have died of heart trouble. Twice as many people die from heart disease as from consumption. In 1921 we had 64 deaths—21 from heart disease and 10 from consumption. Last year out of 90 deaths we had 27 from heart disease and 12 from consumption. Two-thirds of the cases of heart disease that we have today come from contagious diseases, from syphilis many times, and we all know that the contagious diseases are preventable. It is up to us to go to work and prevent these contagious diseases. Louisiana is very backward in this regard. This state should have a public health officer in every parish, but I am sorry to say there are not more than seven or eight. If we

had a good man in every parish I am sure it would do us a world of good.

Dr. Joseph Cohen (New Orleans): After hearing Doctor Bel's paper I had no idea that I would get up and speak, but after one of the former speakers so positively denounced instruments of precision, and after I saw some of our guests in the audience applaud him, I concluded that I would have something to say. I happen to know of one particular case, a very dear friend of mine, a doctor, who was treated by several other doctors without a diagnosis of heart trouble being made. There was a difference of opinion. That difference of opinion was decided definitely by the cardiogram which was taken by Doctor Heninger at Touro. That doctor is in bed and has not practiced for one year, but he is now on his way to recovery.

The point I am trying to bring home is this. We must regard the patients that come before us as patients. We must use every possible means at our disposal for making diagnosis, whether it is an electro-cardiograph, a blood pressure apparatus, laboratory methods or what not. I dare say the doctor who denounced instruments of precision uses a blood pressure apparatus daily. That is surely an instrument of precision. He intimated that most men who use instruments of precision do not use common sense and do not use their heads, which is not fair. I am saying this because we have quite a number of visitors present and I do not want them to leave with the wrong impression. Every instrument at our disposal should be used in making a diagnosis of a patient's heart, all the experience and everything the doctor has to offer should be used if it has been shown that it is worth while. If there is any doubt about what the electro-cardiograph is doing for heart disease, and the recognition of early heart conditions, those people who are in doubt will have to go to the clinics where they use these instruments and their doubts will be dispelled.

In closing I want to emphasize the fact that we are to treat the patient. We are not treating figure heads, we are not treating dummies, we are treating patients. When a patient comes before you, you must consider him in toto, not the heart alone, nor the lungs alone, nor any other part. We must consider our patients as patients, and all our efforts should be focused on the patient—and we will have less cardiac disease.

Dr. F. M. Smith (Franklinton): As a public health worker, I feel I should make a few remarks, not to add anything to this valuable paper of Doctor Bel's, nor to stress treatment, for that is in the hands of the physician. If you

have a case before you with a waning heart, that is your proposition. Your problem is how you make your diagnosis, what instruments of precision you may use; it is your proposition as to how you shall treat. But the problem that interests the public health workers, the problem that should interest those ladies and gentlemen who are here who are not doctors, or students of medicine, how can we reduce the great death rate that is taking so many of the people of our country? It can be done, but it must be done in time. The time is not when the heart is leaking; the time is not when the valve is weakened; but when these foci of infections are first beginning, when the tonsil is first enlarged, the removal of that condition which throws out the poison in the body, and then the correct treatment, will reduce the occurrence and the incidence of heart disease. So I want to say to you people who are here today that the message I bring to you as a public health worker, is that we must begin to eliminate these contagious diseases that predispose to heart affection. We must reduce the incidence of syphilis; we must reduce the incidence of rheumatism, and I would be glad to have Doctor Bel in closing tell us something of the etiology and cause of rheumatism, if it be due to other than preventable causes.

I want to emphasize again that by getting this information, by taking the message that your public health workers are willing at all times to give to you, by practicing this in your homes, correcting physical defects that may be found in your children, eliminating the incidence of syphilis, rheumatism and chorea, and all those preventable diseases that predispose to heart trauma, in that way and that way only, will we reduce the mortality of heart disease.

Dr. George S. Bel (closing): Not wishing to be impolite or discourteous to the various discussers of my paper, and you who have had sufficient patience to listen, I think we can eliminate all the unnecessary diagnostic clinical discussions of instruments of precision and knowledge of electro-cardiology, all of which I have no intention to bring before you this afternoon. I would gladly eliminate any further discussion in consideration for those who are here this hot afternoon, but I must in justice to myself answer a few of the questions.

First, answering that boll weevil of medicine, that untiring worker, that gentleman who commands everybody's as well as my respect and admiration—Doctor William Seemann. He said that the diminution of tuberculosis was due to agitation, and likewise heart disease must follow. Remove infection and we will have no heart dis-

ease. There would be no need to bring patients before the electro-cardiograph. Doctor Seeman mentioned the American Heart Association, but he did not sufficiently mention his own association, an organization of which we are very proud in Louisiana. His untiring efforts have placed him high among the profession of medicine in our Southland.

In regard to my colleague, Doctor Fossier, somehow or other we always have something to say to each other, although we love each other as bees love honey. One remark I must answer, I cannot let go by—not for the doctors but for the public. He said Charity Hospital has no electro-cardiograph. True. He made the offer through the Post Grade School of Tulane, to give Charity Hospital a cardiograph for the use of and under the control of Tulane. If Doctor Fossier wants to do the proper thing, why does he not get his friends to give three to five thousand dollars to Charity Hospital and say, "You poor, unfortunate people, we give you this—go ahead and do what you think best."

Answering Dr. Ledbetter—I can see cardiologists are hypersensitive—they have allergic reaction to the importance of the machine. It is impossible to minimize its usefulness. I think Doctor Ledbetter misunderstood the reference to common sense, but you know there are some people living a way out where you cannot knock common sense into their heads. If you have that kind of a patient with bad teeth and tonsils, you do not need to bring that fellow in for an electro-cardiogram. Get rid of the tonsils and teeth and then bring him in and use your electro-cardiograph. Furthermore, we do know from practical experience that we can tell when a patient has a strained heart muscle. One of the best tests is the statement of the patient himself. But I am not going into that now because it is out of order.

Of the various infections that have been mentioned this afternoon, syphilis especially is an insidious process extending over several years; it is a slow poison that destroys the lives of those who think they are well, indicating very positively to my mind the inadequacy of our therapeutical resources or the deficiency of the medical man in persisting in this long treatment.

In closing I wish to say that in heart disease as well as tuberculosis, it is a case of the education of the profession as well as the lay public throughout the country. Doctor Seemann struck the keynote when he said—no infection, no heart disease.

Finally I want to thank you individually and collectively for your kindness and intelligence in discussing my paper.

THE DIGESTIVE SYSTEM IN TUBERCULOSIS*

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The problem of looking after the digestive system during the course of the treatment of pulmonary tuberculosis is a very difficult one and requires more study and observation than any other phase of the treatment. It matters not how well nourished the patient may be, digestive disturbances occurring are just as important.

The question of nutrition in the tuberculous, just as in the healthy, comes far from being wholly a question of what or how much a patient eats, but has to do with the entire question of metabolism. Faulty nutrition may be due among other things, to pathological conditions in the gastrointestinal tract, such as disturbances in secretion, or motility, or any acute inflammatory disease affecting the canal; errors in diet consist either of eating wrong food or food in improper quantities, or in an improper manner; degenerative changes in the body cells which interfere with either the absorption of food particles from the alimentary tract or the proper exchanges between the blood and the tissues; pathological conditions in the blood itself; interference with the rapidity of blood flow and a general lack of harmony in the function of the various important systems of the body.

Pathological changes in the gastrointestinal tract as they are found in tuberculosis present several different conditions, the ultimate effect of which in each case is the interference with proper absorption of nutriment. An almost constant condition in the alimentary tract in tuberculosis

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is a passive congestion. Resulting from the insufficient motion of the diaphragm and other inspiratory muscles, there is always more or less splanchnic congestion present, the degree varying with the amount of disturbance in inspiration. This lessening of the inspiratory act causes the blood flow to be retarded through all the abdominal organs and favors a general blood and lymph stasis, which interferes with the secretory functions of the digestive glands, the motor function of the gastrointestinal walls and the absorption of nutriment from the alimentary canal. The amount of disturbance due to these conditions varies from that which is scarcely discernible clinically, to a markedly altered function in some patients who are suffering from more advanced lesions. Not only do we have a passive congestion as a result of deficiency in the respiratory act, but also as a result of nervous influences and weakened heart action, the latter particularly in advanced tuberculosis.

Displacement of various organs is also very common in tuberculosis. This is particularly true as a result of malnutrition and a consequent absorption of the intra-abdominal fat, the general weakening of the musculature of the abdominal wall, and the wasting of the tissue support of the various intra-abdominal organs. Aside from this we must also consider the effect of the pathological process above the diaphragm. The diaphragm is often displaced and pushed downward by compensatory emphysema and at times by plural effusion and pneumothorax. Constant coughing also has an influence in forcing the abdominal organs downward. Probably, that which is of greater importance than the ptosis itself in these cases is the reduced intra-abdominal pressure under which the abdominal organs are compelled to work as a result of the loss of tissue and tissue tone. The ptosis affects, at times, all the abdominal organs. In advanced conditions it is not uncommon to find the stomach resting on the pubes, the cecum and transverse colon,

together with the small intestines wedged tightly into the pelvic cavity, and the lower pole of the right kidney below the level of the umbilicus. A dilated cecum is also frequently found. These ptosed organs, however, often functionate well and show no symptoms directly referable to the ptosis itself. Atony and dilatation also are very common in advanced cases. The gastrointestinal tract is subject to many reflex disturbances. In some the afferent impulse travels from the lung over the vagus. Others come from the surface of the body through the spinal nerves. The afferent impulse is transmitted through the gastrointestinal branches of the vagus and sympathetics, respectively to the vessels, glands and muscles of the organ. Neither must we forget the effect of toxins on the gastrointestinal tract. These have a two-fold action. They act centrally through the splanchnics, exercising an inhibitory influence upon digestive activity in general and, particularly late in the disease, cause degeneration of the cells of the organs.

Tuberculosis of the various portions of the intestinal tract and of the liver, pancreas and spleen, must also be considered as part of the pathology which must be reckoned with. However, these tubercular infections will not be considered in this paper. The part which the nervous system plays in the production of symptoms on part of the gastrointestinal canal during the course of clinical pulmonary tuberculosis is a very important one. On part of the gastrointestinal canal, toxemia manifests itself in inhibition of action. This is controlled by the system of nerves which diminishes the secretion of the salivary and mucous glands, relaxes the stomach, inhibits gastric, intestinal hepatic and pancreatic secretion, relaxes the intestinal wall and decreases the motility of the gut. When toxemia is present the sympathetics are centrally stimulated by the toxin and peripherally by the extra adrenin which results from splanchnic stimulation and we have a chain of symptoms varying ac-

ording to its severity, such as decreased appetite, coated tongue, diminished gastric and intestinal secretion and a deficient gastric and intestinal motility resulting in stasis and constipation.

In tuberculosis the degree of toxemia varies greatly with the character of the disease; so do the symptoms on the part of the gastrointestinal tract. Sometimes, even when a marked degree of toxemia is present no noticeable symptoms of gastric or intestinal origin will be noted. This can be explained on a rational basis by bearing in mind that tuberculosis is an inflammation in the lung which irritates the pulmonary nerve ending belonging to the vagus and, when producing toxins, stimulates centrally the sympathetic division of the vegetative system and these being antagonistic in their action in the gastrointestinal tract, no disturbance in equilibrium results. The appetite is decidedly variable in tuberculosis during the periods of general depression, such as those which are manifested by discontent, discouragement, anxiety, fear and during pains, and usually during periods of toxemia. The appetite is very important in tuberculosis, both because of its influence on the amount of food taken and upon the digestion of food after ingestion. During the active period the appetite is usually very seriously lessened. At times it is impossible for the patient to eat sufficient food to nourish him. Owing to the lack of appetite, mastication of food, which is so essential to the proper division of the particles and also to its insalivation, is imperfectly carried on. Often it is necessary that the great bulk of food eaten be of such a nature that it can be swallowed rather than chewed. The result of this is that an extra burden is thrown upon the gastric and intestinal function. While normal gastric juice is able to take care of protein food, whether it be coarsely or finely divided, yet a lack of proper insalivation, particularly of the starchy food, has a very important inhibitory action upon gastric digestion. All cooked farina-

ceous foods, such as rice, potatoes, bread and oatmeal, interfere with peptic digestion unless they are thoroughly insalivated. This emphasizes the importance of chewing farinaceous foods thoroughly. Salivary, gastric and intestinal digestion are more or less closely related; yet each has its own particular function and, unless carried on properly, interferes with or throws an extra burden upon the process next lower. If we have an abnormal secretion in the stomach, in tuberculosis, we are apt to have abnormal secretions in other parts of the gastrointestinal tract from the same cause—abnormal motility, also; because the motor function of the intestinal canal depends on the stimulation received from the acid contents of the stomach. In early tuberculosis increased acidity, probably of reflex origin, is quite common. During the late stage of the disease, especially when toxemia is marked, a deficiency in hydrochloric acid is the rule. This condition, however, often alternates with normal amounts of acid or with a hyperacidity.

Atony and dilatation of the stomach are usually associated with downward displacement of the organ. This dilatation may be due to errors in diet, over-feeding, altered secretion accompanied by abnormal gas formation, obstruction of the pylorus, or to a general degeneration of the cells of the wall of the organ. Dilatation of the stomach in advanced cases becomes a serious factor, because the muscles are weakened, motility is lessened, the food remains in the stomach longer than it should, thereby causing conditions which are extremely troublesome to treat. It is best, if the condition is severe, to feed the patient at frequent intervals, to reduce the amount of liquid taken with the meals to a minimum and, above all else to withhold food which the stomach digests slowly as well as such articles as produce gas. However, if the dilatation is not severe and not causing too much disturbance, a liberal diet should be insisted upon, for the condition can only be improved as the general health of the patient improves.

Concentrated nutritious food should make up an important part of such a dietary. Strychnine sulph. 1/60 gr. administered thirty minutes before meals is of some value, but the building up of the patient is of the greatest importance.

Hypochlorhydria is a condition often met with in certain classes of individuals, especially those having a slow digestion. When suffering from this, if only temporary, it is well to urge the patient not to eat large quantities of food until this condition is corrected. The best foods under these circumstances are those which have a rather stimulating effect on the gastrointestinal tract. Meat extracts, meat itself and dry toast well chewed stimulates secretion. Dilute hydrochloric acid taken after meals is of considerable value. *Tr.*, *nux vomica*, given before meals, is also beneficial. On the other hand, if the deficiency is chronic, the patient must be fed liberally, using a diet which will stimulate secretion and favor regularity of bowel movement. At the same time hydrochloric acid should be administered. General measures for improving the patient's metabolism are of the greatest importance.

Hyperchlorhydria, contrary to the general belief, is quite common in tuberculosis. Where this condition is marked all stimulating food should be eliminated. Coarse foods which irritate the stomach should be withheld from the diet; such as lettuce, tomatoes, cabbage and coarse bread. Foods should be confined to the soft, non-irritating type. The diet should be either wholly unseasoned or seasoned very lightly. The secretion of hydrochloric acid can be depressed somewhat by the use of atropin 1/200 gr. being given three quarters of an hour before each meal. This should at times be increased, and in severe cases should be pushed to the point of dryness of the throat. Atropin is particularly effective in those naturally vagotonic and where the condition is a result of vagus stimulation without organic lesions such as that

caused by pulmonary reflex. When due to ulcer, appendicitis or disease of the gall bladder it may be of limited or of no value. Bromides are also valuable in these cases, but their action is not as certain as that of atropin. It is very important in hyperchlorhydria to neutralize the acid, because it not only produces discomfort in the way of a burning sensation, but if we have large quantities it has a tendency to produce spasm of the pylorus and interfere with the emptying of the stomach contents into the duodenum, which if maintained long enough will favor dilatation. For neutralizing the acid a combination of subcarbonate or subnitrate of bismuth, bicarbonate of soda and carbonate of magnesia is excellent when administered two or three hours after meals. Sometimes an absolutely meat free diet persisted in for a long time seems to help more; although at first the acidity is worse, because of the lack of albumen to combine with the acid.

A general diet in tuberculosis is usually best, as some protein is essential. It is not usually best to eliminate meat from the diet, and we should try to control the acidity as well as possible without forbidding it, at least until such time as the condition of the patient will permit a more rigid diet without risk. Enterocolitis is another very common complication; it may be of a slight degree or it may be severe. It may be due to irregular diet, or result from an obstinate constipation and the use of laxatives, or it is probably at times due to toxemia and at times to a venous congestion in the intestinal walls; the latter being a constant factor in the disease. The most common cause is the excessive use of raw eggs. The treatment depends upon the severity of the case. The most important measures in the treatment of this complication are the relief of mental depression, rest and diet. The patient must understand that the maintenance of good results depends not on medicine but on persistently following rational living and appropriate diet. Remembering the effect of

emotion on the digestive tract, the importance of optimism cannot be overestimated. In all severe cases put the patient to bed and eliminate all questionable foods from the diet. At first nothing but gruel or light soups are given. In many cases milk will not be tolerated. Medicine is of very little value in treating this condition. Sometimes one teaspoonful of castor oil given at night will help, but should not be used over a long period.

Constipation is another condition which we see in a majority of cases, especially those confined to bed, and it is very difficult to handle successfully. It may be caused by habits of previous years, disturbance of the normal physiological rhythm of the gastrointestinal function, whether due to motor or sensory change or alteration in position of contour of the organs, the toxic and reflex influences through the sympathetic and vagus nerves and the degeneration which are due to the tuberculous process and the limitation of exercise made necessary by the activity in the tuberculous focus, and to eating of concentrated food to the exclusion of those of a more bulky type. Constipation should be relieved as far as possible by giving a laxative diet, discouraging as much as possible the use of medication for this purpose. Foods which furnish a large amount of waste matter should be employed and should be of such a nature as will mechanically stimulate the mucous membrane. Patients should drink water freely and have fruit juices once or twice a day. Tea and coffee should be used sparingly or not at all. Eating of coarse vegetables and cereals should be encouraged. It is usually difficult to get the co-operation of the patients because they persist in calling for laxatives.

Acute toxemia of the gastrointestinal tract is very common, especially in bed patients. They usually complain of a chain of symptoms, headaches, feeling of malaise, mental depression, nervousness, lack of appetite, coated tongue and constipation.

The patient's diagnosis in this condition is biliousness. There is only one good remedy for this chain of symptoms; stop all foods or reduce it to a minimum for a day and give a dose of castor oil.

While errors in diet are many and pathological changes in the gastrointestinal tract are not infrequent, yet it is well for both physicians and patient to bear in mind that digestive disturbances are just as likely, in fact, more likely to come from within the patient himself and be partially or wholly within his control. Emotional influences, such as those produced by pain, anger, fear and pessimism, are exceedingly apt to disturb the gastrointestinal tract. While we are constantly looking for mechanical and secretory disturbances in the intestinal tract of our tuberculous patients, we must not forget the very important influence which emotion bears to them and to nutrition in general. If we can keep the patient happy, cheerful, optimistic, hopeful and free from pain his digestion will be better, he sleeps better and all organs functionate better. On the other hand, if the patient is pessimistic, worrying about everything that comes up and allowing himself to be depressed and discouraged by trifles, he is apt to have many attacks of indigestion which he could escape by self-control. The importance of avoiding so far as possible the state of worry and anxiety and of not permitting grief and anger and other violent emotions, to prevail unduly, is not commonly appreciated; for the subtle alternations wrought by these emotional disturbances are uncommon to consciousness and have become clearly demonstrated through physiological studies. Only as consequences of mental states favorable and unfavorable to normal digestion are better understood can good results be sought and bad results avoided, or if not avoided, regarded and treated with intelligence. In advanced tuberculosis the vessels of the intestinal tract often become the seat of amyloid degeneration. This causes interference with

secretion, motility and absorption, and is especially serious because it cannot be remedied.

The points to be emphasized in feeding tuberculous patients are,—to avoid wrong kinds of food, too little food and especially too much food, also foods that are not suited to the nutritive requirements of the individual patient. In our experience we cannot too strongly condemn the present tendency to over feed tuberculous patients, and it must be borne in mind that the patient is just as apt to disagree with his food as the food is to disagree with the patient.

DISCUSSION.

Dr. H. Y. Swayze (Kerrville, Texas): I certainly enjoyed the way the Doctor has worked out his paper, and I am satisfied he is worried about this proposition. The tuberculosis is worse than the stomach trouble, which must be relieved to get results—patient must rest in bed; and that means go to bed and not to write, read, or talk, and if we could do one other thing it would do wonders. If we could rest the brain and mind; but we cannot stop him from thinking, and the longer the stomach bothers him the more he worries and the more his mind bothers him. It will finally run the patient and the doctor crazy—unless we get a correction.

The feeding proposition in tuberculosis is the backbone of the treatment. There comes a time, however, when we must slack up on the food—even though we sacrifice weight. We must rest the stomach in as much as all this digestive disturbance comes from the absorption of poison from the lungs. You find digestive disturbances in all stages of tuberculosis, but of course, the early cases have the better chance for a "come back."

The medicinal treatment I do not know much about. Our sheet anchor is castor oil, which must be kept up weekly, or whenever patient goes bad, and you must work your psychology morning, noon and night. If you will do that and keep the patient rested, you will help the stomach in a way and possibly you will get the patient on his feet.

Dr. Joseph E. Green (Richton): I have listened to Doctor Toomer's paper with interest. He has outlined the various methods and means and I would like him to answer one question. Personally, I do not think my mind will be changed, but he discussed the various medicines

and I do not believe there is much in any of them. He says keep your patient cheerful and in the following paragraph recommends a dose of castor oil every morning. The question I ask is this: "How can any body be cheerful and take a dose of castor oil every a. m.? I don't think there is any such animal—it can't be did." I believe if every time we give a dose of castor oil we would take one ourselves, we would soon get out of that notion. I have almost gotten away from giving castor oil, but in these cases you must use your judgment and get by the best you can and trust God for the rest.

Dr. John B. Elliott (New Orleans): I am afraid I taught a great many men in this room that when they had a tubercular patient they should stuff him. Of course I take that back and I want to apologize for teaching you any such thing. We have learned after many years of experience that the worst thing we can do is to stuff a tuberculous patient. We feed our patients very lightly compared to what we did ten years ago. I give most of my tuberculous patients hydrochloric acid after meals. Most of them have an achylia and they have this medication. I generally give them nux vomica before meals, and I use psychology all the time.

I spent a summer in Saranac a few years ago with Browne and Trudeau and Baldwin, and I watched them feed their patients, I noted how carefully they watched the digestive system all the way through. If these patients can handle food properly, they will build up rapidly, of course, provided they stay in bed. That is the hard thing. If you keep them in bed for any time you get an increase of gas in the stomach and then you have to give bromides and alkalis to correct the gas.

The Doctor has had large experience with tubercular patients and he must have watched the different varieties of food, but it is my experience that no two cases are exactly alike. Some patients handle milk and eggs beautifully. I have an old lady that I put to bed when she was 73 years old, because of tuberculosis of both lungs. She had a temperature of 101 and 102 for six months. She is keeping house today at 85. She could take eggs all day long, she took at least eight a day for three years. But another patient will come along who cannot take that diet—he cannot stand eggs and he cannot handle milk. So you must individualize your patients and not go by any hard and fast rules.

Dr. Henry Boswell (Sanitorium): One or two points I would like to mention. The first thing is that our experience in handling these patients in the Sanitorium is that most of our stomach

or gastro-intestinal complications are due to over-feeding before the patient reaches the institution. The fallacy that has been handed down, of stuffing the tuberculosis patient has been planted not only in the minds of the medical profession, but of the laity alike—that the one thing to do is to feed, and as a result they have been fed as long as they could comfortably, or even uncomfortably, hold a particle of food. Therefore we have gastritis and other complications to handle.

The other thing I would like to mention is the feeding of raw eggs. In 1917 or 1918, the Harvard School of Medicine proved very conclusively, after years of experiment, that the use of raw eggs was all wrong, that the raw egg is harder to digest than the cooked egg—that is, unless they are fried. If we remember about a raw egg we can understand why we get such disturbances of digestion. A raw egg is practically pure albumen. Primarily, it is a pure culture media for the intestinal flora, and egg must be digested in the stomach. The part that is undigested passes into the intestines, and remains as a pure culture media and as a result of this overflow into the intestinal tract, we get a diarrhea and a resulting enteritis. That is one of the hardest things we have to control in the patients we handle day after day. Personally, I am of the opinion that no human being can assimilate over three or four eggs a day. We of course do find a patient occasionally who can take 12 to 15 eggs a day, but such a patient is watched very carefully and while he may not have diarrhea resulting from it, at the same time he runs a risk. If I can do nothing else this afternoon in the discussion of this paper but condemn the use of raw eggs in the promiscuous treating of patients with tuberculosis, then I think the time is well spent. Understand, however, that there are individuals who can assimilate raw eggs, but they are just lucky.

Another thing I want to mention is the use of castor oil as a purgative in the treatment of tuberculosis. We find it to be a most valuable aid. It does two things—if you give it to a patient he will not always be wanting medicine; and second, when you give it to him it does the right kind of work.

Dr. W. A. Toomer (closing): Doctor Boswell has answered the question about castor oil. Again I want to emphasize the importance of feeding tuberculous patients a plain, simple, wholesome diet, always remembering that the digestive disturbances and other disagreeable symptoms will disappear as the tuberculous condition improves.

TUBERCULOSIS: HOW TO REDUCE THE DEATH RATE IN LOUISIANA.*

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To give an intelligent outline of a campaign to reduce the death rate of tuberculosis in Louisiana, we must first see what the existing conditions are. In a state, of approximately 2,000,000 population, there are about 2000 deaths reported annually from tuberculosis; this does not include those who die outside of the state who contracted the disease while living in the state; neither does it include those who died of other diseases in which tuberculosis played a very important part, such as acute respiratory diseases.

Through educational campaigns of the State Board of Health and the local organizations of the Anti-Tuberculosis League throughout the state, almost every one in the state knows that there is such a disease as tuberculosis. This alone is a good foundation upon which to begin a more systematic campaign to save lives.

In a health demonstration at Framingham, Mass., carried out by the National Tuberculosis Association, the death rate was reduced 68% in seven years. In commenting upon this, Dr. Jacobs of the National Tuberculosis Assn., says: "To evaluate properly the seven years work of the Framingham Health and Tuberculosis demonstration, which was formally closed on January 1, 1925, is a difficult task. The full significance of what has been done in the last seven years at Framingham, and what is being done at this moment as a result of the seven years of intensive activity will not be evident for at least ten or fifteen years to come, and possibly not for twenty-five years to come. The real results will be found in the rising genera-

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tion and in children of the rising generation.”

A few outstanding results, however, are significant. For example, Framingham has come to be almost synonymous with case-finding, and the measure of case-finding is based upon the Framingham yard-stick that one percent of a normal population has active tuberculosis while another one percent has the disease in a relatively quiescent form. Or, take that other significant contribution of Framingham, namely, by the development of careful machinery for early diagnosis, the percentage of cases with minimal tuberculosis in a readily curable stage that can be discovered in a normal community, is capable of being doubled, tripled or even quadrupled.

And when one turns to mortality from tuberculosis, Framingham shows that if modern science is properly applied with skill, vision and money it is possible to reduce the death rate from tuberculosis to a comparative minimum. As stated before, the death rate in Framingham in seven years has been reduced 68%.

The challenge of Framingham is “Go thou and do likewise”. The National Tuberculosis Association, using funds provided by the Metropolitan Life Insurance Company selected Framingham primarily as demonstration. As such, it has already pointed the way and enlarged the imagination of hundreds of communities in the United States. Doctor Donald B. Armstrong, to whose genius and ability the results of the demonstration are largely due, says, in commenting upon the matter, “Framingham has demonstrated that public health is purchaseable and that the returns are more than commensurate with the cost.” On the basis of this demonstration tuberculosis may definitely be classed among the controllable diseases.

The lesson of Framingham is this—that tuberculosis is not a visitation of Providence, and that any community has within its own power the means whereby to reduce

it to that comparative minimum to which such diseases as leprosy and smallpox have already been reduced.

In 1924, the Tuberculosis and Public Health Association was organized in Louisiana and affiliated with the National Tuberculosis Association and indorsed by the Louisiana State Medical Society.

This organization will be powerless to function properly if not supported by every member of the Medical Society of Louisiana. But if supported by them as Dr. Jacobs has pointed out in the Framingham survey, we can reduce the death rate of tuberculosis in Louisiana.

First, we must cut off our source of supply, i. e., the open cases of tuberculosis that we now know exist, should be cared for and be placed in a well regulated institution for the treatment of tuberculosis. Other open cases should be sought out and handled likewise. The best means of handling the situation is by district sanatoria, supported by the state and parish, located so that the patient will gladly go to the sanatorium and receive treatment and education about handling his own disease and about protecting others.

Once the patient realizes that the only source of infection and danger of spreading the disease lies in the sputum, he will gladly take the simple necessary precautions. These are: covering the mouth with some readily burnable material (preferably paper napkins) when coughing or sneezing, and the prompt destruction by burning, of this material.

Where expectoration is necessary, the only safe and sanitary way to handle the situation is for the patient to spit into a paper cup especially designed for this purpose and then burn the cup. If for any reason such cups are not obtainable it is fairly safe to spit into a paper which is folded and burned immediately.

These district sanatoria not only aid in caring for and housing those already sick

but become sources of information for the doctor as well as the laymen. I find that the great trouble today is the failure to discover the disease before it becomes an open case. The doctor himself is not to blame for he is not familiar with the handling and diagnosis of tuberculosis because he only sees a few cases each year.

Without the X-ray and laboratory facilities, and with only a limited number of visits with the patient, it is as impossible to make a safe diagnosis of early pulmonary tuberculosis as it is for a surgeon or the eye man to do good work without special training and equipment. But if there is a sanatorium near by, the doctor will soon familiarize himself with the early symptoms of tuberculosis and be able to make an early diagnosis and be in a position to give the proper advice when he finds a case.

To treat these open cases and house them after they have scattered tuberculosis in their respective homes and surroundings and sit quietly by and wait for another case to develop is like trying to mop a floor dry while water is still running on it.

Every individual who has been in intimate contact with an open case of tuberculosis should be thoroughly examined and no means spared to find an early infection, later to be followed up for a period of two to three years. If by that time he has not developed tuberculosis he should be considered fairly safe, otherwise, he is running a great risk.

One of the greatest problems in handling the open case of tuberculosis is the relation of the individual case to the family and community.

The situation in Louisiana where we depend on the colored people for domestic servants, cooks and nurse-maids for our young children is one which deserves the most serious consideration. I find, in taking the history of negro women at the Pines Sanatorium, that 65% to 70% of them have handled young children after they have had

an open case of tuberculosis. If we could properly impress this fact upon the minds of the mothers of Louisiana and get them to demand a clean bill of health for their nurse girls we would materially lessen our infection.

As Dr. Lawrason Brown puts it, the greatest proportion of children receive their infection in the first few years of their life, and properly to combat tuberculosis we must protect the child.

I have found that taken early and given rational treatment, the negro responds equally as well as the white patient. I have also found them to be willing to cooperate with the doctor when once convinced that it is necessary to take treatment.

We have to consider that a great deal of education is necessary and it will take several generations to make much of a showing. But it can be done if the given community demands that the domestic servant be healthy and if the employer will have them examined at his own expense, there will be a material decrease in the spread of the disease and a noticeable decrease in the infection of the child. It is far better to spend money in that way than to spend it later on one of your own family, some times with little results.

The youngest case of tuberculosis that I have seen die in Louisiana was three months and three days old, and I was unable to trace the infection after examining all contacts. However, very few cases develop that early, for usually the seed is only sown at this time and much later brings forth an abundant harvest.

The next important step is the education of the masses in regard to the early signs and symptoms of the disease. Some twenty years ago Dr. Flick stated that tuberculosis was one of the most curable and preventable disease known. What he meant by that was that if taken in the early stages before it becomes an open case in which

the bacilli are being discharged it is very easily controlled and arrested. The district sanatorium in a community greatly lessens the morbid fear which comes from the ignorance of tuberculosis and ignorance about how and where it spreads and infection follows.

It has been fairly well proven that the casual contact with an open case is not necessarily dangerous for an adult where it is dangerous to the infant or small child. Here, again the patient who has learned how to handle himself in a sanatorium and has learned to care for his sputum, will protect all those with whom he comes in contact.

It is a well known fact that tuberculosis is a house disease and in the mild climate of Louisiana where many days can be spent outside, tuberculosis should be easily controlled. If the already existing anti-spitting laws were rigidly enforced public attention would of necessity be focused on tuberculosis and its prevention.

The traveling Health Clinic under the direction of a properly trained tuberculosis man is indispensable, as there is a large number of the population of the state that can not be reached otherwise. But the clinic can not properly serve the state unless it has some place to send the active cases as soon as they are found. The visiting nurse also aids in tuberculosis. At present there are only about 200 beds for the treatment of tuberculosis where there should be 2000. No open case of tuberculosis should ever be allowed to remain outside of a sanatorium unless they have had thorough schooling, except in such exceptional homes as to be absolutely no danger of infection to children or young adults.

We all know that the death rate from tuberculosis is too high in Louisiana. Other states and communities have demonstrated that the situation can be successfully handled and controlled. We know what tuberculosis is and how it is transmitted from one human being to another

and I feel that the man, woman or child who has been properly instructed will try to protect himself and will not harm his neighbor knowingly. I also feel that the doctor of this state, as a citizen possessing this knowledge, is responsible to a large extent if he does not disseminate it and prevent sickness as well as treat it.

The needs for our state are *District Sanatoria, Traveling Clinics* and the whole-hearted, intelligent co-operation and help of the *doctor, the teacher, the preacher, the newspapers* and the various organizations that work for the betterment of the state and its people. When these needs have been recognized and the public conscience awakened, the next steps are to find the open cases and treat them in a sanatorium, and to examine all contacts and keep them under observation for some time. Then we must see to it that the domestic servant and the nurse-maid has a clean bill of health, and by educating the leaders of a community about tuberculosis, its early signs, symptoms and the handling of the disease, create public sentiment. When this is done the death rate from tuberculosis will be very low.

This may look like a difficult task, but what the people of a state really want they eventually have.

DISCUSSION

Dr. W. H. Seemann (New Orleans): Doctor Bel has referred to me as a boll weevil. We all know that the boll weevil has been a tremendous influence in determining the economic condition in the South. It has opened up the South to wider business interests, and if I can in my humble way be the same thing to the medical situation, to take away the idea that seems to permeate the minds of so many of the profession and open up their minds so that they can see the other fellow's viewpoint, I will indeed be thankful.

Doctor Gowan has told you that there are approximately two thousand deaths from tuberculosis in Louisiana each year, but in view of the fact that the reporting of tuberculosis cases is done in such an indifferent way, so much so that the actual deaths unreported very frequently ex-

ceed the case reported, you will realize that it is impossible to get any accurate figure.

In regard to propaganda, all these various demonstrations, such as Negro Health Week, and other things put forward by the public health officers, the medical profession and lay organizations—all come to some good, but they are only temporarily beneficial. If we are going to arrive anywhere in the control of this situation, we must project our efforts so that we do not look for reward in our own lifetime, but look forward to the future, and that requires a constant co-ordinating effort by all agencies for the promotion of public health. That is why I think it would be a good idea to have all these efforts against heart disease, against cancer, against tuberculosis, and other diseases concentrated in one organization, save the corresponding increase and overhead, and reach the people at once through that agency. Anybody who has had actual experience in public health work, especially in regard to semi-official or lay organizations, will realize how often appeals and letters asking for information come in to headquarters. They are shunted off, two or three weeks elapse, and there is no result whatever, whereas if they were co-ordinated in one organization the result would be much better.

In regard to the Framingham proposition, that is familiar to most of us, it has surely taught us a lesson as to the value to a community of one big organization such as the Metropolitan Life Insurance Company. It financed this effort and also taught us the value of a large national organization in the control of these problems. When we went to war with Germany, we did not have an army from Louisiana, fighting where they wanted to, and an army from Alabama, fighting where they wanted to, but we had one big army, under one leadership, controlled from one source, and that is why I am so keen on the idea of the value of a large national organization, one that we can follow, knowing full well that they know more about the economics of the situation than we do.

In regard to the number of cases seen by doctors, I think possibly Doctor Gowen is in error about that. I think the doctors see a great many more cases of tuberculosis than they realize. Very often the doctor is called in for some other ailment and the case is handled for that particular ailment. Without any attempt at criticism, the man treating an ear condition is often not concerned with the question of the kidneys or the heart, whereas, the man that is treating some other disease would not be concerned with other parts of the body, and therefore not infrequently

these cases are overlooked and our statistics thereby suffer, as well as our patients.

The doctor brought out one point which we cannot emphasize too much. That is the point, that is very important to you, and I would like to emphasize it on every occasion—the care of the child. We know it from available statistics and reports that anywhere from 40 to 90 per cent. of autopsies show evidence of there having been at some time in life a tuberculous infection. That being true, and knowing the pathology of tuberculosis, how insidious and slow it is, we can easily conceive that many children running around the streets have a slow burning focus of infection. Along comes some accident, such as measles or scarlet fever, when the resistance is lowered, he has a heart attack, the slow burning fire flares up, and this offers a very good place for tuberculosis, which may have been almost arrested, to flare up again and develop into an active case.

As regards a bill of health for servants, I think the time is rapidly approaching when that will be demanded. We already have rules in regard to the handling of food whereby it is compulsory that in certain establishments, such as bakeries, the workers are examined and those that are suffering from communicable disease are not permitted to engage in such occupations. It would be easy and the most logical step if such supervision were extended to domestic workers. After all, they are in more intimate contact and have more opportunities to do harm than the workers in an establishment or business.

In regard to hospital beds in Louisiana, we all realize that no nobler cause exists than the promoting of hospitals for the care of individuals suffering from tuberculosis. I am very keen for that and I am always willing to put forth every effort in my power to promote it, and I think we can look forward at a not distant time to seeing a most gratifying increase in the bed capacity for Louisiana; but while we are thinking about that, let us not overlook the fact that those who are preparing to occupy those beds are right now among us, right at our hand, and we can do a whole lot to prevent the necessity of the child. We know it from available statistics that if we wait until we get the 2,000 beds, by that time we will need 20,000.

Dr. Robert M'G. Carruth (New Roads): I just want to say a few words to accentuate a point brought out in the discussion in regard to the wide spread prevention of tuberculosis among all the people. For twenty years or more my attention has been directed more and more to the

alarming prevalence of this disease, and for the past ten, more especially since the epidemic of influenza in 1918, to the prevention of the development of tuberculosis and especially of its incidence after an attack of influenza. As a result I have become interested in vaccines, both as a preventive and a cure. I have made some observations and have had some experience, having treated during the past six or seven years, something like eighty cases with the von Ruck vaccines. I recall some of Dr. von Ruck's figures based on an examination of school children and children of the pre-school age for incipient or latent tuberculosis. In 2200 children, he found only 24 that did not react to the injection of this vaccine. In quite a number of instances I have treated such children who had no positive clinical symptoms of the disease, but in those families where there were well known cases of tuberculosis, when a test injection of the vaccines would produce in them a very decided reaction. I recall one case where the child was much underweight; an examination of the chest revealed no positive signs of the disease but the weight increased nearly 33 1/3 per cent during a three months' course of the vaccines. Another case was that of a child suffering from what seemed to be an incurable condition of long standing granular lids. I had been called to see the child for malarial fever, when observing that one of its eyes seemed smaller than the other and kept constantly closed, and making inquiry as to the cause, was told it had had this affection since infancy, and had been treated by an oculist several times with indifferent results. Upon its recovery from its malarial attack, I had it again sent to the oculist, who returned it to me with an unfavorable prognosis. On making this time a closer examination, I concluded there was a good chance for tuberculosis, and thought it worth while to try a test injection of the vaccine. The reaction was most decided and I found it necessary greatly to decrease the initial dose in order to continue the treatment. But this child is now for the first time since infancy apparently cured of the granular lids, has increased in size and weight, its general health has markedly improved, and what is more, having never been able before to attend school, its rapid mental development is a subject of remark in the neighborhood. In other words this child's trouble was tubercular conjunctivitis that yielded only to the vaccines.

My experience in these and many other cases has been such as to lead me to believe that a very large proportion of the school children of the state are infected with tuberculosis latent or active.

I am frequently reminded of the opinion of Dr. von Ruck, expressed to me some years before his death, that tuberculosis would never be stamped out until every child should be vaccinated against the disease in infancy or early childhood. Time may yet prove he was correct.

Dr. Wallace J. Durel (New Orleans): In discussing a program for the control of tuberculosis in Louisiana, it strikes me that the people must be made to recognize the fact that a general health program not only means the eradication of a special disease by a small group of workers, but a wholesale co-operation of everybody in the prevention of all disease. Therefore, we must look forward to our official and non-official health agencies, as well as to the medical profession and lay public for relief.

At present, official health boards can accomplish a great deal in the state and municipalities through the divisions of vital statistics, communicable diseases, public health nursing, sanitation, food inspection, baby welfare, health work in schools and industries, nutrition classes, laboratory, publicity, venereal diseases, tuberculosis, and so forth.

The above give ample facilities to carry on measures which will eventually prevent all dangers from infection by the tubercle bacillus, and will also bring on conditions through which our people can maintain and build up their bodies' resistance to the higher degree.

It would be unsound to put on a general health program and to include tuberculosis merely as a secondary or insignificant factor. It might be well to remind those who advocate such a policy that tuberculosis influences and definitely enters into every part of any health program.

The incoming state legislature and municipal authorities must take a definite and early stand in providing the necessary funds for the organization and construction of free clinics, sanatoria, and hospitals for the diagnosis, care and treatment of the indigent diseased tuberculous who are residents of Louisiana. These institutions should be superintended in the same way as the Charity Hospital, Insane Asylum, and other state institutions.

We must have district and municipal tuberculosis clinics for the ambulatory cases, district and municipal sanatoria for the less diseased cases, with hospital facilities for the far advanced and bed ridden cases.

If possible, the construction of preventoria, open air schools, colonies and vocational training farms or industries, will form valuable additions.

More private and semi-private tuberculosis institutions should be established in Louisiana, because our balmy climate has proven very favorable for the open air rest treatment.

Clinics, sanatoria and hospitals should not be used mostly as headquarters for training and education, but should afford to the indigent tuberculous a means of receiving the best care and treatment known to medical science.

It is useless for the state or municipal sanatorium or hospital to harbor the actively tuberculous, only for a few months. These cases, though they appear improved when discharged, are generally active and soon relapse. Three out of 100 so discharged remain alive after ten years.

Non-official or voluntary organizations such as anti-tuberculosis and health societies, child welfare societies, medical societies, and so forth, should keep in close touch and show a constant interest in all health programs.

They are needed to keep the public health conscience alive, and must dutifully assist to clear out politics of all health agencies. Here, in Louisiana, we lack co-operation. Official and non-official agencies have too often antagonized each other to the detriment of the anti-tuberculosis cause.

It is no wonder that the prevalent state of ignorance and indifference to tuberculosis is yet manifested by both the medical profession and the lay public.

Ladies and gentlemen let us co-operate and educate, both the medical profession and lay public, in all matters that are of vital interest in the prevention, eradication, care and treatment of tuberculosis.

A program in line with that suggested by the National Tuberculosis Association is badly needed for the state of Louisiana. Let us follow the example of Chicago and other cities in the establishment of municipal sanatoria and dispensaries. Such institutions should always include the Commissioner of Health on the Board of Directors.

Dr. I. L. Robbins (New Orleans): I would like to say a few words about the reduction of the death rate in Louisiana from the experience I have had at Charity Hospital. First, we talk to the patient to see what he has to say about himself. Very often when we ask a patient why he did not go to a doctor before developing an advanced stage of tuberculosis, he tells us that he has been to a physician, that he told him he was

coughing and was losing weight and felt run down, that the doctor told him to pay no attention to it, to go home and in a few weeks he would be all right. Then a patient comes along and says that he did go to the doctor for treatment and he got along fine, but the doctor discharged him. We ask how long the doctor treated him and he says three or four months. We questioned 30 or 40 patients, all of whom said that the doctor said it was not necessary for them to come any longer. Consequently when they come to us they are in a far advanced stage of tuberculosis. Then, too, sometimes doctors are not able to diagnose the case and they tell the patient that nothing can be done for him. The other day a man came to me, the father of three children, making twenty dollars a week. He said he had been to three doctors in New Orleans, because he had hemorrhage of the lungs, but the doctors said nothing could be done for him. I think such mistakes as that ought to be corrected, if we are to reduce the death rate in Louisiana.

The patient, of course, is very often at fault. We get patients in the hospital who take all regulation treatments prescribed, and they get along first rate. They gain a little weight and strength, have no temperature after several months and they feel that we must have made a mistake, that they do not have tuberculosis. They leave the hospital. When we ask them why they are going home, they will say, "I have not had any temperature for three months; I feel fine." This patient goes home and in a year and a half he comes back and is worse for in spite of all advice the majority will not follow instructions. To sum up, the point that ought to be impressed upon the doctor and patient is just this, that a doctor has no right to discharge a patient in a few months. He should be kept under observation for months and even years. He should not tell any patient that his condition is hopeless. Second, if the patient is in the hands of a good physician he should wait until the doctor discharges him and not discharge himself.

Speaking of instruments of precision to be used in the diagnosis of tuberculosis, as we all know there is no one pathognomonic sign of pulmonary tuberculosis. The X-ray is not pathognomonic. Recently we had a patient reported by the X-ray as a broncho pneumonia; a week later the X-ray said she had a large cavity, and a week later they said the cavity was a dilated bronchus. So even the E-ray does not always make a diagnosis. What is necessary for the diagnosis is the collaboration of data from all possible sources. When I was in college Doctor Bel told us that a superficial examination was detrimental to a reputation, and I think that is

the trouble with most of the doctors who make a diagnosis of pulmonary tuberculosis. It is not that the doctor does not know what is the matter, but he is too lazy to examine the patient.

One way of reducing the death rate in Louisiana is to quit stuffing the ballot box. If a doctor does not know what to do with a patient, instead of being honest with himself and the patient, he says there are so many patients that die in Louisiana, that one more or less will not hurt. I think if we quit stuffing the ballot box we will have less tuberculosis in Louisiana.

Dr. J. Geo. Dempsey (New Orleans): I listened with interest to both the paper of Doctor Gowan and the remarks that followed. I take exception to Doctor Durel's remark that there is nothing being done to fight tuberculosis in Louisiana. I am heartily in sympathy with the work undertaken by Doctor Seeman along the line of Tuberculosis and Public Health. As you know as far back as 1907 anti-tuberculosis has been advocated in the city of New Orleans and throughout the state. Organizations have been formed but, I regret to state, have had the support of only a limited number of medical men and a few laymen. One of these organizations has supported itself for many years. Its members met the expense in starting this organization themselves and eventually received only a little compensation from the city of New Orleans through some of the public funds. The work of the Public Health Association, I believe, is an addition to the work already established in fighting tuberculosis. If we refer to records we find no increase in deaths from tuberculosis but instead we find a decrease. This decrease, however, is only apparent and would be indeed misleading were it not established that in the past few years cases of flu, pneumonia, heart disease, etc., were originally tubercular cases.

One thing I think should be instituted in every surgical hospital or institution. That is, no anesthetic should be given a patient before the lungs are thoroughly examined, especially where there is a history of flu or pneumonia, because often an arrested case of tuberculosis which has been dormant is aroused by the administration of an anesthetic.

The Framingham Institution established some years ago, has estimated that there are from 8 to 12 cases of tuberculosis for every death. In accordance with the average of 1000 deaths in the city of New Orleans it may be estimated that there exists here between 8 and 12 thousand cases of active tuberculosis. We have never had and will never have an institution to take care

of all of them. We advocate the establishment of institutions for indigent cases, and that every modern Louisiana hospital have a department for the treatment of tuberculosis.

Therefore, ladies and gentlemen, I believe that if we have done nothing else we have aroused the Tuberculosis and Public Health Association to a service that will renown to the credit of its promoters and demand that support of all well thinking persons in Louisiana.

I am reminded by the presence of our dear friend Doctor Matas at this meeting, that he was for many years a member of the Board of the National Association domiciled at New York for the study and prevention of Tuberculosis.

Dr. G. Farrar Patton (New Orleans): It seems to me that to diminish the death rate from tuberculosis in Louisiana, we must first diminish the sources of infection. The Louisiana Anti-Tuberculosis League, organized in 1906 and of which I have the honor to be a charter member, has done a great deal of work in this state, as is known to a majority of this audience. At the present time our efforts are particularly directed toward securing for the indigent tuberculosis victims of the state a public sanitarium. With that object in view we have been able to secure a site of some 400 acres, within sixteen miles of the state capital, at Greenwell Springs, beautifully located on a bend of the Amite river and in a magnificent grove of pines. The initial cost has been \$50,000, by no means an insignificant outlay for a volunteer organization, and the whole has been donated as a free gift to the State Tuberculosis Commission.

It is not an idle boast on the part of our League to state that we originated the idea of having the Legislature create a State Tuberculosis Commission, based on the practice of the State of Maryland, where the plan has proven remarkably successful. The draft of the requisite statute was prepared by the League and became a law in 1912, including among other provisions the establishment of one or more public sanitarium conveniently located for the accommodation of indigent tuberculous patients and the necessary appropriations.

After much delay and disappointment we seem to have reached the critical stage of this work. There has been plenty of talk and the time has now come for action. We have covered the state with propaganda and have exhausted every available means of arousing public interest. In the first ten years of the crusade I myself, jointly with other willing volunteers, spoke at various gatherings all over the state, and especially at

the institutes regularly held by Public School authorities. Special sermons have been preached on Tuberculosis Sunday by clergymen of all denominations and the text for those sermons distributed by the League has been utilized, along with the famous "Health Crusader" for instruction in schools. This work of public education was afterward taken up by Dr. Dowling and by means of his admirable Health Train, the life-saving message was spread to the most remote corners of our state.

A letter is now being prepared in the office of the League which will be sent to the officers of all Parish Medical Societies, invoking their active co-operation in an appeal to the medical men of the state to bring such pressure to bear on our legislators as may be hoped to provide funds for the establishment and maintenance of places of refuge for indigent consumptives. It can no longer be taken as an excuse that there is no site available. That site is adequately provided; the State Commission is fully organized to take charge, and all that we need is the money to begin work. We ought to be ashamed of ourselves. The comparatively poor state of Mississippi has set the example by a bond issue of more than a million dollars and has erected a magnificent sanitarium for consumptives. That result was largely due to the efforts of one man, Dr. Boswell, who went from door to door throughout his state, visiting every representative and senator, so that when the bill was presented to the Legislature it was passed without the slightest difficulty. In this great commonwealth of Louisiana, with our boundless resources of material wealth, our oil-wells, our sulphur mines, our production of sugar, rice and cotton and our vast foreign commerce, how can we longer delay recognition of our obligation to the cause of humanity? You who live in the interior of the state, will you not join forces with our League and help to free Louisiana from the reproach of remaining blind and deaf to the most crying appeal of a patient and long suffering people? In such a cause there is no room for jealousy. There is plenty of work for all who are willing to help. In God's name, let us put our shoulders to the wheel and put our state in line with her neighbors in this great and neglected cause.

Dr. George S. Bel (New Orleans): We have heard this afternoon a discussion by Doctor Durel, who is a pioneer in tuberculosis work in this section of the country, from Doctor Seemann and others. We have heard a criticism of the physician. There is one thing about tuberculosis and state hospital facilities for the control and treatment of advanced stages, and that is that as long as you treat advanced stages and continue to

treat advanced stages and hospitalize them, you will never stop tuberculosis. You will have more tuberculosis hospitals each year, because if you take care of these advanced stages alone, you will never get anywhere in the prevention of the disease. If you have hospitals with a thousand beds, in a few years you will want two thousand. The secret of success is in its prevention and nowhere else. Doctor Seeman and Doctor Durel sounded the key note when they said that the prevention was a question of education. That is the key note in the control of the situation.

Dr. Charles R. Gowen (Closing): Doctor Seemann, in his discussion mentioned the domestic servant. The only way we can check that problem is through some method of educating the mother to the necessity of having these women examined before they allow them to handle their children. The public health man cannot very well go into a home and insist on this being done. It will have to be done through mothers' clubs, parent-teachers' associations and other civic organizations in getting them to realize the importance of it, as we all know the child is the one to protect.

In regard to the use of tuberculin, it has been proven to be dangerous, that it should not be used by a man unless he is exceptionally well trained, and that it is quite dangerous in the hands of the general man. This is a very beneficial factor in some cases, but not for general use.

I want to thank Doctor Durel for his discussion. It adds a great deal to my paper and covers points that I failed to bring out.

Doctor Robbins' discussion was with regard to sanatoria. I think the work of the sanitarium should be more along the line of education and treatment. If it functions only to save the patient and not the others, it has not been worth while. In regard to the X-ray and its value in making a diagnosis of early tuberculosis, sometimes we have to use all the means at our disposal and then observe the patient for a long time before we can give him safe advice. I think no early case should be passed over without the use of the X-ray.

Doctor Dempsey's estimate is the same as mine when he says that we have over 18,000 cases in Louisiana. I agree that if we all worked as carefully as they do at Framingham, certainly we might decrease this number.

As to Doctor Patton, I think the Louisiana Anti-Tuberculosis League has done invaluable

work in educating the public and it should be given full credit for all that.

I think the idea of district sanitarium is a very good one. The district sanitorium is an invaluable aid in assisting the physicians in making correct diagnosis of all stages of tuberculosis, in educating all the people of the community as well as housing and caring for those who are sick.

MENTAL DEVIATION AND CRIMINALISM.*

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AND

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An ferocious crime seldom fails to attract widespread interest in the perpetrator, with speculation as to his mentality and motives, and often no flight of the imagination is required to regard the criminal as definitely abnormal. There is no inflexible standard of normalcy; an individual may be considered normal as long as he demonstrates his ability to deal adequately and effectively with his environment (reality), to carry on, and to avoid at least too flagrant violation of moral physical and civil codes, even though he be decidedly eccentric or queer.

Insanity can be defined as that mental state, due to disease or disturbance of the functions of the brain, which places a person out of relationship with the world. Psychiatry is the department of medical science which treats of diseases or abnormalities of the mind. Psychiatrists, except when rendering or expressing technical opinion as to the nature of conditions presented in specific instances, reserve the term insanity as a legal and sociological concept, preferring to designate those suffering with mental disease by the perhaps less offensive general, though sufficiently distinctive terms: mentally disor-

dered, mental deviates, variants or abnormals. It is generally conceded that if a person is aware of the nature and quality of his act, that is, if he understands it is wrong or criminal, he is guilty or responsible and is subject to punishment by law. Otherwise, he is responsible and not guilty, though he may be adjudged insane and committed to an institution for the protection of society and his own safe keeping.

The daily press is replete with accounts of the extraordinary activities and perpetrations of such persons, affording ample evidence of the inadvisability of their being unsupervised in a community. Serious consideration of the problems with which we are confronted, in adequately dealing with them offers much of academic as well as practical and scientific worth. Curiosity is regarded as evidence of a wish to absorb the world in the form of knowledge. It is traceable to the primal instinct, self-preservation, and is akin to a fundamental characteristic of the human mind, explanation. We are all aware of the readiness with which we endeavor to explain acts or words which are, or seem to be, in the least strange or peculiar. Crime is an exhibition of unusual, erratic, or abnormal conduct. The motives which actuate it are often little understood. The desire for elucidation may serve to explain the eagerness with which many appear insatiable in pursuing all available details of crimes and the propensity of the press so conspicuously to display such information. Dissemination of accurate knowledge, therefore, satisfies a definite human craving.

Determination of the extent or degree of mentality is no simple task, and is one requiring knowledge and utilization of many branches of learning. An exact interpretative antecedental history is important for the revelation of hereditary and pre-natal factors. A detailed account of the previous life of the individual, describing his relations with his relatives, acquaintances and surroundings, is essential

*Read before the East Baton Rouge Medical Society, Baton Rouge, La., September 9, 1925.

for a correct understanding of his behavior. Thorough physical examination, including laboratory investigation, is imperative in the search for stigmata of degeneracy, meaning anomalies of body formation and function, and diseases or defects which may serve as physical handicaps, thereby causing additional stress which may seriously disturb or overthrow delicate balances. It is admitted that a person conscious of his own abnormality will make an effort to conceal that abnormality. He, realizing that he is different, often concludes that he is inferior, and numerous peculiar conduct reactions result from such inferiority complexes.

A complex is a group of unconscious ideas or a group of ideas in the unconscious which, having become separated or split off from the usual trends of thought, as the result of attempts at repression, continues to grow and maintain an independent existence. Often one will over compensate or swing too far in the opposite direction; many will manifest extreme gaiety or levity in attempts to hide sorrows. Children, as well as adults, act peculiarly in endeavoring to detract attention from injuries ignominiously sustained, in decided contrast to their attitude concerning those acquired in performance of heroic or valorous activities. Psychiatric observation and study is of inestimable value, often necessitating institutionalization to afford opportunity for numerous, intimate, personal contacts.

The elicitation of a motive for a crime is often most difficult. It may have its origin in delusions—false beliefs which cannot be corrected by evidence to the contrary as in the case of a person who believes that God has ordained him to purify the world and who may attack those whose views do not coincide with his. It may have its origin in hallucinations, which are false or imaginary perceptions, visions or voices. The subject of such hallucinations may commit an act and follow it with the explanation that the voice of God or of the

Devil commanded it. Incentives to criminal acts are also attributable to obsessions which intrude themselves into consciousness and exclude other thoughts; imperative ideas, those which we recognize as abnormal or foreign, but which impose themselves against the will; and impulsions which are responses to uncontrollable desires and passions, with often insignificant provocations or without any provocation, as in the case of a patient who, during the visit of a relative whom she was pleased to see, and with whom she was calmly conversing, suddenly destroyed her clothing and afterwards could give no reason for the act. Desire for revenge or for power is often represented in fixed ideas which harmonize with other thoughts and are not regarded by the individual as foreign or pathological. For example, a person is convinced that a relative may have lived had certain medicines been administered and cannot seem to banish the conviction from his thoughts; such ideas may form the basis for delusional states and suspicions.

An extensive and significant group of motives is embraced in anomalies of the sexual instinct. Sadism is the gratification of the sexual feeling by inflicting or witnessing pain. Masochism affords sexual gratification through suffering or experiencing pain. Fetichism stimulates or relieves sexual tensions by sight of, or contact with, or possession of the body or objects associated with it, as hair or wearing apparel. Explanation of these extraordinary manifestations is based on the assumption that pleasure is the force back of all conduct. Infants experience pleasure in lip, tongue, finger or toe sucking, or other ways; during certain developmental periods such pleasure-giving activities may be viewed as normal, and as evidence that the child is becoming acquainted with itself; but at other ages it must be regarded as quite abnormal and persistence in such habits may result in failure to establish normal sexual feelings in their proper

zone, the sex organs. To arrested or impaired physical development during an infantile period may be ascribed other peculiar behavioristic tendencies.

Sex perversion is generally regarded as evidence of regression or return to experiences or habits of an infantile or earlier biological level or period, with consequent resumption of associations and practices familiar to that period. This represents "the" instinct for the familiar—"the safety motive." Sadism and Masochism are probably more closely associated with the relationship between love and hate. The idea closest in association with another idea is its opposite, as love—hate, heat—cold, white, black. The first object of our love is the Mother then other family members, relatives and fellows, and as hate is the opposite or antipathic emotion of love, it may arise in connection with all objects of our love. It is a common observation that we hate most those whom we loved best. Fetishism is allied to symbolization, by which is meant our representation of an object by part of it, or something connected with it, or another object presenting similar characteristics. Even in these enlightened days we hear of persons being shot, hanged, or burned in effigy. Among primitive peoples images are destroyed with much ceremony amidst prayers and incantations, and it is believed that the individual, of whom the image is an effigy, will meet a similar or other terrible fate.

Dr. William A. White⁽¹⁾ has well stated that "love is always the expression for what is constructive in the individual, hate for what is destructive, and so their outward manifestations are of great importance in determining which way, so to speak, the individual is going, whether he is on the forward path that leads to life or the backward path that leads to death. Love and hate are expressions for what is most fundamental in our emotional life, and because love is constructive and hate destructive,

it is equally fundamental that any movement calculated for the betterment of mankind must be founded upon ~~the~~ one and eschew the other."

A psychosis is any mental disease; for example, schizophrenia, manic—depressive psychosis, paresis. Schizophrenia, meaning splitting of the mind also termed dementia precox, is a disease characterized by personality alteration, impairment of the emotions or feeling tones, delusions, hallucinations, intellectual defects with early mental deterioration and other manifestations. Manic—depressive psychosis, also called circular insanity, is manifested by varying periods of elation or excitement and depression tending to recur but with recovery from the attacks. Paresis is syphilitic disease of the central nervous system in which arises symptoms common to other forms of mental disease, especially profound and progressive dementia, but with rapid progression toward a fatal termination, which usually occurs within eighteen months to three years. Psychotic individuals often commit atrocious crimes and self-injury, and in many crimes even a cursory investigation will reveal evidence to substantiate the belief that the criminal must have been either psychopathic or a definite mental deviate.

The term psychopathic is applied to mental activities or reactions with a pathological trend. An interesting as well as a socially dangerous group of individuals is that, the members of which are classified as constitutional psychopathic inferiors, psychopathic personalities or psychopaths, which titles imply that they are inferior and exhibit abnormal mental reactions or manifestations because of defects inherent in their constitutional makeup. The group may be subdivided into several types but, while there are characteristics more or less distinctive of each type, certain features are descriptive of psychopaths in general.

Study of a psychopathic personality may or may not reveal record of antecedental

(1) White: Principles of Mental Hygiene.

defects such as mental disease, alcoholism or constitutional disease—syphilis or tuberculosis—of the forebears. The parents may have been ignorant, incompatible, irritable, cruel. Review of the previous history of the individual often elicits instances of illness, early faulty and uncorrected habits, lack of self-control and conduct or behavioristic disorders of gradual or sudden onset. Physical examination may disclose imperfect development, asymmetry or dissimilarity in parts of the body such as ears, eyes, limbs, and halves of the head or face; defective vision or hearing, of speech defects such as stammering or stuttering and grimacing. Laboratory research assists in revealing the presence of active or latent systemic disease such as syphilis, alteration of the blood or excretions or evidence of increased or decreased activity of certain glands, as the thyroid, thymus, pituitary and gonads or sex glands. Disturbed balance between different parts of the nervous system may be discovered, and X-ray studies disclose obscure bone changes, deformities and residuals of previous disease or hidden active physical processes.

Discoverable are intelligence defects which render it difficult or impossible for the individual to understand his complex relationships or to obtain sufficient experience to cope with his problems. Detectible are character imperfections due to emotional influences with failure to establish proper balance between desires and restraints. While persons so affected may not always be insane, in the legal sense, they cannot be regarded as normal. They are frequently in conflict with restrictions imposed by society and law; they fail, often becoming addicts, thieves, vagabonds and criminals of various sorts, especially sex offenders and moral delinquents.

Symptoms exhibited by psychopaths include emotional excitability with episodes of mild though varying degrees of depression, frequent changes of mood, sensitiveness and childishness, as well as character in-

stability, lack of will, conceit, and superficiality of interests. Other manifestations are impulsive conduct, the expression of feelings and the indulgence of desires without reason, restraint or deliberation. These individuals are independable and their judgment is usually defective; they present oddities of thinking and behavior, numerous eccentricities and antagonistic tendencies. They are deceitful, their imagination is phantastic and they markedly accentuate their self-importance. They are quarrelsome, irritable, lack appreciation of the principles of justice and their response to feelings of joy or grief is altered. It is clearly evident that the difficulties attendant upon diagnosis are manifold and this applies to prognosis and treatment. In psychopaths the disorder is a gradual alteration of character, feelings, relations, and behavior based upon a constitutional personality impairment and not a disease in a previously well person.

As age increases, the abnormal traits become more firmly stamped upon one's being so that early recognition of the advent of these irregular tendencies and qualities is imperative. Immediate thorough search should be made for the cause of all peculiar manifestations in children or adults, as there is often a close relationship between these and character formation. Physical impairment should receive proper attention and essential requirements include simple, quiet surroundings with freedom and absence of stimulating experiences; interest in sex matters is best excluded or subdued. Re-education is necessary with exercise in self-control and mastery and attempts should be made to teach an appreciation of those influences which the individual is unable properly to understand and contend with. Accurate estimation of limitations and incapacities must be made and increasing effort expended in developing interest toward work, play, and fellowship.

"The variant is that sensitive, nervous, neurotic, fearful person whose normal differs from the average and who helps to make up such a large proportion of every community." "The average criminal is not the vicious, desperate character the lay mind pictures him, but rather the weakling whose powers of inhibition have been squandered by himself or his ancestors."

Three objects of punishment should be reformation, determent, and retribution.

While we cannot be assured success will be the reward of our efforts, neither is failure certain. Should we fail, the psychopath continues, in his irrational behavior and ineradicable tendencies, socially inadequate and incompatible, a menace. When success is achieved, we can offer him, in the words of Dr. W. H. Burnham, "A task, a plan—and freedom."

BLOOD TRANSFUSION*

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This paper is not intended to bring out anything new, neither is it intended to add any more burdens to our almost over laden therapeutic armamentarium, yet I am constrained to visualize that some day each clinic in this good old state of ours will be equipped to do blood transfusions. We are losing lives each day in this state by not bleeding for our fellow man. Medical history tells us that from the earliest times blood has been considered the real life of men. In Leviticus we read "Because the life of the flesh is in the blood, I have given it to you upon the altar to make an atonement for your soul". The ancient Egyptians transfused blood. In the *Metamorphus* of Ovid we find the following:

"Why now do ye hesitate and do nothing, unsheath your swords and draw out the blood that I may fill the empty veins with the blood of youth." Again Laborius wrote

in 1615, "Let there be present a robust, healthy youth, full of lively blood. Let there come one exhausted in strength, weak, enervated, scarcely breathing. Let the master of the art have silver tubes that can be adapted one to another, then let him open an artery of the healthy one, insert the tube and secure it, next, let him incise the artery of the patient and put into it the feminine (receiving) tube. Now let him adapt the two tubes to each other and the arterial blood of the healthy one, warm and full of spirit will leap into the sick one and immediately, bring to him the foundation of life and will drive away all langour."

Records show also that Jean Baptist Denys 1667, of Montpellier, physician in attendance to Louis XIV, performed probably the first transfusion to man. This was the injection of the blood of a calf into the veins of a young man. The patient recovered.

It is even reported as far back as 1542 that Pope Innocent VIII was transfused from three different boys. It is evident that blood transfusions were probably done even before Harvey discovered the blood circulation. While Denys was working on transfusion in France, Lower was doing like work in England. However, I fail to find any record of blood transfusion in America before an article by Wm. S. Holsted 1884, and since that time the pendulum has swung to and fro, for and against transfusions. During the past war with Germany blood transfusions were used very extensively and with good results—life saving results. This was used at first only in cases of hemorrhages, but later for other conditions. Since the war we have been using this method very extensively and with good results, indeed.

We may classify the techniques of blood transfusions under three general heads. Two dealing with unmodified blood, the other dealing with modified blood. The first to be considered is the so-called paraffin tube method by Brown and Kimpton

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

in 1913. The objections of this method deserves discussion. In the first place it is a formidable procedure and most often is considered surgical. The small skin incision necessary can scarcely be considered surgical, but may be done easily by non-surgical men; but where the method is employed as a pre-operative or post-operative measure, it should fall to the surgeon. The objections to the ligature of the vein of the forearm is a small matter in case of transfusions for acute hemorrhages, but must be considered carefully in transfusions for blood diseases. Again if care is not taken and the tube not properly covered by paraffin, there is liability of a clot.

The second method is that of Unger. This is a very practical means of transfusion, and gives excellent results when repeated procedures are necessary, as the small veins can be used several times; however, it also has its weak points (1) it is slower than the other method and where time is at a premium should not be used. (2) One runs a greater risk of getting a clot due to the construction of the apparatus. (3) The successful transfusions require two needles in two different veins at the same time; a very difficult proposition at times.

The third method is that of using blood to which a chemical has been added to prevent clotting—the citrate method. This method was adopted by our army during the World War because it was the most practical under war conditions, the easiest to perform, required less equipment, seldom necessitated incision over the vein; and therefore, better to the donor and recipient. It was a less formidable procedure, furthermore it gave excellent results in case of acute hemorrhage. Any disadvantages that it may have had, such as the use of chemical reagent and a possible diminution in the coagulability of the recipient's blood, was virtually nil in such cases.

So in reviews of the methods, we find disadvantages to all; it is my belief and

experience that methods should be selected to fit the patient to be transfused.

We may class such people into two groups. (1) Acute hemorrhages where only volume and cells are lost. (2) Those cases where there is a chemical change in blood element forming organs. But before further discussion of the recipients, I wish to have a word to say about donors.

Our knowledge of the four blood groups has proven of a great practical value in blood transfusion. Hemolysis does not take place between individuals of the same groups, and practically never takes place between individuals of the same groups, and practically never takes place between certain definite combinations of different blood groups. Having determined the groups, it is possible to select a donor where blood is compatible as regards to hemolysis with blood of the recipient. Therefore, every individual may be classified into one of the four groups, according to the agglutinating reaction of their serum and corpuscles with the serum and corpuscles of the individuals of the other three groups. Hemolysis never occurs when agglutination is absent, hence agglutinative reaction determines the possibility of hemolysis. Moss has classified these groups as follows:

Group 1. Serum agglutinates no corpuscles of any groups, but the corpuscles are agglutinated by the sera of groups 2-3-4.

Group 2. Serum agglutinates corpuscles of 1 and 2. Corpuscles are not agglutinated by serum of 3 and 4.

Group 3. Serum agglutinates corpuscles of 1 and 3. Corpuscles are agglutinated by serum of 3 and 4.

Group 4. Serum agglutinates corpuscles of 1, 2 and 3. Corpuscles are not agglutinated by any serum.

To group an individual it is therefore, sufficient to test his blood against known sera of groups 2 and 3, and in certain cases it is necessary to test the serum of the recipient with the corpuscles of the donor,, and the corpuscles of the recipient with

serum of the donor; especially so is this latter true in transfusing infants. It is well always to have on hand a sufficient number of donors of all groups and it is a happy feeling sometimes when you call up a donor of group corresponding to your patient's grouping and have him there in a very short time, a time when hours means death to your patient.

As indicated before, we should class all indications for blood transfusions into two classes. Those patients suffering from acute hemorrhage and those of primary blood dyscrasias.

In those cases of secondary hemorrhages the citrate method of transfusion is preferable. In an experience of some 168 transfusions, by this method, for secondary hemorrhages I have never seen a dangerous reaction. However, in cases of primary blood dyscrasias I have secured some very severe reactions with this method. There are recorded cases where deaths have been produced by injection of a 50 cc of .25% sodium citrate solution. It is believed that this method is contra-indicated in all cases where the hemorrhages have not been completely stopped, on account of the fact that it prolongs the coagulative time. Also it is contra-indicated in primary anemias. Given an acute hemorrhage where the blood vessels lumen has been closed, I know of no better method than this one.

Transfusion may be employed for the administration of large amounts of blood in anemia; the donated cells function normally in the new host, but do not live as long as the residual cells. Blood given for anemias is given for its protoplasmic activation in order to produce a stimulation of the centers of the cell forming organs, also to increase the hemolytic capacity of the body.

Little need be said of acute hemorrhages, we all know that too many people have died from lack of blood. We also know that it is almost never too late; even in most hopeless cases, lives can be saved. These

should have the blood. One very important use of transfusion is in that group of cases where the patient has practically reached a standstill medically or surgically. Because the blood does not show very much decrease in red cells and the hemoglobin scale is above the 50 mark, we feel that they will soon create enough cells to bring them up to par. In these slow cases often times a little new blood thrown into their veins will work like magic. Especially is this true following a case of septicaemia; gastric ulcer with hemorrhage, post influenza, anemia, purpura and uremia complicating pregnancy. Transfusion does for those patients three things: stops oozing, increases color and number of red blood cells, helps red blood stream of toxins, shortens clotting bleeding time and increases the number of blood platelets.

One indication I wish especially to discuss and that is in the case of pernicious anemia. It seems to me especially indicated in this disease yet many claim negative results. It is very true that numerous obstacles confront us in treating this disease, but there is no doubt of the value of even only one transfusion of blood. The patient will tell you, you can see the results. There is a decrease in the diarrhea and added sense of strength and a grateful relief of pain. Even though apparently a temporary relief is given; it is definitely indicated in those cases. However, to anyone who expects transfusion to cure pernicious anemia, or that one transfusion will permanently benefit, there awaits disappointment. Transfusion is very much indicated in this form of anemia but results depends largely on method, amount and frequency of transfusion. As before stated the whole blood unmodified should be used. Moderate amounts should be given, not over 250 cc. at a time, and not oftener than four days, nor at later intervals than six days. One should never attempt to treat by transfusion a case of pernicious anemia without first lining up at least three donors of the same group as the patient. We have

proven that if transfusion is not done every four or five days the hemoglobin curve descends about the fifth day, so you must be there with new blood or the effect of other transfusion will be materially decreased.

After the hemoglobin has reached 80 or above, subcutaneous injection of whole untyped blood is given in amounts of 10 to 20 cc. every 8 days. It is not necessary that this blood be of same group. It is given only as a stimulant to the cell forming centers. The administration of blood, appears to supply a lost link in the cycle of hematopoiesis, cellular life and cell destruction, so that the blood metabolism and the function of the bone marrow is temporarily or permanently restored.

Blood transfusion is of great value in *purpura hemorrhagica*; however, whole blood should be used. The reaction is very similar to that of pernicious anemia. A few days after the first rise of the hemoglobin and red cell curve there follows a decided drop, often going back to the original level or lower. Hence the transfusions should be just before the summit of the curve every 4 or 5 days. In this condition the bleeding is greatly diminished, the hemoglobin and cell curve has ascended to higher levels, and blood platelets brought back to normal. The blood should be checked each week and transfusion of the blood or subcutaneous injections given until blood elements and color reaches normal.

In conclusion several points should be emphasized:

1. That there should be no reason for a patient's dying of acute hemorrhage for lack of blood.

2. That each donor should correspond in group with recipient and in addition should be cross agglutinated just before transfusion.

3. Citrated blood is contra-indicated in cases of lengthened coagulation time and low platelet counts.

4. There are very few severe reactions from transfusion in secondary anemias.

5. One gets greater success from transfusion in secondary anemias.

6. Transfusion in primary anemias, should be given as often as 5 days and in small amounts, in order to prevent fall in hemoglobin curve.

7. In those conditions after hemoglobin has been raised to 80% this should be maintained by injection of whole blood subcutaneously.

8. Blood transfusion is a specific for *purpura haemorrhagica*.

DISCUSSION.

Dr. L. S. Lippincott (Vicksburg): Blood grouping is a fine thing in a city where you can keep the donors on hand. We do some transfusions, probably two or three a month, but ordinarily the donors we have to use are relatives of the patients and we are not able to keep professional donors on hand or on call. Usually we want them right away and we have found there is no great advantage in grouping. We test the donor's blood against the recipient's, and if they mix we use it; if they do not, we try to find another donor. I think we save time in that way and I do believe that even although you have groups they should be tested before you use them.

I was interested in what the doctor had to say about citrate transfusion increasing the coagulation time. I have not tested this out, but I recently read an article by some man who said he gave citrate transfusion for the purpose of reducing the coagulation time. I do not believe there is enough citrate there to increase the coagulation time much. I have used it in cases of *purpura* where there is bleeding and it does stop. I would like to run a series, and if any one here has done anything on that work I would like to hear it. Transfusion should be used more; citrate transfusion is very simple. We get less reaction if we give the blood slowly and I have not seen any serious results.

Dr. A. C. Bryan (Closing): I was in hopes that this paper would have precipitated a general discussion, because I have been very much interested in the subject. I want to say that always, especially in the transfusion of children, it is necessary to cross agglutinate the blood. It has been shown that a child can receive three different transfusions and each time his blood

has been raised to a point where the blood was not compatible with the original donor and other donors had to be selected. So I agree with Doctor Lippincott that it is necessary to cross agglutinate each donor before transfusion.

The citrate reaction in my experience has never been anything more than that of salvarsan, sometimes not as much as the reaction from salvarsan, but the real severe reaction in blood transfusion is the hemolysis. One good indication of impending hemolysis is a little petechia that you see near the vein, but if the transfusion is begun slowly you can tell whether you will have an hemolysis by appearance of petechia near the needle.

OLD AGE—ITS CAUSE AND PREVENTION.*

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NEW ORLEANS.

The common use of the term old age, is usually restricted to an expression of the decay of many parts of the body and most especially to a failure of the powers and functions of the brain. These conditions of senility are generally regarded and usually described as a "second childhood."

Instead of considering senility or old age after its full establishment, I believe it would be of considerable interest and benefit to us as clinicians and laymen briefly to discuss this afternoon some of the earlier phases of old age, with a view especially to noting that some of the processes contributing to old age can and do admit of treatment, which if established early enough, can serve to check or at least to modify materially or actually delay their progress. While here, we may remark that some of these processes are at best slight, and may be readily overlooked by most of us. Of importance in their ultimate prevention is, primarily, their early recognition. Here again, the "ounce of prevention is worth the pound of cure."

We have all noted that many of our friends, acquaintances and patients are as

is popularly expressed, "old for their age" and usually dismiss the matter by the common assumption that the cause of their premature old age is overwork, overindulgence in vicious excesses or habits, or unhealthy occupations. Undoubtedly these factors are responsible in a number of cases, but they are not ascribable in possibly the greatest number of such instances, and it is here that we confront the great and still unanswered etiological or causative question.

In seeking to ascertain the degree of vitality or the prognostic index in an individual patient, we very rightly inquire into his ancestral history, and do lay stress upon the longevity of his ancestry if properly ascertainable. The occurrence of grave constitutional diseases such as tuberculosis, gout, diabetes in his immediate antecedents, is of especial importance. Statistics carefully gathered and compiled, show that descendants with long-lived ancestors have a life expectancy index greater than that of descendants of short-lived antecedents.

Gray hair as an index of premature senility, must be regarded when considered alone as a factor of very slight importance. It is often present in numerous members of the same family. Here I must not be understood as referring to patchy grayness, which at times is indicative of a grave constitutional disease, as patchy baldness may also be.

So, also, the loss of hair or teeth without any further manifestations of general tissue decay or evidence of either local or general infection is not of considerable importance, and simply implies defective organic quality possibly as established in utero. On the other hand, tissue decay readily ascribable to some etiological factor such as micro-organismal infection must be regarded as a potent factor in the establishment of early old age, and can be taken as evidence of possible comparable changes in such organs as kidneys, liver, thyroid, pituitary, heart and blood vessels, with their necessary inadequate function-

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ing and a resultant modification of general health.

Again, arcus senilis, as a manifestation of premature old age, has been unduly stressed. I have seen this local fatty corneal change occurring from very early to very late life. Still it cannot in all cases be quickly dismissed, as at times, it is indicative of luetic infection, which disease as we know, is such a potent factor in the establishment of arterial degenerative changes.

Nervous intractability, explosive, uncontrollable temper, increased excitement manifested by fits of hilarity or the shedding of tears and occurring at little or slight provocation, can be noted at times, as shown by Allbutt as early signs of nephritis and may occur before any recognizable objective renal symptoms. Again in early kidney involvement, a glistening cornea due to oedema is often present before the occurrence of demonstrable accumulation of fluid in other tissues.

Amongst the fairly important and often overlooked early signs of premature senility, we must mention costal ossification occurring before the sixtieth year. The exact cause for such premature ossification has unfortunately not been explained as yet by our laboratory friends.

Concerning the brain itself, and its functions, we must mention lapses of memory for names and places, and forgetfulness as amongst the earliest signs of mental decay. If occurring before the sixty-fifth year they must be regarded as evidences of premature senility. In this connection it is interesting to note that even after the sixty-fifth year they are less manifested by the individual who either keeps fairly active in the business of his life, or else creates for himself a hobby in which he becomes greatly centered. It is the individual who so unwisely gives up his previous occupation and fails at the same time to create for himself a new interest in life, who shows earliest

and unmistakably the progressive signs of mental decay.

Nodosities of the joints and especially of the terminal digital phalanges, the so-called Heberden's nodes are usually not a sign of premature old age. So also, do we frequently encounter incurved little fingers (the camptodactylia of Landrouzy), in middle life with no especially ascribable significance. However, evidences of truly rheumatic joint lesions either in the young or old, should always deserve serious consideration in attempts at gauging span of life as they are so frequently followed by grave arterial and cardiac lesions.

In the male, prostatic enlargement before the late fifties or early sixties should be regarded as an early manifestation of senility. It should, however, be differentiated from an indolent bladder with slow and sometimes painful urination so often met with as a result of inflammatory conditions.

Although we have mentioned and briefly considered some of the important signs of early old age, we have left for last consideration one of the most important single gauges of approaching old age, either premature or mature, and that is, the study of the heart and blood vessels. "One has the age of his arteries," as an eminent French clinician has so aptly expressed. Changes in the arterial tunic pointing to sclerosis and a blood pressure higher than that ascribed for the age under consideration may be regarded as more gravely significant of senility than any or even all other signs. Here again care must be taken in the interpretation of findings. For instance, slightly hardened radial arteries in an individual following a laborious occupation must not be taken as indicative of a similar condition existing in the coronary or cerebral vessels. While considering sclerosis of blood vessels, undoubtedly many of us have wondered after witnessing post mortem examinations as to why calcified, brittle vessels so often encountered have not ruptured during life, or why throm-

basis or embolism with resultant gangrene or sudden death are so rarely met with in such cases. As Adami and MacCordick so excellently show, the rigidity of calcified arteries is distinctly less during life than after death. To them the deposit of calcium salts in the vessels is in the nature of "unset mortar," to use the vernacular, hardening as seen after death occurring only under the influence of carbon dioxide and the diminishing alkalinity of the blood.

Having now considered the various manifestations of approaching old age, let us discuss the causes thereof. I believe I can very conservatively ascribe tissue waste and tissue loss to infections of some nature or other. Possibly I am even justified in the statement that old age with its concomitants and final results as at present early established would be unknown to us were it not for infections. Of the infections undoubtedly lues or syphilis with its great predilection for vascular tissue must be given first place in any consideration of the causes of premature old age. The infectious diseases such as diphtheria, scarlet fever, and especially rheumatic fever are all potent in the production of tissue loss and tissue waste. While here, let me sound a note of warning to you mothers amongst the audience. Joint pains, so popularly known as "growing pains" at times are fraught with the gravest possibilities of future serious eventualities.

Of the possible avenues by which infectious agents may enter the system, great stress has lately, and rightly so been placed upon the naso-pharynx, tonsils and teeth. It would not be unwise at this point to emphasize the sheer folly that has led so many people within recent years to have large numbers of their teeth extracted upon very insecure and insufficient evidences of their acting as foci of infections. Also in justice to ourselves as practitioners and to our patients, we should bear in mind the undoubted fact that the aggregates of lymphoid tissue known as tonsils and adenoids have a very definite physiological task assigned

to them especially in early life. Their removal except in the presence of very definite indications therefore appears unwise.

Of the important concomitant factors in the production of serious bodily premature changes, we must mention disturbances in the endocrine glandular system. These changes unfortunately are little understood although modern methods of study and research are rapidly opening to us a wonderful vista of the full possibilities of endocrine glandular control over life's processes and life's mysteries.

Finally—excesses of all types—be they sexual excesses or excesses of food, drink, work, exercise, are all in a measure undoubtedly conducive to an early old age.

Having seen even so briefly the salient factors responsible for premature old age, how are we to combat it? I can offer no better prescription than that so effectively suggested by Sir Andrew Clark, "Physiological Righteousness". Yes, physiological righteousness to my mind sums up the situation—moderation in all things must be the keynote of our lives! Care of our bodily functions, care with judicious use and not abuse of our sexual organs, care of our various body tissues and organs, care of the character and amount of our food, care of the distribution of our hours of work, sleep, and recreation, therein lies to my mind the secret of longevity.

To some of you this advice may not appear spectacular enough. To these I must say I am not in a position to recommend "a formula for living" such as suggested by Lorillard nor am I in a position—although fully recognizing the effects and beneficial results of glandular therapy as suggested by Brown-Sequard in appropriate cases—to recommend the miraculous glandular transplants advocated by Varonoff and his pupils, or the organismal transformation of the intestinal flora as urged by Metchnikoff and his followers. These things may come but certainly they have not as yet come and until thoroughly proved in

the experimental laboratories must not be played up to the utter disregard of the basic facts of well living.

Finally, I feel I can advocate no more potent measure to increase the span of life and avoid premature old age than urging upon you the benefits and necessity of periodic medical examinations. You have your automobiles periodically examined and thereby discover minor defects which are readily adjusted. Certainly you owe to yourselves no less. There in the medical workshop of your practitioner, minor defects will be discovered, their causes removed and serious eventualities avoided. There, you will be given competent advice as to the meaning of physiological righteousness. This, together with moderation in all things, you will find the most potent although possibly not the most spectacular prescription for a long and happy life.

DISCUSSION.

Dr. K. E. Miller (United States Public Health Service): The subject of old age is so great, so extensive, and can be attacked from so many different angles, that I think the problem consists more in summarizing than in analyzing. Doctor Hobson has presented a very excellent paper which we have all enjoyed, especially emphasizing the clinical aspects of old age. I have nothing to add to the paper. Certainly I agree with his sentiments expressed throughout, and I was especially glad to hear him lay such emphasis on periodical physical examination. I think it cannot be too strongly urged upon the health officers to preach to the public the greater use of the practicing medical profession. That should be the theme running throughout all our public health activities.

When a human being is born into the world, and sets out on the race of life his way is continuously beset by obstacles and destructive forces. There is first, the quality of tissue, or vital reserve, to be considered. Tissue inferiority is one of the most serious handicaps in the race of life. Second, there are diseases, both degenerative and infectious. Perhaps it would be proper to say that in the last analysis nearly all disease is in some way or other connected with infection. Third, there are accidents of various kinds. Those who are fortunate enough to pass the barriers of early life come to maturity, and start in on the last laps leading to what we call old

age. We hear a great deal of talk about old age nowadays, especially we who are engaged in public health work. We are asked why do not folk live to be as old as they used to? Frequent mention is made of octogenarian ancestors with the inference that extreme old age was the rule in days gone by. Memory easily conjures up extreme examples of this kind, while the thousands and hundreds of thousands that formerly died before they even had a fair start in life, are soon out of mind.

In this connection the statistics published in the U. S. Public Health Reports by Kober in 1923, show that the average length of life at the end of the 16th century was 18 to 20; at the end of the 18th century it was still under 25; and at the end of the 19th century it was 45 to 48; at the present time it is 56 years. In the last 50 years there have been 15 years added to the average span of life. We cannot go into the discussion of the causes, but I think it is obvious on the face of it that the lengthening of the span of life is coincident with the advance of modern scientific medicine. Perhaps we do not see any greater proportion of extreme old age than we used to see, but what is happening is this—instead of allowing the babies to die before they get a fair start in the race of life, and instead of sacrificing our people in adolescence, and in young man and womanhood, they are now being carried through those dangerous periods, and hence a much larger percentage of people are carried to maturity where they can be of some service.

As regards the prospect for old age, we have to consider two phases—pathologic old age and physiologic old age. The same things that kill people before old age is reached will also cripple them. In addition we have to add the general wear and tear that goes with any energy producing machine. Physiologic old age depends upon the antitheses of those things that produce pathologic old age, namely, a good quality of tissue to start with; freedom from the ravages of communicable disease; freedom from intoxications and excesses; and lastly I should add optimism. These are the functions, first of eugenics, second of public health, and third hygiene, which of course is one phase of public health. If the individual follows out these principles leading to physiological old age, he can say with Robert Browning:

“Grow old along with me,
The best is yet to be,
The last of life for which the first
was made.”

Dr. George S. Bel (New Orleans): I think this one of the most interesting papers of the afternoon. A rather hard paper to handle, but like most of the essayists he had something to say about infection. Over-indulgence in alcohol and tobacco, and particularly over-eating are not apt to bring on physiologic righteousness. The gourmand who takes more than physiologic righteousness requires is laying the foundation for pathologic old age, and I believe very often it is these over-indulgences that bring on marked changes in the tissues.

The temperament of the over-ambitious individual—the doctor who will work all day and half the night, constantly worrying about patients—increases his metabolic pressure and stimulate his endocrine system far beyond physiological righteousness, and consequently physiological depreciation will ensue. But this thing of dying from physiological old age, I do not believe in. It is the terminal infection that is waiting for any one who is below physiological righteousness and consequently he succumbs to the infection. Therefore, infection is a supreme etiological factor in the processes that make us look old. I am so glad that my colleague said that gray hair does not mean that you are old.

Arterio-sclerosis is not a disease of old age. What are the etiological factors that cause the physician to say that a man is as old as his arteries? We get an acute infectious disease and there are toxic conditions which follow and then in addition to this we are wearing out the human body by over-anxiety, by over-eating and drinking, all factors in the production of the changes that occur in our cardio-vascular system. How do we explain the changes we see in some individuals? We say for example Mrs. X, who is known to be a beautiful woman, has lived a virtuous life, is a good mother, but all at once she begins to look old. She never has smoked or used alcohol. Why is it she looks old? Because during the early days she was infected by an acute infectious disease, one that has involved her kidneys, for example, and her immunity was not sufficiently established to control the infection, and slowly and insidiously the assassin is advancing upon her. First one unit after another becomes involved, week by week, month by month, year by year, she grows a little worse, there is albumen and casts and finally she has Bright's disease. So I believe that the key note to old age, pathological or physiological, is due to the fact that primarily they were infected by some pathogenic micral organism.

CONCLUSIONS FROM THE CORRELATION OF LABORATORY FINDINGS, CLINICAL SYMPTOMS, AND END RESULTS IN TONSILLECTOMY*

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In the last several years the importance of focal infections has become well established and along with the teeth, sinuses, and a few other offenders, the tonsils and adenoids have received much attention, as possible sources of many bodily ills. Many tonsils and adenoids are removed, some because they are plainly diseased; others with the idea in mind that while disease is not evident, they may contain internal foci of infection. Much has been written at various times in regard to the bacterial flora of the tonsils and adenoids, more still on the various methods of removal; something of the microscopical appearances of sections. So far as I have been able to find, only occasionally has there been any attempt to correlate the gross appearance, microscopic appearance, bacterial flora, symptoms and the end results of tonsillectomy and adenoidectomy. It was with such correlation in mind that the present study was begun late in the summer of 1924. No attempt has been made to pick cases. One hundred cases have been taken as they came.

Throat swabs were taken just before operation and examined in smears and cultures. The tonsils, and adenoids when present, were examined as to size and gross appearance, and smears and cultures were taken from the crypts. The tonsils and adenoids were sectioned and examined microscopically. The complaint of the patient and the reason for operation were then obtained from the records, and after two to eight months, the patients, or parent if the patient was a child, was asked as to report the result.

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For convenience in classification and as of interest, the cases have been divided into age groups:—1. Children, ages two to eleven years; 2. Adolescents ages 12 to 19 years; and 3. Adults, ages from 20 years upward, the oldest patient in this series being 54 years of age.

Examination of Throat Swabs—In all groups the predominant organisms found were streptococcus and staphylococcus (albus and aureus), with some Gram negative bacilli and diplococci of the catarrhalis type. A few throats showed Gram positive pleiomorphic bacilli of the diphtheroid type, but the diphtheria bacillus was not found. The organisms of Vincent's Angina were found in two cases. The findings in detail follow:

	40 Children		25 Adolescents		35 Adults	
	Cultures	Smears	Cultures	Smears	Cultures	Smears
Gram + cocci.....	35	4	22	1	33	3
Gram + streptococci.....	3	19	1	12	3	23
Staphylococ. albus.....	—	14	—	12	—	11
Staphylococ. aureus.....	—	10	1	5	—	9
Gram — diplococci.....	8	8	5	5	11	7
Gram — bacilli.....	18	7	15	3	24	5
Gram — fusiform bacilli.....	2	—	—	—	3	—
Gram + bacilli.....	16	6	9	8	8	6
Vincent's angina.....	1	—	—	—	1	—

Smears and Cultures from Tonsils and Adenoids—When smears and cultures from the crypts of tonsils and adenoids were considered, in the child group, pus cells were found in about one-half the smears. As in the throat findings, the predominant organisms were the streptococcus and staphylococcus (albus and aureus), these sometimes occurring in nearly pure culture of one or the other. Gram positive bacilli, some of the diphtheroid type, were present in a certain percentage of cases, and Gram negative bacilli and diplococci also in a small percentage. Vincent's angina was found more often than in the throat examinations, it being thus classified only when both spirilla and fusiform bacilli were present. Fusiform bacilli alone were found in a number of cases and further study might have shown these to have been accompanied by the typical spirilla. Sapro-

phytic threads and clubs resembling the fungus of actinomycosis were rather common in the smears. These never developed in aerobic cultures. Adenoids, in general, showed the same flora but much less abundant. Vincent's angina was rare.

In the adolescent group, pus cells were found in about one-half of the smears. Streptococcus was present in a majority of cases and staphylococcus occurred with slightly less frequency. Vincent's angina was found in about one-fourth of all tonsils and Gram negative fusiform bacilli alone in about as many more. Numerous other organisms, including saprophytes, were present less frequently. The adenoids in this group showed the same flora but no Vincent's angina.

The adult cases showed pus cells, predominant organisms and others in about the same proportions as the adolescent group.

During the fall and winter months, while numerous so-called influenza cases were occurring, many of the tonsils and adenoids showed influenza bacilli in the crypts. They were rarely found in throat smears. These bacilli did not appear in the cultures in most cases because hemoglobin media was not regularly used, but in a few cases where they were cultured on blood agar for identification, they were readily grown.

Another interesting point—while it is sometimes claimed that a considerable proportion of all tonsils harbor diphtheria bacilli in their crypts, and one observer has gone so far as to advise the administration of prophylactic diphtheria antitoxin in all cases of tonsillectomy, no diphtheria bacilli were demonstrated in this series. Because of the reported frequency, special search was made in every case. The same media was used for cultures that was routinely used in the laboratory for diphtheria and on this media diphtheria bacilli were being found from cases of the disease. Bacilli of the diphtheroid group are not uncommon in throats and tonsils and the re-

semblance of these organisms to diphtheria bacilli may have led to the frequency of positive reports. In this study all organisms that appeared at all suspicious were isolated and studied in pure culture.

BACTERIOLOGICAL FINDINGS FROM TONSILS AND ADENOIDS

	40 Children (80 tonsils)		35 Adults (70 tonsils)		25 Adol. secrets (50 tonsils)	
	Smears	Cultures	Smears	Cultures	Smears	Cultures
Gram + cocci.....	72	14	44	12	53	7
Streptococci.....	30	58	17	40	26	52
Staphylococ. albus.....	—	12	—	10	—	12
Staphylococ. aureus.....	—	22	—	17	—	25
Gram — diplococci.....	12	12	6	12	8	6
Gram — bacilli.....	27	16	24	10	21	11
Gram — fusiform bacilli.....	26	—	15	—	16	—
Gram + bacilli.....	33	17	18	8	47	5
Vincent's angina.....	14	—	14	—	19	—
Gram + diplococci.....	17	—	11	1	9	—
Influenza bacilli.....	21	—	16	—	25	—
Clubs and threads.....	16	—	7	—	6	—
Pus cells.....	43	—	34	—	36	—

	27 adenoids		10 adenoids		5 adenoid	
	Smears	Cultures	Smears	Cultures	Smears	Cultures
Gram + cocci.....	17	7	7	4	5	—
Streptococci.....	4	24	—	11	1	1
Staphylococ. albus.....	—	5	—	4	—	1
Staphylococ. aureus.....	—	9	—	6	—	1
Gram — diplococci.....	1	7	1	3	—	—
Gram — bacilli.....	3	10	2	6	1	1
Gram — fusiform bacilli.....	1	—	3	—	—	—
Gram + bacilli.....	5	4	5	4	3	—
Vincent's angina.....	2	—	—	—	1	—
Gram + diplococci.....	2	1	2	1	—	—
Influenza bacilli.....	3	—	3	—	1	—
Clubs and threads.....	—	—	—	—	1	—
Pus Cells.....	5	—	4	—	1	—

all showed some chronic inflammatory; 35 showed some acute inflammatory; and 8 showed increased fibrous tissue. Of the chronic inflammatory tonsils, 19 showed acute inflammatory and 15 fibrosis. Large crypts and crypts with cheesy concretions are more common in the hypertrophic type. Of the 40 cases, 37 had adenoids in which chronic inflammatory was found in 32, some acute inflammatory in 15, and tuberculosis in one. The predominant organism in all types of the child group was the streptococcus.

In the adolescent group of 25 cases (50 tonsils), hypertrophy was the predominant finding in 28 tonsils; chronic inflammatory in 20; and acute inflammatory in two. The hypertrophic tonsils showed chronic inflammatory in 26 instances and acute inflammatory in 18. Of the chronic inflammatory tonsils, 17 showed some acute inflammation. Cheesy concretions occur in this group more frequently in the chronic inflammatory type, but large crypts more frequently in the hypertrophic type. Nineteen of the 25 cases showed some adenoids, with chronic inflammatory in 15 and acute inflammatory in seven. Streptococcus was again the predominant organism in the hypertrophic and chronic inflammatory tonsils and in the adenoids; the streptococcus was associated with staphylococcus albus as predominant organisms in the acute inflammatory tonsils.

In the adult group of 35 cases (70 tonsils), chronic inflammatory was predominant in 51 tonsils; hypertrophy in seven; fibrosis in seven; and acute inflammatory in five. Large crypts were more common in the hypertrophic type (six of seven tonsils) and cheesy concretions in the chronic inflammatory type. The hypertrophic tonsils all showed chronic inflammatory, and acute inflammatory in five of seven. The chronic inflammatory tonsils showed acute inflammatory in 35 instances. The fibroid tonsils all showed chronic inflammatory; three showed acute inflammatory. Adenoids were present in five of the 35 adult

Gross and Microscopic Study—The tonsils are grouped according to the predominant condition found. One condition alone was never found.

In the child group of 40 cases (80 tonsils), 51 tonsils showed definite hypertrophy; 28 showed predominant chronic inflammatory; one predominant acute inflammatory. Of the hypertrophic tonsils,

cases and four of this five showed chronic inflammatory. The ages of the adults showing adenoids were 20, 22, 23, 24 and 25. A gas-producing Gram negative bacillus was the predominant organism found in the hypertrophic tonsils; staphylococcus aureus in the chronic inflammatory; streptococcus in the fibroid; and staphylococcus albus in the acute; staphylococci aureus and albus in the adenoids.

Typical Findings—In this work, the typical findings for the several types of tonsils are as follows:

Hypertrophy—Enlarged tonsil; surface epithelium usually normal but may be hyperplastic; crypts often large with hyperplastic epithelium, and sometimes cystic; crypts contain hyaline necrotic material, lymphoid cells, some polymorphonuclears and are occasionally abscessed. Germinative areas are large; tonsils usually show some chronic inflammatory; capsule is sometimes thickened; usually there is some passive congestion. The predominant bacteriological finding is the streptococcus.

Chronic Inflammatory—Normal size or small according to duration of condition and amount of fibrosis; surface epithelium often hyperplastic and thickened; crypt epithelium often hyperplastic; crypts sometimes cystic; crypts contain hyaline necrotic material, lymphoid cells and polymorphonuclears; sometimes abscessed. Germinative areas often small. Capsule usually thickened; usually passive congestion. Streptococcus and staphylococcus aureus predominate in bacteriological examination.

Acute Inflammatory—Normal size or larger than normal; surface epithelium normal or hyperplastic; crypts large and may be cystic; surface and crypt epithelium infiltrated with polymorphonuclears; crypts contain hyaline and granular necrotic material, polymorphonuclears and lymphoid cells. Germinative areas edematous. Capsule normal. Active and passive

congestion. Streptococcus and staphylococcus albus are the predominant organisms.

Fibrosis—Similar to the chronic inflammatory except that the fibrous tissue increase is marked throughout and the capsule much thickened. Chronic inflammatory is always present to some extent. Streptococcus is the predominant bacteriological finding.

Adenoids—Lymph-adenoid hyperplasia; crypts sometimes large and contain lymphoid cells, sometimes polymorphonuclears. Surface epithelium sometimes hyperplastic. Streptococcus and staphylococci aureus and albus were predominant.

Following are the microscopic findings in detail:

MICROSCOPIC FINDINGS (200 Tonsils; 61 Adenoids)

	(86) Hypertrophy	(99) Chronic Inflamm.	(8) Acute Inflamm.	(7) Fibrosis	(61) Adenoids
Acute Inflammatory:					
Surface epithelium	9	5	—	1	9
Follicular	20	29	—	1	2
Both surf. & follicular	29	37	8	1	12
Chronic inflammatory	84	99	8	7	51
Increased fibrous	22	65	4	7	10
Hyperplasia:					
Surface epithelium	33	57	6	4	12
Crypt epithelium	41	63	8	3	11
Crypts:					
Large	57	54	6	1	23
Irregular	26	16	—	—	1
Deep	10	11	2	—	—
Cystic	19	35	2	1	6
Crypts contain:					
Hyaline necrotic	83	87	8	2	10
Granular necrotic	34	26	2	1	14
Fibrinous necrotic	14	12	3	—	—
Polymorphs	77	82	8	2	18
Lymphoid cells	84	94	8	5	34
Nuclei	13	12	3	—	1
Blood	12	24	2	2	8
Hyaline plugs	20	26	1	1	7
Granular plugs	2	1	—	—	—
Fibrinous plugs	4	7	4	1	1
Abscesses	15	4	1	—	1
Fatty infiltration	13	26	5	3	—
Calculi	4	3	1	—	1
Cartilage in capsule	—	3	—	—	—

Symptoms and Results—Records of results have thus far been obtained from 46 cases. In the child group, records cover 20 cases. Of these 12 were of the hypertrophic type and 8 chronic inflammatory. In the hypertrophic group, 9 were reported cured

with gain in weight from 4 to 18 pounds. The reasons for operation were ear abscess (2); pus tonsils; difficult breathing; colds, deafness (2); enlarged cervical glands (2); cough; grouchy disposition; poor appetite; disturbed sleep; fever (3); sore throat (2); and underdevelopment. Two hypertrophic cases were improved and had gained in weight $4\frac{1}{2}$ and 6 pounds respectively. Their symptoms before operation were earache; sore throat; frequent colds; and nervousness. In both cases abscesses of the tonsils had been found after removal and the predominant infection had been a streptococcus. One hypertrophic case was unimproved and had made no gain in weight. The symptoms before operation had been cough, snuffles, and difficult speech. These symptoms persisted. The tonsils removed showed chronic and acute inflammatory and abscesses with staphylococcus aureus as the infecting organism. Adenoids were large with mixed infection of Vincent's angina and staphylococcus albus.

Of the chronic inflammatory cases of the child group, 5 were reported cured and 3 improved. The cured cases had gained in weight from 2 to 7 pounds and had had before operation one or more of the following—Inflamed tonsils; chronic sore throat (3); mouth breathing; dullness; inactivity; deafness; restlessness; and sullenness. The improved cases had also gained in weight and the symptoms before operation had been bleeding throat, deafness, weakness, poor appetite, sleeplessness and rapid heart. Streptococcus was the predominant infection in each and one had had in addition Vincent's angina.

In the *adolescent group* records of results have been obtained in eight cases. Three had shown hypertrophy and five chronic inflammatory. Of the hypertrophic cases, one with pus tonsils, headaches, hepatitis and nervousness was cured and gained 8 pounds the first month after operation; one with frequent colds was improved and

had gained 10 pounds in 7 months; one with frequent sore throat and posterior nasal discharge was unimproved and showed no gain in weight. This latter had shown chronic and acute inflammatory with mixed infection of staphylococcus aureus and streptococcus. Of the chronic inflammatory cases, three with symptoms including chronic tonsillitis, pus tonsils, sore neck glands, albuminuria, and epilepsy, were cured with weight increase up to 7 pounds. Two with albuminuria, swollen joints, large lymph nodes, sore throat, colds, deafness and earache were improved with gains of 2 and 3 pounds in weight. One had had staphylococcus aureus infection; the other staphylococcus albus and streptococcus.

In the *adult group* records of results have been obtained in 18 cases. Fifteen had shown chronic inflammatory; two acute inflammatory; and one a predominant fibrosis. Of the chronic inflammatory cases, nine showing symptoms including pus tonsils, loss of appetite, sore throat (5), colds, cough, chronic general aching (2), enlarged tonsils, and acute tonsils, considered themselves cured and had gained in weight up to 18 pounds. Five, showing symptoms including submerged tonsils, deafness, chronic sore throat (3), low blood pressure, pus tonsils (2), colds, and underweight, were improved with gains in weight up to 8 pounds. The predominant organisms found in these cases were staphylococcus aureus, streptococcus, a Gram negative gas-producing bacillus and a diphtheroid bacillus. One patient who had had a chronic sore throat, pus tonsils, and fever, was unimproved and had lost weight after 5 months. The infection in this case was staphylococcus aureus and streptococcus. Of the 2 cases of acute inflammatory tonsils, both were improved and both had gained in weight. One had had acute tonsillitis attacks with streptococcus infection; the other had had chronic sore throat, frequent colds, pus tonsils and gastritis, with staphylococcus albus infection. The case with fibrosis was improved al-

though his symptoms—general aching and dizziness,—still persisted in milder form. He had not gained weight. The infection was a streptococcus.

CONCLUSIONS

1. Streptococci and staphylococci were the predominant organisms found in throats before tonsillectomy and adenoidectomy. The same organisms were found predominant in the crypts of tonsils and adenoids after operation.

2. The organisms of Vincent's angina are frequent in tonsil crypts—23.5% of all tonsils in this series; and less frequent in the crypts of adenoids—5% in this series. The cheesy concretions sometimes contained in the crypts may have many of these organisms.

3. The crypts of tonsils and adenoids harbor influenza bacilli.

4. No diphtheria bacilli were found in either tonsils or adenoids in this series.

5. The same infection or the same microscopical appearances do not necessarily obtain in both tonsils, or in tonsils and adenoids from the same individual.

6. No single pathological condition occurs in diseased tonsils of this series.

7. Tuberculosis was found once in 61 adenoids and not at all in 200 tonsils. Examinations for the tubercle bacilli were not made.

8. So far as this study shows, there are no bacteriological or morphological findings typical of any given symptom or complaint, nor does any particular finding in tonsils or adenoids serve as a means of prognosis of end results. Also patients with the same bacteriological and pathological findings may be cured, improved, or unimproved by tonsillectomy or adenoidectomy.

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DISCUSSION.

Dr. W. M. Biggs (Indianola): It does not seem to me that we can let a paper as important as this pass by without discussion. I do not think we will have a paper read during this meeting that will be of more practical importance to the general practitioner than the paper which we have just heard. While I am not a laboratory man and am not discussing the paper from the laboratory standpoint, yet I do know something about it from the clinical standpoint, and there are two cases that I would like to discuss for a few minutes in connection with this paper.

Four or five years ago I had occasion to take a boy to a specialist. This boy had hypertrophied tonsils. He had had no acute inflammatory condition in the tonsils, but he was under weight, his appetite was finicky; in other words, he was not doing well. He had had no trouble in the tonsils for some time, but the tonsils were removed and the boy immediately picked up and gained in weight, his appetite became better, and he could eat almost anything that was set before him. There was nothing but hypertrophy of the tonsils, but it was evident from the results of the operation that there was absorption of toxic material going on in the tonsils, because when they were removed the condition cleared up.

The other case I saw about ten years ago, a man developed an acute tonsillitis. Three or four days following that he developed an acute appendicitis. Microscopical examination showed that the same bacteria which was responsible for the

appendicitis was obtained from a culture of the tonsils. He had his appendix removed, but refused to have the tonsils removed. He went on for a few years; occasionally he would have some trouble with his tonsils. About two years ago he developed a pyemia and was in very bad condition. His tonsils were almost rotten and he finally had them removed, but it required about a year for him to get over the condition. If he had had them removed at the time he had his appendix removed, I am sure it would have saved him years of suffering and quite a bit of money.

These two cases show me that it is well not to wait in those cases of tonsillitis of chronic conditions of the tonsils, but to insist on their being removed.

Dr. G. E. Adkins (Jackson): I also have enjoyed the paper very much; I think it showed a wonderful amount of investigation. There is one little thing that has worked out remarkably well with me. About five years ago I happened to meet with a similar infection. The doctor reported a very small percentage of diphtheria—he says none at all. We worked, however, for one solid year making swabs of the throat and then culturing the tonsils after we had removed it, and we found in all cases $12\frac{1}{2}$ per cent. of the people were diphtheria carriers. We are 50 miles apart, and while he found no diphtheria we found $12\frac{1}{2}$ per cent. of people who were carriers. We kept this kind of a record—a positive history of diphtheria, those who had had it and those who had been exposed, those who had had a prophy-

lactic dose, and those who had had it in the family. The tonsils removed were sectioned, and showed us that of those who had had diphtheria, 76.7 were still carriers. I think the variation is remarkable in laboratory reports on that question.

Dr. L. S. Lippincott (closing): I want to thank the doctors for their discussions. In regard to Doctor Adkins, I want to say that he was really the one that started me on this work. He was in Vicksburg early last summer and told us about this series of tonsils in which he found diphtheria. We had been watching closely before that time, but had not found anything like the number he reported, and I started this work purposely for that. After I started there were so many other interesting points that I carried it on through. We watched particularly for diphtheria. We did not find any in the throat before operation. Material from the crypts of each tonsil and from the adenoids was examined in smears and planted in cultures in the media that were used in the laboratory, and in which we were finding the bacillus from cases of diphtheria. I was surprised not to find any diphtheria bacilli in this series of 100 cases. I did find some organisms that looked like diphtheria, and some of them very much so. Any time we found these we separated them in pure culture and studied them, but none proved to be diphtheria. I do believe, however, that in diphtheria carriers the organisms are often developing in the tonsils, and that tonsillectomy is usually the best way to get rid of carrier throats. We did not find any carriers in this series.

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CARBON MONOXIDE POISONING.

The value of the pyrotannic acid method for the quantitative determination of carbon monoxide in blood and air, by means of which dangerous occurrences of this insidious poison-gas may be detected much more quickly than by methods previously used, is again emphasized by the Bureau of Mines of the Department of Commerce.

Carbon monoxide may be formed in many places, and inhalation of this treacherous gas is a frequent and widely distributed cause of poisoning that ranges in severity from headache and lassitude to unconsciousness and death, state Dr. R. R.

Sayers, Chief Surgeon, and W. P. Yant, associate chemist, of the Bureau of Mines.

People are continually being affected by carbon monoxide in homes and garages, around gas and gasoline engines and blast furnaces, in fighting fires, after blasting in mines and quarries, and after mine fires and explosions; in fact, any place where there is possibility of exposure to the products of combustion of carbonaceous fuels or products. As cases of this type of poisoning often occur from the most unsuspected sources, and as the indicating symptoms of carbon monoxide poisoning, such as headache, nausea, dizziness, collapse and unconsciousness are often attributed to other causes it is essential to have suitable means whereby the true condition can be ascertained. Quick, accurate determination is not only of value for making diagnosis and giving proper treatment, but for investigating the causes and conditions under which the poisoning occurred, as well as providing means for examining doubtful atmosphere to prevent and guard against the recurrence of poisoning.

The only infallible diagnosis of carbon monoxide poisoning is made by examination of the blood for carbon monoxide hemoglobin, the compound which the gas forms with the coloring matter of the blood. Through the formation of this compound the hemoglobin becomes ineffective as an oxygen carrier. A mere qualitative examination for this compound will indicate whether or not carbon monoxide is present, but in view of the obvious desirability of knowing whether or not carbon monoxide is the primary cause of the condition of the patient, it is necessary to make a quantitative determination of the carbon monoxide hemoglobin present.

Methods have previously been devised for the quantitative analysis of carbon monoxide when present in blood and in air in

quantities large enough to the health and safety of a person. Some of them are suitable as to accuracy, yet all have some objectionable features in that they require either elaborate and expensive apparatus, or special technique and training on the part of the analyst, or are too delicate or too cumbersome for field use.

The Bureau of Mines, in its investigation of many cases of industrial and domestic poisoning from carbon monoxide, found it necessary to develop a method and apparatus that could be immediately taken to the scene of a poisoning, and which would give accurate results as to the carbon monoxide in the blood and in the air. The pyrotannic acid method has been used frequently during the past two years in the investigation of fatal and non fatal cases of poisoning from gas stoves, automobile exhaust gases, and blast-furnace gas; also in the analysis of air in vehicular tunnels and in mines after blasting and during rescue operations after a mine explosion. It has been used in the laboratory for experimental investigation of carbon monoxide poisoning of men and animals and has also been used with equal success by other investigators and by corporations both in America and in foreign countries. In all of this work the method has been found very reliable and accurate, and admirably fulfills requirements for the examination of blood and air. Its simplicity and ease of operation make it well suited to the needs of hospitals, industrial surgeons, safety engineers, coroners, departments of public safety, boards of health, and other allied organizations.

Details of the pyrotannic acid method for the quantitative determination of carbon monoxide in blood and air are given in

Technical Paper 373, copies of which may be obtained from the Bureau of Mines, Department of Commerce, Washington, D. C.

BIRTH CONTROL

The research work being carried out by the American Birth Control League, as mentioned elsewhere in this issue (Mississippi News Notes, page 412) will be a boon to those women who are physically unable, either permanently or temporarily, to bear children.

The physician, however, has quite a problem to decide in each instance. Where it is purely a matter of physical inability, on the part of the patient, his course is clear. But where the patient comes with a plea of economic inability, the issue will not be so easy to decide.

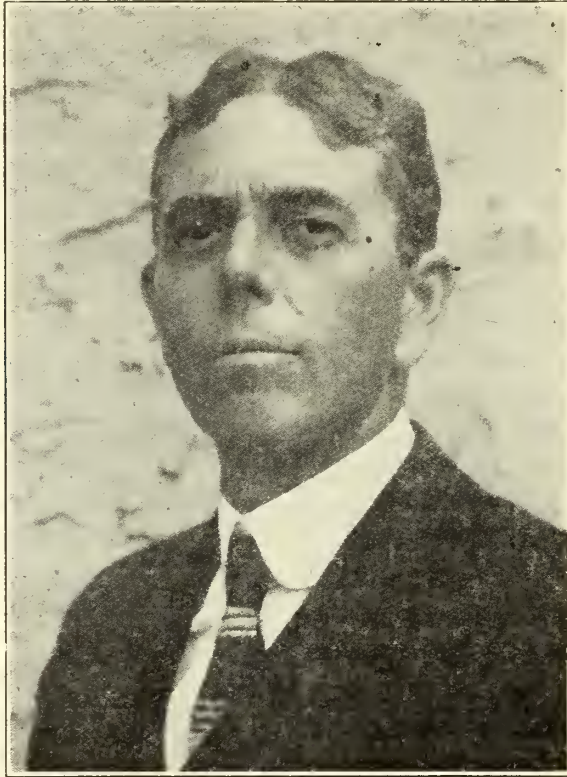
At the present time, with a certain element of our people, the practice of birth control is an established fact. But, unfortunately, this element is composed of the more intellectual groups, and of those better able financially to bear the burden of large families. On the other hand, the uneducated, the paupers, and, in many instances, the unassimilated foreigners, are reproducing at a much more rapid rate. Up to the present time, no practical plan of campaign for educating those most needing such a method of control has been brought forward.

It seems, at the present time, that while this research, as pointed out above, will be of great help to a small number of women, as a practical measure the day when its benefits will be felt by any appreciable part of the nation is in the remote future.

DR. BASS HONORED

At the nineteenth annual meeting of the Southern Medical Association, which convened in Dallas last month, Dr. C. C. Bass, dean of the Tulane School of Medicine, was elected president of that body. To no one has this honor been conferred where the recipient merited it more than in the case of Dr. Bass. The years of his medical life have been arduously devoted to research in fields but little trod by scientists before. His investigations in malaria, hook worm disease, pellagra, beriberi and typhoid fever have made his name a household word among students of clinical medicine throughout the world. His epoch-making discovery, reported first in 1911, of cultivating *in vitro* three different species of the malaria plasmodia, received the hearty approbation

of the International Congress on Hygiene and Demography, held in Washington, D. C., in 1912, and the Southern Medical



C. C. BASS, M. D.

President Southern Medical Association

Association voted him a medal of honor in appreciation of his work. A native of our sister State of Mississippi, he received his early educational training in Carley, Jackson and Columbia; he was graduated in medicine from Tulane in 1899. He has served his *Alma Mater* as instructor in medicine (1905-07); director of the laboratories of clinical medicine (1907-12); professor of experimental medicine (1912-22); and he has been dean of the school since 1922. Dr. Bass received the honorary decree of doctor science from the University of Cincinnati in 1920. Such, very briefly, is the record of the newly elected president of the S. M. A. We wish his tenure of office much success.

CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

The Fifteenth Clinical Congress of the American College of Surgeons of North America, was held in Philadelphia October 26-October 30, 1925. Over 3000 Fellows of the College were in attendance from all sections of the country, including a large contingent from Canada, Central and South America, Mexico, Cuba, Porto Rico and other overseas dependencies. About 519 candidates were admitted to Fellowship, including 12 from Louisiana and 8 from Mississippi. Honorary Fellowships were conferred at the Convocation on Drs. Henry Wm. Carmalt of New Haven, Conn., Frederick Shepard Dennis of New York, Philip Franklin, specialist in Ear, Nose and Throat, of London, Wm. Blair Bell, gynecologist of Liverpool, Eng., Professor Vittorio Putti, the orthopedist, Bologna, Italy, Sir Arbuthnot Lane, London and Lord Bertrand Dawson of Penn, London. One of the features of the convocation that had not been announced on the program was the presentation of the Cross of the Legion of Honor which was conferred on Dr. Charles H. Mayo by the French Government in recognition of American Surgery and of his eminent service to humanity through surgery. Dr. Thierry de Martel, of Paris, had been delegated by his government for this purpose. After pinning the Grand Cross on Dr. Mayo's breast and delivering the citation of honor, he kissed Dr. Mayo on each cheek in the usual French form amid the blushes of Dr. Mayo and the thundering applause of the audience.

The scientific meetings were held in the Bellevue-Stratford Hotel, including the very important annual conference on Hospital Standardization. At the Presidential meeting on Monday, October 26, the first formal session of the Congress, the President-elect, Dr. Rudolph Matas, of New Orleans, was inaugurated, succeeding Dr. Charles Mayo, of Rochester, Minn., in that office. Dr. Mayo delivered a retiring ad-

dress in which he dwelt especially on the more recent discussions and researches on liver function. Dr. Matas divided his address in two parts, the first, introductory, in which he paid a tribute to the surgeons of the South and referred in terms of praise to his predecessors, and the second, to the surgical treatment of Aneurism which was illustrated with a motion picture of his operation as performed in the Charity Hospital of New Orleans. This was a very vivid way of bringing the old Charity to Philadelphia and proved one of the most interesting features of the occasion. Dr. Matas then introduced Sir Arbuthnot Lane, who delivered the Murphy Memorial oration which will be published with the other addresses in full in the official organ of the Association.

Hospital Standardization: A series of conferences on Hospital Standardization were held on Monday, Tuesday and Wednesday. The conferences covered questions of great and varied interest and practical value in treating many of the every day problems and difficulties encountered in hospital management and the care of the patients within the hospitals. At the opening session, Dr. Franklin H. Martin, Director General, presented his report including a list of the hospitals which had been approved for 1925. The hospitals in Louisiana of 100 or more beds that appeared in the approved list, are: New Orleans, Charity Hospital, Hotel Dieu, Presbyterian Hospital, Touro Infirmary; Shreveport: Charity Hospital, North Louisiana Sanitarium, T. W. Schumpert Memorial Hospital; Monroe: St. Francis Sanitarium; Baton Rouge: Our Lady of the Lake Sanitarium. Of the 50 to 100-bed hospitals in Louisiana: in New Orleans, the Eye, Ear, Nose & Throat Hospital, Flint-Goodridge, Illinois Central Railroad, Mercy Hospital; in Shreveport, the Highlands Hospital, the Shriners' Hospital for Crippled Children; Lake Charles, St. Patricks Hospital; three

other hospitals in the state are mentioned which had not fully complied with the minimum requirements.

An interesting innovation is that approved hospitals, namely those which have met the requirements of the minimum standard, will be given an attractive framed certificate attesting to the inspection of the hospital and the approval of the College, with the added declaration that the certificate will be valid only and as long as the hospital shall maintain the standards of efficiency specified in the diploma. The report of the able assistant director in charge of hospital standardization, Dr. MacEachern, shows that the total number of hospitals surveyed in 1925 was 2380, of which, 1365 were fully approved, 199 conditionally approved, or 65.7 approved. The list includes the government hospitals, army, navy, public health, veterans' bureau, national homes for disabled voluntary soldiers.

From 1918 to 1925 the College had made 10,762 individual surveys of hospitals, exclusive of the survey of 1925.

The hospital conferences were inaugurated by an address by the retiring president, Dr. Charles H. Mayo, who dwelt upon the progress of the movement. He was followed by the president-elect, Dr. Matas, who spoke on "Politics and Hospitals in Relation to Hospital Standardization," in which he stressed, by numerous examples, all the evils that follow political interference in the government of hospitals.

Too much stress cannot be laid on the importance of the movement for hospital standardization when we consider the profound interest that this movement has roused in the public mind and the marked effect that the minimum standard of hospital efficiency, prescribed by the College and allied national associations, has already had in improving hospital conditions throughout the country. The hospitalization of the sick is a big

problem today. On the average one of ten persons in the United States and Canada go into hospitals for treatment annually. In 1925, almost 12 million people went through these hospitals and the outlay for maintenance was approximately one billion dollars. When we realize this, is it not essential that the public be intelligently informed as to hospitals and the service they not only give, but are responsible for giving in the right way? If nothing else is done than the publication of an annual classified list of the hospitals that have met the minimum requirements of the College, and the absence from this list of the hospitals that have failed to meet the requirements, a splendid service will have been rendered to the profession and the public, which must ultimately redound to the betterment of these institutions throughout the country.

The twenty-five and more addresses and papers read at the Standardization Conference and the round table discussion that followed were alone well worthy of a visit to the Congress. We were pleased to note that many of the superintendents of the leading hospitals of the country were present. The Charity Hospital was represented by Dr. Leake, and Dr. Spellman of Touro Infirmary ably led the Round Table Conference the last day.

Hospital Clinics: The 50 and more hospitals of Philadelphia opened their doors freely and the visiting Fellows were kept busy for four days witnessing the admirable performances in the form of operations, demonstrations and lectures given in all these institutions by the local surgeons.

Among the many notable events of the Congress was the spontaneous and thrilling ovation given to Dr. John Chalmers Da Costa as he was wheeled into the surgical amphitheatre of Jefferson College Hospital. Though crippled by a general arthritis so that he can no longer operate, DaCosta continues to lecture and teach in that inimitable and brilliant style which

has given him just renown as one of the most forceful and eloquent teachers in America. The Amphitheatre was packed from top to bottom and the hospital fairly shook to its foundation with the tremendous applause which greeted the great teacher when he came to the close of his marvelously interesting clinic.

One of the notable features of the Congress was the conferring of the honorary degree of Doctor of Sciences on Lord Dawson of Penn, the eminent British internist and physician to the Royal family of England, on Dr. Charles H. Mayo, of Rochester, Minn., and on Dr. Rudolph Matas of Tulane University of New Orleans. The ceremony was conducted in Houston Hall of the University of Pennsylvania under the presidency of Dr. Josiah Penniman and was most dignified and impressive. Dr. George DeSchweinitz presented the candidates and rendered the citations in admirable style.

The scientific sessions of the Congress were of extraordinary interest as they touched upon all the important surgical questions and problems of the day. A mass of new facts was presented by the speakers who were the most authorized exponents of the latest advances in each one of the subjects discussed. Perhaps the most striking impressions left in the minds of the audience were, the enormous strides accomplished in the rehabilitation of patients as surgical risks before and during operations, as well as in the post-operative care. The ethical note particularly emphasized at the convocation by President Matas, was the need of cultivating a surgical conscience. The surgeons of Philadelphia outdid themselves in the prodigality of their hospitality, and in the excellence of their performances which maintained the traditions of Philadelphia as the medical city of the continent and the cradle of American medicine.

NEWS AND COMMENT

DEPARTMENT EDITORS.

Lucien A. Ledoux, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the up-building of the profession to which he belongs."
—Theodore Roosevelt.

BULLETIN OF THE LOUISIANA STATE MEDICAL SOCIETY.

Dr. P. T. Talbot, Secretary-Treasurer.

We have just completed the most successful year of the Louisiana State Medical Society. At the present writing we have enrolled 1223 active members, which is the largest annual enrollment the State Medical Society has ever enjoyed. The reports from the various Parish Medical Society Meetings show a full attendance of its component members in conjunction with unusual Scientific Programs, which is a credit to them and to our Society.

I wish to take the advantage of this opportunity to call attention to the various Parish Societies and to all members of the State Society, that as far as membership in the organization is concerned, the fiscal year for 1925 will be completed by December 1st. According to the By-Laws, dues for the fiscal years for 1926 are due in advance, and are therefore payable any time during the month of December. The Secretaries of the various Parish Societies should begin at once after December 1st to collect the annual State dues from its members for 1926, and remit as promptly as possible to the Secretary-Treasurer at 1551 Canal Street. In this regard, it would be wise to call your attention to the fact that the protection under the Medical Defense of the State Society is covered from the time that individual dues are received by the Secretary-Treasurer of the State Society. It is therefore urgent that these dues be remitted as promptly as possible in order that one may enjoy full protection under our Medical Defense Act.

The following Chairmen of the Sections for the Scientific Program of the Louisiana State Medical Society, to be held in Monroe, April 15th, 16th and 17th, 1926, have been appointed by the President, Dr. E. M. Ellis, and accepted:

Medicine and Therapeutics—Dr. J. B. Vaughan.

Nervous Diseases—Dr. H. R. Unsworth.

Bacteriology and Pathology—Dr. A. A. Herold.

Public Health and Sanitation—Dr. W. H. Seemann.

General Surgery—Dr. Lucian Landry.

Eye, Ear, Nose and Throat—Dr. W. R. Bufington.

Urology—Dr. M. H. Foster.

Radiology—Dr. G. C. McKinney.

All members of the State Society desirous of reading papers at our next annual session would find it expedient to communicate at once with the respective chairmen for a place on the program. It is evident that our Scientific Program will be completed earlier this year than at any previous time, as the appointments of the various sections have been made a few months earlier than we have in the past. The Secretary-Treasurer's office will be very glad to assist in this work, and as Chairman of the Scientific Essay Committee, I would respectfully solicit your prompt attention to this important detail. It is only by co-operation in this regard that we will be able to formulate the Scientific Program and get it out in proper form for our next annual meeting. Plans are beginning to develop for an unusual meeting in Monroe, and we have every reason to believe that each and every one of us may look forward with a great deal of pleasure to our meeting again.

So let's get our membership in early and send in our scientific request promptly, and in every way assist the officers and Arrangement Committee to perfect their plans early.

SPECIAL NOTICE.

Your attention is especially called to the changes of the dates for the Annual Meeting of the Louisiana State Medical Society at Monroe. This meeting is to be held on April 15th, 16th and 17th, 1926. The Executive Committee found it necessary to change the dates as they conflicted with the American Medical Association Meeting in Dallas. These new dates will afford our members the opportunity of attending the State Medical Meeting and also the American Medical Association Meeting with the possibility of being away from home only seven or eight days.

From all indications, everyone may be prepared for an unusually good time in Monroe. The physicians of Ouachita Parish have begun plans to insure every attendant a most enjoyable scientific and social repast. The wide awake physicians of Monroe will leave no stone unturned in the development of their plans to make this meeting most enjoyable and pleasing to all.

MONTHLY BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

Three meetings were held in the Society during the month of November, a Board of Directors Meeting, an Executive Meeting and a Scientific Meeting. At the Scientific Meeting held on November 9th the following Delegates and Alternates were elected:

Delegates—Dr. F. M. Johns, Dr. W. H. Seemann, Dr. W. W. Leake, Dr. Roy B. Harrison, Dr. M. T. Van Studdiford, Dr. A. E. Fossier, Dr. Jerome E. Landry, Dr. Chas. Chassignac, Dr. Homer Dupuy.

Alternates—Dr. J. Signorelli, Dr. Geo. S. Bel, Dr. E. L. Leckert, Dr. L. L. Cazenavette, Dr. Marcy J. Lyons, Dr. F. Temple Brown, Dr. W. R. Buffington, Dr. O. C. Cassegrain, Dr. Adolph Noha.

At the meeting held on November 23rd Dr. George Gellhorn of St. Louis was on the program as the guest of the Society under the auspices of the New Orleans Gynecological and Obstetrical Society, and read a paper on "Milk Injections in Gynecology and Obstetrics." Dr. C. Jeff Miller read a paper on "The Conservative Treatment of Puerperal Infections." The meeting was largely attended and both papers were generously and freely discussed. The nomination of Officers for the year 1926 have been received and the membership individually notified according to our By-Laws.

The Clinical Meetings scheduled for November 9th at the Charity Hospital, on account of conflict with the Southern Medical Convention was transferred to the offices of the Society and was made an Executive Meeting.

Dr. George Roeling, Coroner of the City of New Orleans has written the Society asking for volunteers to serve with him on a special staff which he proposes to create to care for the inmates of the Parish Prison, House of Detention and the Waifs' Home. He desires to secure if possible several Doctors from each of the Specialties so that each of the Institutions will have a full staff complement.

The design of the new automobile emblem adopted by this Society is on file in this office.

Information regarding the price and method of securing same may be had by communicating with the Assistant Secretary.

A Committee with Dr. W. H. Block, as chairman, represented the Society at a memorial service to honor Dr. A. W. deRoaldes of this City on Armistice Day.

Dr. Foster M. Johns, Chairman of the Special Committee appointed to investigate the feasibility of the Society adopting the special advertising program prepared as a means of awakening the public conscience regarding the payment of Doctor's bills submitted their report. A synopsis of the subject matter is being prepared for mailing to the individual members and the matter will be voted upon at the annual election.

The Society unanimously endorsed Dr. C. C. Bass as President of the Southern Medical Association, and prepared a telegram which was read and ordered sent to Dr. Bathurst, Chairman of the Council, Dr. Knighton and Dr. Homer Dupuy.

This Society has been honored in the election of two of its members to guide the destinies of two of the great medical organizations in the country. Dr. Rudolph Matas was elected President of the American College of Surgeons, and Dr. C. C. Bass was elected President of the Southern Medical Association.

The matter of the Supreme Court's decision re-Dr. L. S. Charbonnet and the testimony of a medical witness was taken up by the Society and referred to our Judiciary Committee with full power to act.

The Society has taken cognizance of the wonderful work accomplished by Mr. F. W. Evans, Vice-chairman of the Board of Charity Hospital and has unanimously recommended him for the award of the annual Times-Picayune cup given each year to the Citizen doing the greatest work of an outstanding character.

Dr. Paul Gelpi, Chairman, announced that the annual dinner will be very informal and that it would take place Saturday, December 12th at 8:30 p. m., following the annual election.

The following have been elected to active membership: Dr. A. J. Azar and Dr. W. F. Henderson.

The following have been elected to Interne Membership: Dr. S. B. McNair and Dr. M. W. Miller.

The membership forms are being completed and returned to this office in gratifying numbers, to date approximately half of the membership has co-operated in this respect.

The present membership is 472.

The program for the month of December is as follows:

December 7th, Board of Directors Meeting.

December 12th, Election of Officers for 1926.

December 14th, Scientific Meeting.

The attention of the membership is called to the fact that the dues of the Louisiana State Medical Society are payable in advance and the Secretary-Treasurer of the State Society has requested that the members forward their checks as early as possible so that he may complete his membership roll.

LUCIEN A. LEDOUX, M. D.
Secretary.

SIXTH DISTRICT MEDICAL SOCIETY.

The semi-annual meeting of the Sixth District Medical Society was held at Jackson, La., on Wednesday, October 14th, 1925, at 10 A. M.

Scientific Papers presented were:

"Some Practical Points in General Practice", by Dr. B. O. LeBlanc, St. Gabriel, La.

"Mental Hygiene", by Dr. C. P. May, East Louisiana State Hospital, Jackson, La.

Addresses:

"Narcotics", by Dr. J. L. Scott, Louisiana State Board of Health, New Orleans, La.

"Vital Statistics", by Dr. E. L. Doussan, State Registrar, Bureau of Vital Statistics, New Orleans, La.

"Prohibition", by Mr. O. D. Jackson, Federal Prohibition Director, New Orleans, La.

Dr. T. J. Perkins, Superintendent of East Louisiana State Hospital and his staff of able assistants acted as hosts to the society, extending every courtesy and facility to the members who braved the elements and bad roads to attend the meeting.

After the scientific part of the program those in attendance adjourned to the dining room and partook of a most delicious and bountiful repast.

It is to be very much regretted that a sudden change in weather and one of the heaviest rain storms accompanied by cyclonic winds experienced in this section in many months tended to prevent many members from attending the meeting. Had it not been for these conditions, it would have undoubtedly been one of the best attended meetings this district society has ever held.

The regular monthly staff meetings of Our Lady of the Lake Sanitarium will be resumed this month. The first meeting to be held October 28th, at 7:30 P. M.

Louisiana and New Orleans particularly have been honored by the selection of Dr. Rudolph Matas as President of the American College of Surgeons, and Dr. C. C. Bass as President of the Southern Medical Association.

Dr. William J. Mayo, Rochester, Minn., visited in New Orleans recently on his annual trip to this section.

During his stay he delivered a short address to the Medical Students of the Tulane Medical School in the Miles Amphitheatre, Charity Hospital.

Louisiana was well represented at the Southern Medical Association Meeting.

At the coming session of the Legislature, in all probability, legislation will be introduced regarding licensing of Chiropractors; a bill prohibiting the dispensing of liquor on physicians prescriptions; and a bill directed to correct abuses of charitable institutions, particularly hospitals.

POINTE COUPEE MEDICAL SOCIETY.

On Tuesday evening, October 6th, the Pointe Coupee Medical Society held one of the most interesting sessions in its history. In accordance with the program, previously announced, Doctor Carruth delivered a talk on the prevailing fevers of this section; their differential diagnoses and treatment. The discussion covered a somewhat extended range, with special attention to malaria, typhoid, paratyphoid and a few other specific and non-specific fevers that sometimes simulate these well known types. Drs. Cazayoux and Rougon were on the program to follow in the discussion, and their remarks detailing their observation and experience were interesting to all present. After their talks the discussion became general, Dr. Devron devoting most of his remarks to the important part that laboratory work plays in assisting the physician in diagnosing a typical and borderline cases and cases of mixed infection.

Dr. J. W. Plauche, recently of Woodside, Avoyelles Parish, but now located at Morganza, was present by invitation, and on application was duly received as a member.

It was near midnight when the meeting adjourned, so the members could partake of the bountiful supper tendered by Dr. Devron of Lakeland.

"A CORRECTION."

In our last number it was announced that St. Rita Surgical Infirmary, New Orleans, has been permanently closed.

Dr. W. P. Tilly advises that the "Tilly Clinic" for emergency cases and diagnostic work is still in operation.

We are glad to make this correction.

UNITED STATES PUBLIC HEALTH SERVICE.

It has been recently announced by Surgeon General Cumming of the U. S. Public Health Service that on December 7, 1925, examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service, will be held at Washington, D. C., Chicago, Illinois, New Orleans, Louisiana, and San Francisco, California.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital or two years' professional practice. They must pass satisfactorily, oral, written and clinical tests before a Board of medical officers and undergo a physical examination.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

President Robert T. Morris, M. D., of The Physician's Home, Inc., Times Building, 42nd Street and Broadway, New York City, announces that an endowment campaign has been started by the Directors of the Home for the purpose of raising funds to endow a NATIONAL HOME for aged and incapacitated physicians who are left without financial resources in the autumn of life.

The sum sought for the home has not yet been determined, but it should run into several millions of dollars, so as to guarantee the upkeep, through interest, of the national home and the several smaller units to be placed in the different states as may be determined later.

CANCER CONTROL IN EUROPE.

George A. Soper, Managing Director of the American Society for the Control of Cancer, has returned to New York after a three months' investigation of the problem of cancer control in Europe. He reports that great interest and activity are being shown in research work into the fundamental causes of cancer and in providing patients with the best means of treatment which the existing state of knowledge permits. Surgery, radium and X-rays still afford the main reliance which science and experience have thus far developed for the cure of this disease.

DAY NURSERIES, PERU.

The President of Peru has recently ordered the establishment of day nurseries on all estates employing at least 25 women farm workers. A school for the training of child-hygiene workers has also recently been established in Peru, the graduates of which will be employed by the national children's bureau.

Switzerland plans a campaign against tuberculosis, especially against the disease in children. Medical supervision over tubercular persons, welfare stations, and colonies for children suspected of the disease are included in the plans.

New York City, October 29.—Three million school children in the United States, or one-eighth of the entire school population, are handicapped in their education by defective eyesight, according to a report sent by the National Committee for the Prevention of Blindness, to every city, state and county school superintendent in the country, urging that a uniform law for the examination of the eyes of school children be adopted by all states and cities.

A decrease of 9 per cent in the infant death rate for the vital statistics registration area of Canada during 1924 is reported by the Dominion Bureau of Statistics. The maternal mortality rate in 1924 was 6 per 1,000 live births, the rate since 1921.

MISSISSIPPI.

Dr. Victor Maxwell, formerly connected with the Mississippi Tuberculosis Sanatorium at Magee, is now Acting Superintendent of the Mississippi Baptist Hospital at Jackson and is in charge of the X-ray Department of that Hospital.

Dr. J. H. Williams, of Washington, D. C., a very eminent neurologist, has been visiting in Jackson and delivered a very interesting address before the Central Medical Association and the Staff of the Jackson Infirmary on neurology. Dr. Williams is en route to Dallas to attend the Southern Medical Association.

Dr. Clyde Ruff has resigned his position as Director of the Lee County Health Department to accept a position in North Carolina.

Dr. V. B. Philphot, of Houston, Miss., urges that all of the essayists, in preparing for papers for the State Medical Association meeting in Jackson, May 11-13, 1926, make them brief and to the point in order to prevent delay and to

ensure the program being carried out in its entirety. He also called attention to the obligation to be present at the meeting of every surgeon who agrees to read a paper.

The Clarksdale and Six Counties Medical Society, composed of the counties of Coahoma, Quitman, Talahatchie, Tunica, and part of Bolivar, held its semi-annual meeting at the Elk's Club in Clarksdale, the afternoon and evening of November 4th.

The afternoon session was devoted to a Skin Clinic held by Drs. R. G. Henderson and E. R. Hall of Memphis, Tennessee.

The evening program was as follows:

1. Business session, election of officers for 1926.
2. Report of a case of Hyper-Pyrexia. L. Q. Hall, Rena Lara.
3. A paper. J. T. Walker, Crowder.
4. A paper. J. A. Slack, Friars Point.
5. "Painless Childbirth, the So-called Synergistic Use of Morphine, Magnesium Sulphate and Ether." H. L. Cockerham, Gunnison.
6. "Ultra-Violet Light or Actinic Ray in General Practice." A. J. Brown, Clarksdale.

The attendance was excellent considering the state of the weather. Quite a few Memphis doctors were in attendance.

The society had a large proportion of paid-up members last year and has gotten off to a good start for 1926 as quite a few members paid up at this meeting.

The officers for 1926 were elected as follows:

President—H. L. Cockerham, Gunnison, Bolivar County.

Vice-President—J. L. Nichols, Alligator, Bolivar County.

Vice-President—J. B. Mitchell, Clarksdale, Coahoma County.

Vice-President—A. C. Covington, Marks, Quitman County.

Vice-President—T. J. Crofford, Charleston, Tallahatchie County.

Vice-President—L. H. Brevard, Dundee, Tunica County.

Secretary—R. R. Kirkpatrick, Clarksdale.

Board of Censors—L. B. Austin, '26; J. W. Henderson, '27; T. G. Hughes, '28.

Auxiliary Member Medical Defense—J. W. Gray, Clarksdale.

Three doctors were elected to membership, S. A. Brevard, Deeson, Bolivar County; R. D. Byars, Cascilla, Tallahatchie County; M. C. Wigington, Phillip, Tallahatchie County.

After the scientific program, a banquet was served to about forty, in the Elk's Grill.

Dr. K. J. Rustomjee, Assistant Government Malariologist, and International Health Board Fellow of Borella, Ceylon, and Dr. R. K. Collins, a regular staff member of the International Health Board stationed at Leesburg, Georgia, spent three days in Jackson, November 5th, 6th and 7th, studying the malaria program of the Mississippi State Board of Health.

The East Mississippi Eleven Counties Medical Society will meet in regular session the third Tuesday in December, the 15th, at Tupelo. A splendid program has been prepared for this meeting.

On November 6th, Dr. Seale Harris, of Birmingham, was a guest of the Natchez Medical Club. A number of physicians from by near-by towns both in Louisiana and Mississippi availed themselves of the privilege of hearing Dr. Harris talk, and were also guests of the Medical Club.

Dr. Harris spoke on "Vitamins as Related to Gastro-Intestinal Diseases." He told of the discoveries leading up to our knowledge of vitamins, as well as the most modern uses of them.

On November 12, Dr. J. F. Cooper, Medical Director, Clinical Research Department, American Birth Control League, addressed the members of the Homochitto Valley Medical Society, and some of their neighboring colleagues from surrounding counties and parishes of Mississippi and Louisiana.

The first portion of his address told of the needs for birth control. First came the usual Malthusian ideas that the increase in population will soon outgrow the available food supply; that we have already a disproportionate birth rate as between the better elements of our population and the uneducated and mentally defective elements, so that as time goes on the latter will have the preponderance of the vote.

Another reason was the economic needs where so many people's earning capacity is not sufficient to support the family that they are bringing up.

The second part of the address was concerned with the medical side and the needs of the individual, where, in many cases, a woman is physically unfit to bear children. He told of the research work that is being carried out and re-

ported three thousand cases in which the contraceptive method used by them has been successful in ninety-eight per cent of the cases.

Houston, Miss., October 18.—The outstanding civil case in public interest disposed of was that of Cortez Prewit vs. Houston Hospital and Dr. Philpot, which was a suit for \$25,000 damages on a charge of malpractice. After hearing the evidence in the case the court granted a peremptory instruction to the jury to find for the defendants. In the course of his opinion, Judge Pogram paid splendid tribute to the institution, congratulating the community over having such a splendid hospital and such a capable doctor in a town the size of Houston.

BUREAU OF SOCIAL HYGIENE,
MISSISSIPPI STATE BOARD OF HEALTH.

The Bureau of Social Hygiene has for its object the control of venereal diseases. The plan of operation consists of three divisions, namely: education, treatment and repression. It is believed that if young people could know the danger of immorality in the tender years before this habit becomes fixed in their lives that much of the infection could be prevented; therefore a campaign known as the Keeping Fit Campaign was put on in the high schools of the state. The principals of schools were corresponded with and they requested literature for the children in their high school. This literature was read and essays on Keeping Fit were written by 25,000 school children.

One of the largest banking institutions gave \$100.00 as prize money for the eight best essays.

An educational campaign was put on with the parents through the Parent-Teacher Association. This campaign made possible the Keeping Fit Campaign by preparing the homes to receive the advance thought which was being promulgated through the Keeping Fit Campaign.

An Educational campaign was put on to the different railroads in the state in which the railroad companies co-operating, had their employees to see a picture show on social hygiene and furnishing booklets of information relative to the venereal diseases. This campaign was very successful, reaching about 4500 railroad employees.

The repressive campaign has been very successful in that all professional houses of prostitution in the state have been closed and moral atmosphere of the cities has been greatly benefited. The druggists have virtually quit selling medicine for self-treatment of venereal diseases.

Along the lines of treatment this bureau furnishes to the physicians of the state for the treatment of indigent patients, neoursphenamine, distilled water, mercury and keidel tubes for the collection of blood specimens and also co-operates with any physician who is treating indigent patients by furnishing medicine for the treatment of gonorrhoea. This state favors treatment by the family physician instead of the clinic method of treatment because our state is essentially rural and we find that masses of people can be better served by this department co-operating with the physicians in the treatment of the indigent in their practice rather than the establishment of clinics.

NARRATIVE REPORT MISSISSIPPI
HEALTH CAMP FOR CHILDREN.

July 10—August 10, 1925.

For the past several years the necessity for establishing a health camp or recreation camp for under-privileged children in Mississippi has been realized by the health authorities and other organizations interested in the welfare of children and the prevention of diseases, principally Tuberculosis.

The plan to establish such a camp was brought to a head during the early months of 1925.

The State Health Department, together with the Mississippi Tuberculosis Association took active parts in bringing to the attention of the people throughout the State the necessity for such an undertaking.

The plan for such a camp and its necessity was, therefore, brought by representatives of these organizations to the attention of civic club, fraternal bodies, medical societies and other organizations throughout the State whenever an opportunity was offered to present the matter before them. It was estimated that the average first year cost for the establishment and operation of such a camp would be \$50.00 for each child cared for.

There was a generous response throughout the State from various organizations and a number of individuals—the general accepted plan being for an organization or a group of private individuals to care for one and in some cases two children at this Camp.

The object of the Camp was to accept children, boys and girls, ranging between the ages of 7 and 12 years.

The camp was in no way intended to include incurable cases of Tuberculosis, or any other disease, nor were any children to be admitted who

had any active disease or physical defects. Children convalescing from non-contagious and non-infectious diseases would be eligible for admittance.

The general plan was to demonstrate in an educational way the benefits of normal health habits that could be and should be practiced in the home, and to carry on the camp life in such a manner that during so short a training period, the children would be thoroughly trained and the practices of proper living so instilled into them that the effects would extend into and even reach beyond the individual's home.

The children were located throughout the state through the various county health departments and county health officers. By these agents suitable physical examinations were made and decisions rendered as to the physical qualifications of the children for entrance to the camp.

Through the courtesy of the City of Biloxi and the local Park Commission, a very desirable site was offered at the Naval Reserve Park located on Back Bay, about 3 miles from Biloxi.

The Mississippi State Board of Health undertook the construction of the Camp, and through the courtesy of the Mississippi National Guard, obtained 7 pyramidal tents and 30 cots of the type used for sheltering and sleeping soldiers.

These tents were 16x16 feet square, a tight board floor being provided and walled up on the sides for 3 feet, and screened from that point up to the maximum height of 5 feet. Sixteen mesh galvanized iron screen wire was used throughout, each tent being provided with a self-closing screen door, rendering the enclosure absolutely free from mosquitoes and other insects.

A shower bath and dressing room was provided, and also latrine facilities for both boys and girls.

A kitchen was constructed and thoroughly screened, the cost of this building being borne by the Mississippi State Board of Development.

One of the tents was provided with tables of the approved sanitary type used in camps by the U. S. Army, and was thoroughly screened.

The medical and nursing staff was provided by the Mississippi State Board of Health. Other personnel was supported by the general camp fund.

The general cost of operating the camp over the period of 32 days exclusive of construction

costs amounted to \$66.59 per child, or a per capita cost per day of \$2.08; exclusive of staff personnel the per capita cost per day was \$1.00.

The results obtained collectively among the children were manifold, and of such a nature as to prove the undertaking a decided success.

The total gain in weight for the 19 children who attended the camp was 76 pounds, or an average of 4 pounds per child. The gains ranged from the lowest of 1½ pounds to the highest of 7 pounds—only 3 children out of the 19 showing a gain of less than 3 pounds, and 7 children showed a gain of 5 pounds or more.

It is impossible to go into detail in this narrative report and tell of the many and varied features surrounding the life of the Camp. The Camp program was carried on in a routine way, rest periods and recreation periods being the order of each day, and the success of the plan was manifested in the attitude of the children toward the program.

It is desired to gratefully acknowledge the aid rendered by various organizations and individuals, of which the City of Biloxi donated the Camp site, water and other valuable aids; the Mississippi State Board of Development for the cost of construction of the kitchen and furnishing screen wire for the entire Camp, and other assistance; the Illinois Central Railroad for furnishing free transportation to the children from and to all points along their line over which the children came; the Mississippi National Guard for the loan of tents and cots; the Eagle Lumber Company for the discount on purchases from them; the Standard Oil Company at Biloxi who gave gasoline and kerosene; The Emporium who donated 50 blankets, and the many organizations and individuals who contributed funds, bedding, and other necessities for the welfare of the children, and to the Woman's Auxiliary of the Mississippi State Medical Association for their co-operation and services and contributions.

It is also desired to acknowledge and express the appreciation to the Gulf Coast Warehouse Corporation for receiving and storing free of charge the materials belonging to the Children's Health Camp, and to Mr. R. E. Kennington, of Jackson, who wholeheartedly stood behind the project to the extent of underwriter.

T. J. UNDERWOOD.

BOOK REVIEWS

The Principles and Practice of Obstetrics: By Joseph B. DeLee, M. D. Fourth Edition. W. B. Saunders Co. Ltd., Philadelphia and London, 1924.

The tremendous popularity of this book of Dr. DeLee's is attested by the fact that in spite of its size and its consequent cost it has reached a fourth edition within little more than ten years, and that each edition has demanded more than one printing. To my mind this popularity is entirely deserved. No textbook of obstetrics of which I have knowledge deals so comprehensively with this specialty in its various aspects, and in particular treats in such detail of the pathology of the subject.

It is frankly a book for the practicing physician. It was written with him in mind, and it furnishes for him a comprehensive library of ready reference on every conceivable phase of the subject. Its four divisions which deal respectively with the physiology the conduct and the pathology of pregnancy, labor and the puerperium, and with operative obstetrics, are logical and convenient, and the treatment of each subject is exhaustive. A particularly good feature is the typographical arrangement, whereby important and essential matter is set forth in bold-faced type, and less essential matter, which nevertheless, could not be omitted from such a text, is set in smaller type, a mechanical device, it is true, but none the less one which tends to establish proper values. The illustrations, which number more than a thousand, are many of them new, and are all thoroughly modern and almost encyclopedic in extent.

The dicta which Dr. DeLee puts forth for the practice of obstetrics are on the whole sound and thoroughly in accord with modern teachings. The chapters on the treatment of hyperemesis gravidarum and the other toxemias of pregnancy, notably eclampsia, have been brought up to date and are for the most part entirely conservative. The methods advocated for the handling of the various complications of pregnancy, as well as pelvic deformities, malpresentations and other abnormalities, are as a general rule those which experience has shown to give the best results, and his warning against meddling in septic cases is timely. The endocrine glands are perhaps less conspicuous in this text than is usual in this era, when all known ills are wont to be attributed to them, but, since their influence is by no means

overlooked or minimized, I believe this is commendable.

Dr. DeLee, to quote a recent English review, is the high priest of the doctrine that childbearing has now attained the dignity of a pathological function, a dangerous theory, on the face of it, in view of the unlimited possibilities which it offers for pernicious meddling with the natural processes of nature. His pronouncements along that line, I am inclined to believe, are unwise, not so much because of their intention as because of their expression. With the statement that childbearing is, as it has always been, a *potentially* pathological function we must all be in hearty accord, and that, I believe, is the real idea intended. Certainly it is a point of view which in consideration of the casual manner in which obstetrics is too often practiced, it might be well for many of the profession to lay seriously to heart. In spite of this interpretation, however, it would not be fair for the reviewer not to emphasize a point which Dr. DeLee himself makes, though perhaps not as forcefully as he might, that what is permitted to the specialist in obstetrics is by no means permitted to the man of lesser experience and skill. This is a teaching which applies particularly to the so-called "prophylactic forceps" operation, of which he is the author. Whether the writer of such a textbook as this, a man of such reputation that his utterances will, in the very nature of things, be regarded as *ex cathedra*, has a right to make such distinctions, or to expect his disciples to observe them, is another matter. It is human to overestimate one's skill and experience, and it is obvious that a literal following of his practice along certain lines can end only in disaster for the average man.

With this one exception, however, the book is recommended without reservation. No more valuable compendium on the specialty of obstetrics has ever issued from the press, and no physician who professes to keep in touch with modern developments in this field can afford to be without it.

HILLIARD E. MILLER, M. D.

Abt's Pediatrics: Vol I, II, III, IV. Philadelphia, W. B. Saunders Co. 1924-25.

Abt's Pediatrics is a valuable contribution to the practitioner, student and teacher. In this system consisting of seven volumes, is summed

up practically all the knowledge we have today concerning the diseases of infancy and childhood. The leading pediatricists of America have contributed the monographs on the History of Pediatrics, of Child Welfare, and on Disease of Infancy and Childhood.

Vol. I contains an introductory monograph by Fielding H. Garrison on the History of Pediatrics. In this article he tells us of the treatment and care given to infants and children among the early savages, among the ancient Egyptians, the Babylonians and the peoples down to the present day. It contains valuable information and is full of literary charm. The rest of the volume is given to treatises on Heredity, Anatomy, Physiology, and Hygiene of the Child.

Vol. 2 comprises chapters on Methods of Examination of Children; Roentgenology in Pediatrics; Prophylaxis and Treatment; Diseases of the Newborn; Feeding; Diabetes; and Nutritional Disorders. One of our Louisiana men, Dr. DeBuys, contributed the chapter on Prophylaxis and Treatment in this volume.

Vol. 3 has the chapters on Gastro-Intestinal physiology and the diseases of the gastro-intestinal tract; orthodontia and harelip; diseases of the liver and pancreas; and diseases of the respiratory organs.

Vol. 4 covers the anatomy, physiology and diseases of the circulatory system; the endocrine organs; and the genito-urinary system.

RENA CRAWFORD, M. D.

Heredity in Nervous and Mental Disease: An Investigation by the Association for Research in Nervous and Mental Diseases. Volume III of a Series of Investigation and Reports. Report of the Papers and Discussions at the Meeting of the Association. New York City, December 27th and 28th, 1923. Paul B. Hoeber, Inc. New York. 1924.

This valuable report is presented in the form of five chapters, and is, in effect, a textbook. The chapters are headed as follows:

I. General Considerations. The Role of the Cell and the Chromosomes, the Significance of Exogenous and Endogenous Factors in Heredity.

II. The Parts of the Central Nervous System Which Tend to Exhibit Morbid Recessive or Dominant Characters.

III. Pathological Aspects of Heredity in Nervous Disease.

Section I. In the Nervous System.

Section II. In the Extraneural Systems.

Section III. Experimental Degeneracy.

IV. Heredity in the Psychoses, the Factors in its Development and its Pathology.

V. Heredity in Literature.

While most of the material is highly technical, the first chapter could be read with advantage and understanding by the tyro in biology while the last chapter would be enjoyed by any one with a cultured mind. It shows how writers of fiction, past and present, have written and thought upon the subject of heredity. The standing of the members of the Association is sufficient indication of the depth of learning shown in the various discussions that followed the presentation of the reports. The volume is copiously illustrated, largely from microphotographs.

FRANCIS M. MUNSON, M. D.

An Intermediate Textbook of Physiological Chemistry. By C. J. V. Pettibone, Ph. D. Third Edition. 1925. St. Louis. C. J. Mosby Company.

This new edition of Pettibone's well-known text shows evidence of careful revision both in the theoretical portion and in the part dealing with laboratory procedures. The book remains as a whole what it has been since the appearance of the first edition in 1917, a brief, much condensed, but strictly up-to-date text dealing with those portions of the subject of physiological chemistry of greatest interest to the student of medicine.

W. DENIS.

Clinical Therapeutics: Two volumes. By Alfred Martinet, M. D. Paris, France. With the collaboration of a number of French authors. Authorized English Translation from the Second Revised and Enlarged Edition. By Louis T. deM. Sajous, B. S., M. D. With 332 Text Engravings. Complete in Two Royal Octavo Volumes. Volumes I Therapeutic Agents and Procedures. Volumes II. Treatment of Symptoms and Diseases. Philadelphia. F. A. Davis Company, Publishers. 1925.

This work was written with the object in view of presenting to the profession a thoroughly practical work on clinical therapeutics that would conform to the actualities of practice. In the opinion of the reviewer this has been accomplished. Part I, entitled Therapeutic Agents, is intended to bring before the reader the pharmacologic, alimentary, physical and mental agencies which are available to the therapist in combatting disease. Interspersed tables and synopses have made it possible to present the facts in a clear, concise and complete manner.

In Part II, entitled Therapeutic Procedures, most of the technical therapeutic procedures, including the more elaborate ones such as puncture of the pericardium and neurolytic injections, are described. Part II, entitled Treatment of Symptoms, has some particularly valuable synoptic tables of the treatment of individual symptoms by physical and pharmaceutic measures. Part IV deals with the Treatment of Diseases, and in it the authors have presented a clear, succinct, and circumstantial account of clinical therapeutics in its present state. There is no redundant matter in the text.

The illustrations are numerous and of a high quality and the typographical work is all that could be desired. The work will prove useful, especially to the active medical man who has little time for reading, but who desires to be thoroughly up to date in his profession.

FRANCIS MUNSON, M. D.

Physical Chemistry in Biology and Medicine: By J. F. McClendon, Ph. D., and Grace Medes, Ph. D. Philadelphia. W. B. Saunders Co. 1925.

This book consists of a discussion of the special phases of physical chemistry of greatest importance to biologists and to workers in the various branches of medical science. In most cases the exposition is non-mathematical in character and is therefore easily comprehensible to those who lack training in higher mathematics, but who may desire to obtain information regarding the application of modern physical theory to the problems of biology and medicine. Of special interest to the medical workers are the chapters on colloids, on hydrogen ions in biology, and on ionic equilibria in the blood.

This work is warmly recommended to the reader who may desire a brief summary of the important advances which have been made during the past ten years in bio-physical chemistry.

W. DENIS.

The Technic of Local Anesthesia: By Arthur E. Hertzler, A. M., M. D., Ph. D., LL. D., F. A. C. S. Third edition. With 140 illustrations. St Louis. The C. V. Mosby Company. 1925.

The technic of local anesthesia has now been standardized, so that the essential features can be presented in a small space. Professor Hertzler has presented these features in a small space but he has not adhered to the technic of others; the book is based upon his own experience as a surgeon, which is extensive.

Now that almost any operation can be done under local anesthesia, it is well that minute directions regarding the technic should be readily available in a manual of convenient size. This book

answers that purpose. The drugs employed, the technic of administration and the employment of local anesthesia in general operations are described in the first three chapters, after which the author discusses the various operations by regions. He wisely states in the text that the planning of the operation is more difficult than the technic of anesthesia, therefore he presents the difficulties likely to be encountered in order that the beginner in surgery may not be carried away by enthusiasm and attempt operations that his experience does not warrant his undertaking. It is a book that the country practitioner, removed from competent assistance, will find most useful as the text and diagrams are very illuminating. The type is large and free use is made of bold faced type for paragraph and section headings.

FRANCIS M. MUNSON, M. D.

Landis' Compend of Obstetrics: Revised and edited by C. B. Lull, M. D. Tenth edition. Philadelphia, P. Blakiston's Son & Co. 1925.

Although the reviewer does not approve of compends in the library of the medical student, because it encourages cramming, depriving him of the solid foundation necessary, he must admit that Landis' Compend, as a compend is a good one, covering the subject, and would aid a busy practitioner the more readily to refresh his knowledge.

ADOLPH JACOBS.

Pathology and Bacteriology of the Eye: By E. Treacher Collins, F. R. C. S., and M. Stephen Mayou, F. R. C. S. Second Edition. With four colored plates and 306 figures in the text. Philadelphia. P. Blakiston & Co. 1925.

The method adopted in this textbook is to divide the pathological processes which occur in the developmental history of the eye and study them chronologically, as it were. The first chapter deals with various aberrations which occur in the eye in its process of evolution. Neoplasms are described in the second chapter and derangements of circulation in the third. The fourth treats of mechanical, chemical, electrical and radial injuries and the fifth to inflammatory conditions. Chapter six is concerned with parasites and conditions that are presumably parasitic. The process of involution or degeneration of the various tissues of the organ is described in the last chapter. An appendix treats of the different laboratory methods employed in the pathological examination of the tissues of the eye and of the bacteria found in association with it.

It is a valuable book for the ophthalmic specialist and for the laboratory worker. The illustrations and typographical arrangements are excellent, making it very easy for study or for reference.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

The MacMillan Company, New York: "Psychological Healing," by Pierre Janet. Volumes I and II.

Paul B. Hoeber, Inc., New York: "William Cado-gan (His Essay on Gout)," by John Ruhrah, M. D. "Annals of Roentgenology," edited by James T. Case, M. D. Vol. VI., "Skull Fractures," by Wil-liam H. Stewart, M. D.

William Wood & Company, New York: Medi-cal Record, 1926. Visiting List.

Thomas Seltzer, New York: "Man: His Mak-ing and Unmaking," by E. Boyd Barrett.

REPRINTS.

"Radium" (Mesothorium) Necrosis," by Fred-ick L. Hoffman. "End Results in the Medical Treat-ment of Cancer," by L. Duncan Bulkeley, A. M., M. D. "Bismuth Therapy in Syphilis." by Oscar L. Levin, M. D.

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Louisiana State Medical Society, Monroe, April 15, 16, 17, 1926

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THE SWIFT-ELLIS TREATMENT*

FURTHER EXPERIENCES.

CHAILLE JAMISON, M. D.,

NEW ORLEANS.

In April, ten years ago, I read a paper before the Orleans Parish Medical Society entitled, "Experiences with the Swift-Ellis Treatment." This is to present further experiences with this method, gained during the past ten years. As is well known, the generally accepted procedure is the injection of one of the Arsphenamines into the veins; after the lapse of from one-half to one hour, forty or fifty cubic centimeters of the salvarsanized blood is withdrawn, and is allowed to clot for twenty-four hours, at the end of which time the supernatant serum is decanted off, and after dilution with normal saline and inactivation, or in its natural state, is ready for injection into the spinal meninges. For the past two years Sulpharsphenamine has been my choice, with the use of the serum undiluted and not inactivated: never more than twelve cubic centimeters being injected, always preceded by the withdrawal of twenty-five cubic centimeters, or more, of cerebro-spinal fluid. Spinal puncture is done in the usual manner, the meninges being entered between the third and fourth, or the fourth and fifth lumbar vertebrae, the needle kept in the horizontal position, close to the spines of the vertebrae, though not in the mid-line. An ordinary Quincke

needle, 18 bore, of nickeloid is used, following anaesthesia with one per cent novocain. The patient is in a sitting position. The serum is injected with a twenty cubic centimeter all-glass syringe, positive pressure being used. When properly performed this whole procedure is absolutely painless, and when pain is produced, it is a sign of faulty technique. The treatments are given at weekly intervals.

The indications for the use of the Swift-Ellis treatment are narrow. I agree with Stokes, Draper, Fordyce, and others, that it should be reserved for those cases which do not respond, as shown by examination of the spinal fluid, to the routine treatment of syphilis. The presence of a positive fluid does not indicate its use, until it is known that the fluid does not yield to energetic and proper systemic treatment.

It is generally accepted that neuro-syphilis begins in the meninges; therefore, the earlier this condition is recognized, the better the outlook for prompt and permanent cure. If spinal puncture is made on every case of syphilis before the case is discharged as cured detection is certain. When the laboratory examination of the spinal fluid reveals meningeal involvement, six months of intensive treatment should be tried before intra-spinal therapy is resorted to, but if the characteristics of the fluid have not shown marked improvement, the Swift-Ellis treatment is then the method of choice. At this early stage, symptoms and neurological signs are usually absent, and it is only too often difficult to hold these patients to a long and punishing

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

treatment. The intra-spinal treatments should be given in courses of eight, a week intervening between each treatment. At the end of such a course six weeks' or two months' rest is advisable. Two courses are the minimum, subsequent treatments depending on the examination of the spinal fluid. Neurosyphilis may remain in the meningeal stage for many years, but the lapse of time does not alter the rules of treatment, though the prognosis is more problematic.

Meningeal neurosyphilis is curable in ninety per cent of cases.

Cerebro-spinal syphilis should receive intra-spinal treatment promptly, and it should be continued until the laboratory and clinical signs have completely and permanently cleared. This type can be offered an excellent prognosis.

Vascular neurosyphilis is not very amenable to the Swift-Ellis treatment; by this, it is not meant that this type is not amenable to treatment, but that it will yield in a fair number of cases to intensive systematic treatment, without resort to intra-spinal treatment, and that the latter does not materially add to our therapeutic armament. Its use is not indicated unless the spinal fluid shows the changes indicative of an accompanying meningeal involvement. Tabetic neurosyphilis may be arrested and certain of the symptoms be relieved, but cure is not to be expected by this or any other known form of treatment. In clinical paresis it is my belief that the Swift-Ellis treatment should never be used, because it is certainly of no benefit, and is often actually harmful. I came to this conclusion many years ago, but have been persuaded by patients' family or physician to administer the treatment against my better judgment, and on each occasion my poor opinion of its value in this disease has been strengthened. The laboratory diagnosis of paresis should not be accepted without clinical evidence, and those cases of paresis which rest on a

laboratory diagnosis alone should have the advantage of this treatment, and are often cured.

If cases of neurosyphilis are to be cured with certainty, the diagnosis must be established early and treatment instituted at once. It follows that to accomplish this, spinal-puncture and examination of the fluid must be done before any case of known syphilis is discharged as cured; and that a negative diagnosis is not justifiable in any suspected case of syphilis without a laboratory examination of the spinal fluid. Such cases are in the hands of the specialist in syphilis and the general medical men, and it is to them we must look. The neurologist and psychiatrist are not likely to get good results by any form of treatment because these cases come to them only after the lapse of years, and after permanent damage has been done.

It must be borne in mind that mere spinal puncture with drainage will bring about a temporary clearing-up of the changes in the spinal fluid, but the relapse is prompt. It seems that the Swift-Ellis treatment following the drainage, will clear the fluid of its pathological changes and hold it clear. I am well aware that very disastrous results have been observed following intra-spinal therapy, but I am compelled to believe that this is due to some fault in technique, as in the course of over ten years, during which several hundreds of such treatments have been given, I have observed no alarming reaction and no bad results, with the possible exception of a few cases of paresis already mentioned.

To sum up, it is in the meningeal types that intra-spinal therapy has its greatest value and its least in the parenchymatous. It is useless to use it in established paresis: it may arrest tabes in its progress, but cannot cure it: vascular neurosyphilis gives rather poor results, and unless the spinal fluid shows the changes of an accompanying meningeal involvement the rationale of this particular form of therapy

is not evident. Cerebro-spinal syphilis, using the term in its restricted sense, usually offers a good outlook.

In conclusion, I feel that two facts can be stated as fairly certain: the Swift-Ellis treatment is indicated in narrow limitations in the treatment of neuro-syphilis; with the proper technique, it is not dangerous.

DISCUSSION.

Dr. Joseph Hume (New Orleans): Some one has said that in the acquisition of knowledge we go through three stages—first, the acquisition of the fact; second, the latent possession, and third, the conscious possession. Only recently our profession has had conscious possession of the clinical facts which underlie the understanding of nervous syphilis. These facts should be here woven into our consciousness, a part of our daily working capital, so that we may give these unfortunate patients correct treatment and save many off them from a state of invalidism. These facts therefore are about as follows: First, that any one who has syphilis may have nervous syphilis; second, that a blood Wassermann, whether positive or negative, is absolutely no indication of the conditions that obtain in the spinal fluid; third, that many people go around with nervous syphilis who present no external phenomena which we can recognize except by spinal puncture, and that the early diagnosis of nervous syphilis is essential in clearing up many of these cases which is unrecognized and untreated will later on become impossible to cure. Therefore, it is absolutely essential that to handle syphilis every patient should have spinal puncture done. What is the best time to do this in a case which you conduct from the beginning? It certainly should be done at the end of the year, better perhaps at the end of the first six months, but it should always be done before the patient is discharged as absolutely cured. Therefore we find a group of cases in which we have positive signs without any other findings whatsoever, and it is in these cases that the most active treatment should be instituted.

The next question in syphilis is what is the best kind of treatment for the individual case. These are essentially individual cases, each patient responds in his own personal manner to the disease and to the treatment, and therefore I believe these cases should first receive an active and intensive form of treatment. No one can afford to be dogmatic as to what constitutes intensive treatment, but it should consist at least of intravenous neosalvarsan, or mercury by needle or

inunction, and iodides. If these cases after four to eight or ten months show no improvement in spinal findings, it is time then to give them an intensive course, to consider the Swift-Ellis treatment. For over ten years Doctor Jamison and myself have co-operated in this treatment, and we have met with no bad effects, no accidents, and we have absolutely cleared up many of these cases and kept them cleared up for years. In other words, it is the best plan of treatment when all other methods are inadequate—by it we can reach every case of the types he mentions, and where intensive treatment does not show improvement in the spinal findings, I think the Swift-Ellis should be tried before the case is abandoned or hopeless.

Dr. I. L. Gordon (New Orleans): I do not want to say anything about Doctor Jamison's technique of the Swift-Ellis treatment, as he is an artist in giving that treatment, but I do want to say one or two words that will apply to the general practitioner, the men who are not as well fitted to accomplish the technique of the Swift-Ellis treatment as Doctor Jamison. Most of us who are trying to treat syphilis in clinics run upon people who have either neurosyphilis or meningeal syphilis. Most of us are not accomplished laboratory technicians. There is a very simple thing you can do if you are afraid to withdraw the blood and keep it for 24 hours and then introduce it into the spinal canal. Most of us can do a spinal puncture. After you have given your meningeal or neurosyphilitic his dose of salvarsan, wait one hour, and then do a cerebrospinal puncture under aseptic conditions. I want to agree with Doctor Jamison in the use of anesthesia in making a spinal puncture because a lot of people do it without any anesthesia, with the result that if the patient jumps they get spinal cord injury. We do it by withdrawing from 10 to 15 cc. of fluid and then wait one hour, and in that way you can increase the arsenical content of the spinal canal. If you are well trained, do the Swift-Ellis method, but if you are not, and you do not want to run the risk of keeping the fluid for 24 hours and then injecting it again, it is much better to do the simple method of puncture and drainage of the canal.

Dr. P. B. Salatich (New Orleans): I had a young woman that I delivered of a very much deformed fetus. I had a Wassermann taken in the father and also in the mother and they were both negative. I gave this patient some salvarsan and she seemed to get along all right, but after a while she came and said she had divorced this first husband and she was going to get married again. I said, "I think in all fairness to the man

you are going to marry you should have a spinal puncture made." Her blood Wassermann had been taken several times and was always negative. We made a spinal Wassermann and it came back positive. I then followed the idea of Doctor Gordon, and gave her salvarsan, withdrew from 15 to 30 cc. of the spinal fluid. I did that on two occasions and then six months after and one year afterwards the spinal Wassermann was negative. I arise for some information on this point I would like to know whether Doctor Jamison and Doctor Hume have had any experience along this line. This woman did not show any symptoms, she simply had a positive Wassermann.

Dr. J. H. Musser, Jr., (New Orleans): Two or three points I think need to be accentuated. In the first place the point Doctor Hume brought out—the necessity of making a routine spinal puncture in these patients with syphilis before you discharge them as cured. I think that is of primary importance.

The second point is that this method of treatment is certainly not only valueless, it is probably harmful in the treatment of parenchymatous and vascular neuro-syphilis. Its use is limited, but undoubtedly, as Doctor Jamison has said, it has value in some cases.

Doctor Gordon has brought out a point that is rather interesting in regard to the value of the Swift-Ellis treatment as contrasted with simple lumbar puncture. It is a question that is an open one. It happens that the cases we have had the opportunity of observing have been cases in which an attempt was made not to introduce salvarsanized serum into the canal, but simply to drain the canal. After all, when you put your serum into the canal, you are putting a very minute quantity of arsenic in and it is a question just how much effect that very minute quantity can have. On the other hand, by drainage of the canal, you permit the introduction through the systemic circulation of a relatively large amount of salvarsanized blood serum. It has always been a question whether it is necessary to withdraw the serum and then subsequently reintroduce it, or whether you would not get just as good effects simply from lumbar puncture and then administer the arsenic. At the University of Pennsylvania, the Swift-Ellis treatment was employed for a year. Then for the next three years the simple lumbar puncture and the associated injection of an arsenic preparation was the treatment employed. About a year ago the results were correlated and they showed that really there was not very much difference between the two methods of treatment.

Dr. J. B. Guthrie (New Orleans): The discussion has taken up a very interesting phase as

regards the mechanism of the therapy in the Swift-Ellis as compare with other methods of simple evacuation of cerebro-spinal fluid. In 1917, Herrick advocated strongly the abandonment of the salvarsanous route for the administration of serum and the administration through large doses of the serum intravenously. He did not recommend the abandonment—he was perfectly indifferent as to whether or not the injection was given intravenously. It was a matter of considerable importance then and at the meeting of the American Medical Association we discussed it. I had the good fortune to be associated for a period with Amos if the Rockefeller Institute and it brought to my mind the fact of the coffer dam action of the meningeal choroid plexus which prevents the diffusion of choroids into the cerebral spinal fluid. Any substance,—it matters not what,—any substance injected into the canal, cerebro-spinal fluid or drugs, sets up a meningitis which results in the destruction of this dam. I believe on further study of these cases that we are going to find that what has happened is that the injection given this week, the systolic treatment or even blood serum which is a foreign body—the treatment given today of the blood serum salvarsanized will result in meningitis which breaks down the meningeal choroid plexus and allows arsenic of the next treatment to diffuse itself more rapidly into the cerebro-spinal canal and its adnexa. I think we will find that is the explanation of what has happened in these various manipulations of the cerebro-spinal fluid and the effect of the intravenous injection of salvarsan.

Dr. H. P. Jones (New Orleans): I want to emphasize particularly the importance of what Doctor Jamison suggests in regard to the use of an anesthetic, not only for the comfort of the patient at the time, but very often these patients who have spinal puncture have nervous disturbances that may be a symptom of insanity and they remember that puncture as long as they live, and if they subsequently develop any violent attacks they blame you for it.

I have treated a great many cases of meningitis and one of the things that upsets me a great deal is to have the report come in that the pressure seems to be increased, or seems to be nil, or very low, without any actual measurement of the spinal pressure. This is an ordinary pressure manometer which contains mercury and this is connected with a needle. (Showing instrument.) The trouble is that it has a good deal of rubber that is apt to be vulcanized at the time, and as a matter of fact these machines are scarcely available unless you spend some hours to get them in order. So we are using at the Hospital this method; the patient lies on his side, the needle

is put in and next to that a small rubber tube about one tenth of an inch in diameter. That tube is raised or lowered until the spinal fluid rises or lowers. Then you take a rule and measure the distance from the point of the insertion of the needle perpendicularly to the height of the column of fluid. The height of the fluid in this tube will balance the pressure of the spinal canal. As the specific gravity of the cerebro-spinal fluid is normally from .006 to .1010, and the specific gravity of mercury is 1359, for every 13.59 cs. of fluid pressure you have in your tube, you have a 10 mm. pressure reading on the mercury manometer. This instrument can be sterilized and used at any time. It is exceedingly important to know your spinal pressure in any condition in which you make a spinal puncture. You should not try spinal puncture without knowing what the pressure is. The normal pressure is from 6 to 8 millimeters of mercury. If you have to give a meningococcic serum and do not know how much fluid to withdraw, all you have to do is to have a piece of rubber tubing say 8 to 10 cm. in length, attach it to your needle, let the fluid run out until it ceases to flow. Then you are in a safe position probably to make a spinal injection.

Dr. Chaille Jamison (closing): It was not the purpose of this paper to attempt to decide what was the proper method of treatment of cerebro-spinal syphilis. It was simply to lay before you the experience gained in ten years of work. Doctor Hume and I have been aware for years,—for many years, that drainage of the spinal canal once or twice without anything given in the veins at all, returned laboratory signs negative. It makes no difference whether you put anything in the veins before you do the drainage. I do not say it changes the Wassermann reaction, but it will change the cell count without any trouble. We had two cases that I remember in which before resort was made to the Swift-Ellis treatment, the patients were given salvarsan 25 times, and 25 times following that salvarsan the fluid was drained—the needle was put in and the fluid ran until it quit. It often runs to 50 to 60 cm. without any harm to the patient. The tube will not empty; even with suction it could not empty. One patient we gave the course of salvarsan in the veins and drainage afterwards, and then examined the spinal fluid after eight drainages and the fluid would be negative. This patient would come back in two months and his fluid would be positive again. That went on, and we began to think that we must do something. We found out for ourselves, (because the literature will tell you anything you want to find out on the subject)—we worked out for ourselves definitely that the only way we

could get that fluid negative and keep it negative was by using serum into the cord afterwards. We might have done as well with some other foreign protein. I am not at all convinced that it is necessary to have salvarsan in the serum. I am absolutely at a loss on the action of serum in such a condition. I am entirely at a loss on the administration of foreign protein. I cannot explain it—I have never been able to find an explanation.

Answering Doctor Salatich, as to our experience with the positive Wassermann. A positive Wassermann in the face of clinical signs we never accept. The Wassermann must be checked by at least two other workmen. The man who goes on one positive or negative Wassermann, that flies in the face of clinical signs will certainly get into trouble. As a general rule, a single positive Wassermann is very fallacious, no matter who does it.

I cannot agree with Doctor Jones as to the value of the manometer reading in this line of work. There again we have used every kind of mercury manometer that has ever been put out, and we have never found one on which you could not get any pressure you wanted. As we treat our patients in a sitting position, the method is not at all practical because in this position, the reading of the figures are not known. It is a well taken point that you must not increase the pressure of the spinal fluid, but we get around that by always withdrawing 25 cm. of cerebro spinal fluid, and we prefer to withdraw 40 to 50 cm.

FEAR.*

L. V. LOPEZ, M. D.

NEW ORLEANS.

The word fear has been variously defined as apprehension of approaching evil, danger or harm, solicitude, dread, terror. It is sometimes used in the sense of respect for and obedience to authority, especially as these take the form of awe and reverence toward the Deity with due regard to His law and word.

From the psychological and psychiatric standpoint fear is considered as one of the principal emotions. J. B. Watson defines an emotion as being "an hereditary pat-

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

tern reaction involving profound changes in the bodily mechanism as a whole, but particularly of the visceral and glandular system."

According to Watson, fear is an emotional reaction belonging to the original and fundamental nature of man.

Experimental psychology shows the following situations to excite fear responses:

(1) "To remove suddenly from an infant, all means of support, as when one drops it from the hands to be caught by an assistant. (In the experiment the child is held over a bed upon which has been placed a soft feather pillow.) (2) Loud sounds. (3) Occasionally when an infant is just falling asleep or is just ready to waken a sudden push or slight shake is an adequate stimulus. (4) When an infant is just falling asleep, occasionally the sudden pulling of the blanket upon which it is lying will produce the fear reactions.

"The responses are a sudden catching of the breath, clutching at random with the hands (the grasping reflex invariably appearing when the child is dropped) sudden closing of the eyelids, puckering of the lips, then crying; in older children possibly flight and hiding.

"In regard to the age at which fear responses first appear, Watson states he can say with sureness that the above mentioned group of reactions appear at birth."

There is a popular opinion that children are instinctively afraid in the dark. This is, however, erroneous. "When such reactions do appear it is due to other causes; darkness comes to be associated with absence of customary stimulation noises, light, etc., they should be looked upon as "Conditioned" fear reactions.

"We all know that it has been customary from time immemorial for children to have been "scared" in the dark—either unintentionally or as a means of controlling them.

"The fear reactions we see in the dark,

in grave yards, at night, at lightning, thunderstorms, and in many other definite situations, probably belong in the conditioned emotional reaction class. All of the definite phobias seen in the psychoneuroses where the phobia is due to a definite situation or object belong in this class." Such reactions are more numerous in individuals of the unstable emotional type, and especially among frontier and primitive peoples when every crackling of a twig or cry of an animal or shaking of a bough may be fraught with danger."

The effect of fear on the mind, is often, if unchecked, very disastrous especially where a disease is threatened or sickness present.

On emotionally unstable, psychopathic individuals the influence of fear is far more serious in its effect than the worst form of any dreaded malady. The terror inspired by certain epidemic diseases is often as fatal as the infection—paralyzing the system and robbing the body of the natural stability of its nervous system and the soul of the buoyancy of hope, making victims of those who from strength, age, and personality had the best probability of escaping!

Fear is one of the most potent mental poisons, antagonizing health and medicine, acting fatally in the morbid development of various forms of psychoses; and as *faith* has cured more diseases than we have ever prescribed for, so fear is more destructive than the worst somatic illness.

In the complex adjustments of our modern business world, the struggle for existence, especially in large congested monetary centres, contagion now and then breaks out in fright, which imperils the fortune and lives of individuals or a peoples' financial stability; just as a country's cause is sometimes lost through panic striking its armies in battle. It should be the duty of the physician, teacher, moralist, and sociologist to study thoroughly fear in all its manifestations in order that it may be controlled

and eradicated in the individual and in society at large.

According to Wm. McDougall the instinct to flee from danger is stimulated by the emotion fear. Upon the excitement of the instinct of flight the locomotor apparatus of an individual is impelled to its utmost exertion and sometimes the intensity and long duration of these exertions is more than visceral organs can stand so that they are terminated by either exhaustion or death. It is a well known fact that when any of us are confronted with danger or are in a precarious position we have achieved some extraordinary feat of either leaping or running to escape the danger. I can recall when I was a child of being in danger and when threatened to be bitten by a horse I leaped over the front steps of my uncle's home to safety on the porch. Numerous subsequent attempts to "clear" the distance in the leap proved futile.

Terror is the term given to the most intense degree of fear and it may involve so great a nervous disturbance as to defeat the ends of the instinct of flight by inducing general convulsions or even death. In certain psychoses the patients' disorder seems to consist essentially in an abnormal excitability of this instinct and a consequent undue frequency and intensity of its operation; the patient lives perpetually in fear, shrinking in terror from the most harmless animal or at the least unusual sound and surrounds himself with safeguards against impossible or imaginary dangers.

Flight is followed by concealment as soon as cover is reached. In primitive man this double tendency no doubt existed. We know that as soon as a little child can run his fear expresses itself in concealment following on flight; and the many adults who seek refuge from the strange noises of a dark night or from a thunderstorm, by covering their heads with the bed clothes, and who find quite

irrational comfort in so doing, illustrates the persistence of this tendency.

McDougall states that it is perhaps in the opposed characters of these two tendencies, both of which are bound up with the emotion fear, that we may find an explanation of the great variety of, and variability of the symptoms of fear.

The sudden stopping of the heart beat and respiration, and the paralysis of movement in which it sometimes finds expression are due to the impulse of *concealment*; the hurried respiration and pulse, frantic bodily efforts by which it is more commonly expressed, are due to the impulse of flight.

We are all, no doubt, familiar with the fact that it is not necessary for an intelligent appreciation or anticipation of danger to exist to excite fear. This can be readily demonstrated by a friend or parent inducing symptoms of fear in a child 4-5 years of age by making facial contortions or playful roarings. A child may exhibit every symptom of fear even while he sit upon his tormentor's lap and with an arm about his neck begs him to cease or to promise not to do it again. We all have seen many a child thrown into a paroxysm of terror by the approach of some hideous or grotesque figure that he knew to be but one of his playmates in disguise.

"Of all the excitants of this instinct, the most interesting and the most difficult to understand as regards its mode of operation is the unfamiliar or strange as such. Whatever is totally strange, or violently opposed to the accustomed and familiar is apt to excite fear in men and animals, if only it is capable of attracting their attention.

"This avenue to the instinct, the unfamiliar, becomes in man highly diversified and intellectualized and it is owing to this that he feels fear before the mysterious, the uncanny, the occult and the su-

pernatural, and that fear entering as an element into the complex emotions of awe and reverence, plays its part in all religions."

Fear, whether its impulse be to flight or concealment is characterized by the fact that its excitement, more than any other instinct, tends to bring to an end at once all other mental activity, riveting the attention upon its object to the exclusion of all others; owing, probably to this extreme concentration of attention, as well as the violence of the emotion, the excitement of this instinct makes a deep and lasting impression on the mind. A gust of anger, a move of pity or of tender emotion, an impulse of curiosity, may co-operate in supporting and re-enforcing mental activities of the most varied kinds, or may dominate the mind for a time and then pass away, leaving but little trace. But fear, once roused, haunts the mind; it comes back alike in dreams and in waking life bringing with it vivid memories of the terrifying impression. It is thus the great inhibitor of action both present and future, and becomes in primitive human societies the great agent of social discipline through which men are led to the habit of control of the egoistic impulses.

From a therapeutic standpoint we as physicians should carefully seek the cause of any symptoms of fear, anguish, phobia, dread, terror, anxious expectation, "Folie du doute," etc., in our patients and endeavor to eradicate this fear whenever it exists by proper analysis, rationalization, persuasion and re-education. The usual manifestations of fear, the psychiatrist has to contend with, are those seen in anxiety neurosis.

Anxiety is the correlative of fear. While fear, is the emotion which corresponds to a danger threatening the organism from outside, anxiety corresponds to a danger which threatens the organism from within.

According to Freud there develops two groups of typical phobias in anxiety neurosis, the first refers to the general physiological neuroses, while the second refers to locomotion. To the first group belong the fear for snakes, thunderstorms, vermin, darkness, etc., as well as the typical moral over-scrupulousness, and the forms of doubting mania.

"The other group contains agarophobia with all its accessory forms, all of which are characterized by their relation to locomotion. As a determination of the phobia we frequently find a precedent attack of vertigo. Occasionally, after a first attack of vertigo without fear, we see that the locomotion is always accompanied by the sensation of vertigo, it remains possible without any restrictions, but as soon as fear attached itself to the attack of vertigo, locomotion fails, under the conditions of being alone, narrow streets, etc."

The physician or surgeon who comes in contact with any patient exhibiting symptoms of fear, no matter how slight, would do well carefully to analyze these symptoms as he would any somatic symptoms or physical sign of disease.

Of course, in mental medicine as well as in general medicine, it is pragmatic to say prevention is greater than cure. Let us then study our patients more carefully, taking the individual as a whole unit better fitting him to adjust himself in an environment best suited for his welfare, happiness and health.

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DISCUSSION

Dr. W. J. Otis (New Orleans): In discussing the mechanism of fear, the endocrines play an active part. While there is a correlation of all glands, the adrenals are the ones most actively engaged in this mechanism. I speak now from a biochemical standpoint. Certain types, like the

pugnacious and fearless, have a larger cortex in relation to medulla of the adrenal. The timid and meek have less cortex and more medulla. On this ratio, much depends as to reactions to fear. These types may be called the fearless and charging, fleeting and fearful. The adrenals are well termed the glands of emergencies.

Another type of fear is the prevalent one of dying. The fear of death weighed against the weariness or pain of life. As regards this, much depends on one's philosophical and religious ideas on life and death, but much depends also on age, aims in life, aspirations, surroundings, means, opportunities and (power of) enjoyment and last, but not least, his present bodily and mental state of health.

The fear that the neuro-psychiatrist has to deal with is that fear which together with the twin sister, ignorance, leaves its impression, for wherever a lack of understanding exists, wherever phenomena are enveloped in mystery, wherever the source of events is unknown,—there we find fear. Badly handled compulsions, obsessions and ideas with fear as the main factor, always results in a neurosis, phychosis or psychoneurosis. It should be the purpose of not only the neuro-psychiatrist, but also of the teacher, general practitioner, social worker and those most interested in puericulture to aid to a better intellectual foundation in early childhood. Whenever compulsory education is really compulsory, and not a travesty as in many states, where the proper and healthier methods of understanding could be inculcated thereby preventing many adolescent and pre-adolescent nervous diseases which eventually, in many cases, grow up only to become mental hospital subjects or patients in homes for mental defectives and reform schools,—this will tend to improve conditions.

Dr. Edmund McConnelly (New Orleans): Doctor Lopez has said that fear is one of the most potent poisons we have to deal with. We are all familiar with the example he cites, but I think I will go farther and say that fear is probably one of the greatest causes of disease that we have. It springs primarily from our instinct of self preservation, which is of course a primary instinct. It frequently comes in conflict with our herd instinct, which is one of the strongest of the developed instincts, and therefore it is apt to be a great psychic trauma, which forms the basis for a great mass of phobias, all of which go into the formation of a psychoneurosis. The trauma may be deeply buried, it may have occurred in early childhood and be most difficult to bring out.

We are all familiar with the mass hysteria that is caused by fear, great financial panics, during epidemics of disease in which the fears of the people become exaggerated to an unreasonable degree. All of these cases, as Doctor Otis says, are the twin sisters of ignorance. Our method of handling them is to explain them away, but the difficult thing is to find out what to explain.

Dr. J. B. Guthrie (New Orleans): The neuro-psychiatrist seems to stand apart from us in life, and we send him cases for special care, but because we temporize with them and give drugs and bromides and all that sort of thing, we do not realize that there is a very positive work that may be done along the line he suggests. If we translate the word "fear" into a sensation or an emotion, we find it is one of the normal reactions—an endocrine cycle is started, the production of substances which normally are used up, but which under abnormal conditions are there in quantity and are positively toxic to the individual. These are the things we see every day in patients who are suffering from excess of emotions of one sort or another. If we will quietly sit down with these people and let them tell their story, very often we do not need to be expert psychoanalysts to find out what is the trouble, and once we find out, we can usually very easily save them from their slavery, and slavery it is. I recall very well a woman who had two splendid sons, one in business and one in the Navy, naturally both were away from home, and she spent her time weeping and bemoaning the fact that her boys were separated from her and from each other. They gave her no cause for anxiety, except that they were not within her reach. This woman's digestion was impaired, she could not sleep or eat normally, and her life was miserable. I called attention to the fact that her worrying was out of proportion to the facts, that if the boys were dead she could not have wept more. I simply showed her the futility of all of this and what damage results from futile emotions. She grasped it herself, she made up her mind to refrain from this useless emotion, and without any medicine whatever she was straightened out, she went ahead and carried on and from that moment was well.

These patients are within our reach and we must teach them to bring about a normal reaction to the emotion, or to restrain the emotion,—to switch it into some other channel, that may be productive of a proper reaction.

Dr. L. L. Cazenavette (New Orleans): The subject, fear, has been well brought out by Doctor Lopez and by those who have preceded me

in this discussion. I rise to bring out a point I think of importance in the handling of patients with such symptoms. It is somewhat in the order of what the last speaker has said. The majority of these patients may be classified in the group of psychoneuroses. They have a lowered capacity to adapt themselves to their surroundings. They face realities with difficulty and worry over trivialities which to them appear very serious. From these frequent worries and anxieties they finally enter the state of fear, from which they seek relief. I believe that we should give these patients the time they demand while relating their symptoms and troubles. We should guide them as they go along and have them, if possible, to disclose the hidden cause or causes of their fears. Listen attentively to them as they look upon you as a doctor and advisor. You will thereby gain their confidence which is your greatest asset towards their relief or cure. A word of advice from you now will be worth a great deal to the patient.

Dr. T. B. Sellers, (New Orleans): Fear is of interest to the surgeon. Crile has proven that psychic shock plays a great part in producing the so-called surgical shock, following operative work. He advised strongly against operating upon any patient that is frightened, unless it is an emergency. Much can be accomplished by patience, on the part of the surgeon. A few minutes spent by him explaining certain things to the patient, and at the same time letting the patient feel that the surgeon has a heart, will do a great deal to overcome this horrible fear.

I want to congratulate Dr. Lopez on presenting this most instructive paper.

SARCOMA OF NASO-PHARYNX*

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In presenting this paper before the general assembly today my subject would have perhaps been more interesting to the specialist than to you, but because the general practitioner will probably see the majority of these cases first, and as the result of treatment, may depend upon an early diagnosis, I wish to impress upon you the necessity of a careful personal history and an early consultation.

To me the chapter on sarcoma of the naso-pharynx is one of the darkest and gloomiest in otolaryngologic literature. I have chosen as my subject Sarcoma of the Naso-pharynx as my remarks and report of cases will be confined entirely to that condition.

The literature on this subject is extensive but very little of curative measures has been added to our present knowledge. Few cases have been reported as cured and I believe that the majority of these if followed to their final result would show a hasty conclusion drawn by the author, and a final analysis would show that death was the ultimate outcome. Misleading reports of cures, intentional or otherwise, do not benefit these patients nor the surgeons; rather let us report our failures so that others may carry on the fight and thus by learning how we fail, perchance may evolve eventually a method of procedure more applicable and more suitable which will give better results.

Pessimism does not stimulate us to harder work, and does not add one bit to our armamentarium in the treatment of this condition, but my results have been so unfortunate as to destroy every bit of optimism.

I am convinced that if reporters of malignant diseases will report only the end results of their treatment, or if erroneously reported will correct with an amended report, they will go a long way in the progress and assistance of those societies organized for the control of malignant diseases.

I do not intend to go into the pathology of sarcoma except in so far as it has some bearing upon the symptoms and course of the following cases to be reported.

Sarcoma has its origin in the deep connective tissue, periosteum and bone, and spreads toward mucous surface first, later infiltrating bone. The majority of sarcomas are soft and very vascular because

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

they tend to grow extensively upon a scaffolding of new blood vessels rather than to infiltrate pre-existing tissues as do carcinoma. The vascularity reveals to the eye the prominence of blood vessels as an essential part of the growth and accounts for the most prominent symptom; spontaneous hemorrhage. The growth is usually rapid and locally destructive. Sarcomatous tissue is very susceptible to infection, accordingly fever is often observed throughout the course of malignant sarcomas, though in some instances it appears to arise from the toxemia and not from infection.

Case 1. History. Patient, woman of 30, complains of inability to breathe through the nose and severe spontaneous hemorrhage. P. I. began two years ago. Patient states she was struck on the nose with a piece of wood with severe hemorrhage following, lasting for three days off and on. This soon got well but she continued to bleed every month for several months. She next noticed some stuffiness of the nose about six months after the injury but attributed this to a bad cold so did not investigate it. This continued to grow worse, however, until she was unable to breathe through her nose at all. There was also present a muco-purulent discharge. Without any warning whatever her nose would start to bleed profusely and would continue to do so for sometime. Often while asleep she would be awakened with blood running into her mouth. There was no pain whatever but a feeling of fullness in the head and stuffiness in the ears due to nasal obstruction. She went to another city and the growth was removed with a great deal of difficulty, and severe hemorrhage, from which she nearly died. She states that this was diagnosed as a bleeding polyp, and that the operation allowed her to breathe freely, but in less than three months the same nasal obstruction was present again. She was operated the second time but with very little relief, the operation not being completed because of the severe hemorrhage. She was seen again by a surgeon who refused to operate. Three years after the beginning of the trouble she came to my office.

P. H. Shows nothing of importance. Had the usual diseases of childhood. No other diseases. Denies venereal history. Has never been pregnant.

F. H. Mother and father living and well. No brother or sister. No history of malignancy in family.

Examination: External—Nose flat across the bridge and somewhat sunken in. At entrance of nares can be seen a dark bluish growth. Palpation elicited some pain at junction of right nasal bone with nasal spine. Also there is separation of the two bones about 1-8". On pressure this bone gives showing of lack of support with its former attachment, the naso spine. On the left side there is some slight separation of the same bones. Inspection of nasal fossae. The right side shows a dark bluish growth divided into three lobes covered with apparently normal epithelium. The nasal fossa is entirely filled up. There is also present a muco-purulent discharge pulsating in character though the growth itself does not seem to pulsate. The left side shows the same character of growth divided into two lobes. The growth is very muscular, the slightest pressure causing severe hemorrhage. The stretching of alae of the nose caused severe hemorrhage from the right side so that the complete examination was very difficult. I was able to pass a probe around the growth except at its posterior attachment and along the floor of the nasal fossae.

Trans-illumination showed both antri clear and frontals clear. Post. rhinoscopic examination showed both posterior channels closed with a large growth. There was apparently no ulceration of this growth any where.

X-ray examination confirmed previous examinations and seemed to indicate that the growth had its origin from the posterior end of the middle turbinate on each side, though it was impossible to determine this fact positively.

General examination was made and showed pulse of 120. Temp. 99½. Patient complained of pain around the heart which showed weakness of heart sounds with slight dilatation. No evidence of metastases anywhere. Lungs negative. Kidneys negative. Symptoms,—inability to breathe through nose, stuffy feeling in both ears and fullness over the eyes. Spontaneous and severe hemorrhage almost uncontrollable. No pain at all except on very deep pressure over bridge of nose.

General symptoms: Temp. 99 to 100. Pulse 120-130. Feeling of general weakness. Pain around heart and some shortness of breath. Blood examination 3,500,000 reds. Leukocyte 17,000. Differential Polys 79%. Large Mononuclears 3%. Lymphocytes 18%. Hemoglobin 65%.

Considering the character of the growth, the general condition of the patient, the tendency to hemorrhage, the already rather low hemoglobin per cent, she did not appeal to me as a good operative risk, but I decided to attempt to give her relief, knowing full well the risk I ran of uncontrollable hemorrhage.

Treatment: I decided to use Fulguration on the growth, and wait twelve hours before doing anything further. This was accordingly carried out and much to my surprise and pleasure I found that I was able to manipulate around the growth shortly after this was done without causing bleeding at all.

The next morning from the left side I removed the middle turbinate with about two-thirds of the entire growth, with very moderate hemorrhage. The following day I removed the remainder leaving a clear open passage. The other side was done in the same manner. I was very much pleased that this method of procedure caused so little hemorrhage for I had expected to have a difficult time of it.

I had intended using both radium and Coley's serum on this patient but she has not returned to me yet, though I am expecting her to turn up most any day. Therefore I cannot tell you the end result of this case, but of course unless the condition is controlled with the X-ray and Coley's serum it is sure to return and cause her death.

There are some other unusual features of this case to which I would like to call your attention. First, the slow growth of the sarcoma, extending over a period of three years; the apparent absence of any metastases during that period; the slow infiltration into the surrounding tissues even though operated twice before, which is known to act as a stimulus to many cases of malignancy.

Pathological report: Section shows supplanting and crowding back all normal elements, by active small spindle celled growth invading the bone. Superficially there is tissue resembling nasal mucosa. The structure of the growth is that of periosteal sarcoma. Diagnosis: Small spindle celled sarcoma of the periosteum. Second, the absence of pain, notwithstanding the marked infiltration of the bone and tissues; the severe spontaneous hemorrhage; the symmetrical character of the growth, bilateral and originating from the periosteum of the post ends of the middle turbinate.

This patient received one application of radium and never returned for further treatment. End result unknown.

Case 2. Mr. Barrett. Age 62. Occupation, farmer. Personal history. Was sent to me by family physician because of deafness in left ear, headache over parietal region of head. He first noticed this about one month ago when he became aware of the fact that he could not hear very well in the left ear. Did not pay much attention to this until he began to have headache over the left side of his head, when he then sought treatment. At times there had been slight bleeding on blowing his nose, particularly in the morning. Otherwise no inconvenience. Having been deaf in the right ear for several years he was very anxious about the impaired hearing in the left ear which was progressing slowly.

Usual diseases of childhood. Nothing bearing on present trouble. Denies venereal infection. Does not use tobacco in any form. Has always been well and strong.

No history of cancer, tuberculosis or kidney trouble in his family that he is aware of.

Examination: Well preserved man of about 62 years, active in his work of farming and always well. Necessary to speak close to his ears and in a loud voice to be heard distinctly. Head no evidence of trouble. Left ear canal normal, drum apparently normal, no inflammation. Right ear canal normal, drum apparently normal, no inflammation. Teeth, all removed. Tonsils, small flat, and a small amount of mucus. Nose, nasal passage right, negative. Left, negative in anterior part. Posteriorly there seemed to be some fullness in region of middle turbinate. Breathed freely through both passages. Holmes pharyngoscope—Right, negative. Left shows small elevation between the posterior tip of middle turbinate running to just above the Eustacian tube. This is dark bluish in color with an area of congested mucosa around same. There is no ulceration though the overlying mucosa is rough and velvety in appearance and bleeds easily on being touched. The Eustacian tube is closed and mucosa swollen.

Considering the size of the growth it was thought advisable to attempt removal and follow with radium if it proved to be malignant.

On June 9th. under ether anesthesia the left middle turbinate was completely removed and with some difficulty the whole growth, as near as it could be determined was removed. Frozen section showed this to be small spindle celled sarcoma arising from periosteum.

Later he was advised as to the nature of the trouble and of the necessity of having radium

applications made. One week after operation, radium was applied in the following dosage: 100 mgm for 5 hours.

One week later this was repeated. He was allowed to go home and report in one week for another treatment. At this time there was absence of any growth and apparently a complete return to normal. At the end of that time he wrote me he was feeling fine and had a lot of work to do and would not return immediately. I wrote him to return as soon as possible for further treatment. A few days later I went on my vacation and returning some three weeks later I found he had not been back for treatment, and wrote him again urging the necessity for his returning. Three months later he came to my office about the first week in November complaining of severe pain in the head, left ear and free expiratory at times. Examination showed the left posterior nasal passage filled with a growth and the whole left posterior space occluded. The left auditory canal showed a dark mass filling the canal to within $\frac{1}{2}$ in. of the meatus. Any manipulation within the passage caused free bleeding. Radium was applied by means of needles in the mass at various points as follows: 60 mgm. for 6 hours in various locations in the mass.

This application was made one week later. He returned in three days showing a severe radium burn involving pharynx, pillars of fauces and soft palate. About this time there appeared an enlarged lymphatic gland just below the angle of jaw on the opposite side of the neck. He was given Coley's fluid and X-ray, without improvement. Numerous enlarged glands appeared in the neck and down in the supra-clavicular fossa on the right side. The left side showed gradual glandular involvement from the supra-clavicular orifice up the neck to the mastoid. These glands soon became as large as hen's eggs. The patient now began to have fainting spells in which his heart action was very weak, and he gradually grew weaker and weaker and died February 14, 1924.

Remarks: It seemed that the second application of radium after an apparent cure added fuel to the fire as the progress of the growth became very rapid and metastases occurred quickly. I had felt very hopeful that this case would get well or at least that progress of the growth would be delayed, but radium had apparently just the opposite effect.

Case 3. John L. Male, Age 48. C. C., Patient came to see me because of some impairment of hearing in the left ear, buzzing, ringing and a feeling of fullness in the ear, also would blow

out small amounts of blood from the left nasal passage now and then. P. I. Began to have some trouble with his hearing four months ago but gave no particular attention to this until the loud buzzing and ringing began about two weeks ago, and lately some slight bloody discharge from the nose. Otherwise has not felt anything else such as pain, headache, etc. P. H. Shows nothing of importance. F. H. Negative. No malignancy in family. Examination,—left ear drum slightly retracted. Otherwise negative. Nose external negative. Internal nothing definite, could be seen on anterior examination with Holmes pharyngoscope passed through left side lens was immediately covered with blood and nothing could be seen. After further cleansing of nose and waiting a few minutes I passed the pharyngoscope through the right nasal passage and was able to make out a faint small bluish nodule with macroscopic veins on its surface occupying the space between the posterior tip of the inferior turbinate and the mouth of the Eustavian tube, encroaching on the tube. A good deal of swelling and congestion around the tube. The slightest touch of the probe and there was immediate bleeding which stopped, however, immediately. Apparently there was no ulceration of the growth nor was it very large and only for its location would probably have given no trouble other than some slight nasal bleeding on blowing of the nose.

Further examination of the sinuses and nasal passages were negative in every respect. There was no pain at any time nor did physical examination of the patient show any other organic lesion. The patient was well nourished, perfectly fit and strong with no idea that anything serious could be present.

Treatment: Feeling that this was an ideal case for the use of radium and that if there was any virtue in its use that surely here I would register a cure, I proceeded with its application in a most hopeful frame of mind.

With some little difficulty I managed to get four needles of radium each needle containing 10 Mgms. of radium making in all 40 Mgms. in to the ends and the middle of the growth. This remained in place six hours, was repeated again on the fourth day and again on the ninth. On the twelfth day the growth was about one-half the previous size and thus encouraged, I repeated the dose on the sixteenth day. Examination one week later showed no evidence of the growth but by means of a special holder I applied radium in a flat receptacle where the growth was original. There was entire disappearance of the

growth at this time. Two weeks later examination showed the same condition. The hearing had improved and the tinnitus was subsiding rapidly. Feeling that he was getting well rapidly the patient decided to take a vacation unknown to me. At the end of about three months he reappeared in my office with the same symptoms.

Examination now showed a much larger tumor in the same area previously found, bleeding freely and with almost complete deafness in that ear.

Radium was again resorted to with apparently the same result as in the preceding case, apparent stimulation of the growth and rapid progress. About one week later a large gland appeared under the angle of the jaw on the left side. The opposite side soon became involved. General lymphatic enlargement in neck, clavicular region, axilla followed and death in a few days from metastases in mediastinum.

Case 4. A Chinaman, Aged 50. Presented about the same clinical picture as the above as to his early condition and whose growth disappeared under radium. This patient did not return to me and the end result is not known. At the time of his disappearance he was apparently well. However, my faith has been shattered in these apparent cures and I dare say he went the way of all my cases.

Case 5. Female, Age 12. C. C. Large swollen glands in post-cervical chain and under jaws both sides. Much pain on moving head on account of these glands. Epistaxis severe at times. Inability to breathe through nose. P. H. Measles, pertussis. One year ago fell striking nose against brick. F. H. Negative. Examination—Shows a thin emaciated girl holding head stiffly erect, walking carefully and with extreme rigidity. Two large and swollen glands of the post-cervical group on each side and one large gland about the size of a hen egg under angle of jaw on both sides and causing a great deal of pain. Examination of nose showed both nasal passages completely blocked about half way back with a dark bluish growth. A great deal of muco-purulent discharge on and around the growth with an offensive odor. The lightest touch of the probe caused free bleeding and it was with some difficulty that I could examine this growth, but as far as I was able, concluded the origin was in the naso-pharynx. Examination orally showed the soft palate depressed and the naso-pharynx completely filled.

Bleeding was free at all times and the examination had to be made at intervals. The patient would bleed at any time, frequently would be

awakened at night with a hemorrhage and it was with difficulty that it was controlled.

P. I. Began one year ago with small hemorrhage from the nose and mouth. No attention was paid to this as it was felt by the parents that this was the usual nose bleed of children and did not call for an examination. She later began to have some difficulty in breathing and the parents were casually told that the child probably had adenoids and to have them removed which they intended having done at some convenient time. Not until nasal breathing was almost gone and the small lumps appeared in the neck was a physician seen again and still nothing was done except a nasal spray given. Progress was very rapid and when I finally saw her there was no hope for relief.

Treatment: Was directed toward the relief of pain and control of hemorrhage. Coley's fluid was given in small doses with severe reaction, and X-ray treatments. Radium needless applied within the nose in the growth with much improvement in the size and the hemorrhage. The patient died however in a very short time from general infection. Pathologic report: Small round cell sarcoma.

Case 6. Female, Aged 50. C. C. Nasal hemorrhage severe at time. P. I. Began two months ago. Has had several attacks of epistaxis brought on usually by blowing the nose. Occasionally is spontaneous. No pain but stopping of nose. P. H. Usual diseases of childhood. No other trouble. F. H. Negative. Examination: Far back near the posterior tip of the left inferior turbinate was seen a small vascular growth which bled rather freely upon manipulation. Thinking this might be an angioma I removed it and most of the turbinate with scissors and snare, then cauterized the exposed area thoroughly. Pathological report: Fibro Sarcoma. Result, patient has had no return of the growth in over one year. She is still under observation and will continue so for at least two more years. Fibro-sarcoma not being very malignant yields very nicely to radium and many cures have been reported of this condition.

With the exception of this case, the other five cases, three definitely and the other two as far as could be determined, had their origin in the naso-pharynx and in two instances progressed forward to fill the posterior nasal chambers.

In the early cases, depending on its location near the orifice of the Eustacian tube symptoms consist of impaired hearing,

tinitus and spontaneous hemorrhage, the most prominent of which is the last.

Later there develops pain on that side, increasing deafness and enlargement of the lymphatic glands, aural discharge, stuffy obstructed breathing through the nose; repeated epistaxis always demands a thorough nasal examination in all cases regardless of whether it appears harmless or not.

Treatment: In two cases, mainly surgical, followed by radium, x-ray and Coley's fluid.

In three cases radium and Coley's fluid alone was used.

From a study of the literature it seems apparent that radium gives us our best chance to improve these patients. Many striking examples of a rapid disappearance of the growth following the application of radium, and apparently all traces of malignancy have disappeared, only to reappear in the course of a few months and progress rapidly to a fatal termination despite the frequent use of radium repeated. In fact the second application seems to stimulate the growth rather than to inhibit.

Dr. James C. Beck in a careful analysis of a large group of malignant cases of all descriptions and with various forms of treatment such as X-ray, radium, fulguration, autolytic solutions in connection with surgery and chemical agents such as Colloidal, Copper, Silver, and Eosin compounds, says in his conclusions. "I fully realize the greatness of X-ray and radium as to the possibility of curing malignant diseases, but it has not fully demonstrated its value."

Dr. Dighton in the British Journal of Surgery says "In Sarcoma of naso-pharynx all methods of treatment have been tried and many operations invented with but little if any success.

In conclusion I wish to say that I fully realize that I have added nothing to the treatment of sarcoma of the naso-pharynx, but I hope that this paper will serve to impress upon you the necessity of an early diagnosis, for it is upon this that our hope for a cure will largely depend.

I will feel amply repaid if in the discussion my own short comings in the management of these cases is brought out, and I earnestly desire to learn from you who have perhaps had more successful results in the treatment of these cases. As for me the utter hopelessness of these cases when I see them has been indelibly impressed upon my mind.

Broad shouldered, sturdy limbed, superbly made;

Conscious of power and unrestrained grace;
Accustomed confidence upon his face;

Magnificent, untroubled, unafraid,

He came. It was so small a thing. He made

A jest of it—a tiny crimson stain

Upon his handkerchief. And in disdain

Spoke of so slight a trouble thus displayed.

Too late he came, Sarcoma—with a sigh

Stifled, I put away the instrument,

Shuffling my customed things the while,

I bent

My head to hide the pity that my eye

Would have betrayed. Knowing that soon
the high

Courage of him must fail—down the long
aisle

Of suffering he'd go—constrained the
while

"To droop, to dream a little, and to die."

Unvisioned yet, but waiting to be found

Some hidden light will rift the solemn
gloom

That hitherto has mocked the most re-
nowned.

And we who helpless stand and read men's
doom,

Some day with wider knowledge will apply

A cure, while now we only watch them die.

MAJOR DEFECTS, EYE, EAR, NOSE
AND THROAT AS SEEN BY THE
MEMPHIS MARINE RECRUIT-
ING STATION*

ROBIN HARRIS, M. D.,
MEMPHIS, TENN.

In studying the statistics of the Marine Recruiting station in Memphis for a twelve month period one is struck by the astonishing percentage of rejections that are made on abnormalities of the Eye, Ear, Nose and Throat. A Medical officer is in charge of the examination work, and the examinations are far more thorough than most examinations for life insurance. The applicant is stripped entirely and a thorough inspection is made of the skin, general contour, shape, size, proportion of various parts, symmetry and so forth. Then the examination is taken up, each part separately, and a great deal of care is exercised. We have never made the examinations, but in order to get the true facts in the case for a Parent-Teachers Association meeting, we have observed the work carried on.

Rejections are made on the major defect, that is, the abnormality that would handicap a soldier most is given as the cause of rejection. Mention is made of any minor ailments so that a man may be given an opportunity to clear his physical condition, if possible, and return for another examination. It seems a rather good class of men apply for Marine Service, and they often are operated on after finding that the physical condition is not sufficiently good to enter then, and return later.

During the year of 1921 five-hundred and nineteen men applied for Marine Service at the Memphis Station. One hundred and twenty-eight were passed and three hundred and ninety-one were rejected; over seventy-five per cent of re-

jections. Forty-five or nine per cent of rejections were made on eye defects as major defects. Fourteen or two and seven-tenths per cent were rejected on ear defects. Three or one half of one per cent were made on nasal deficiencies. Tonsils and adenoid disease combined with underweight totaled one hundred and forty-five or twenty-eight per cent of rejections. In 1924 three hundred and seventy-nine applicants were rejected at this station. Fifty-two or thirteen and seventy-two one hundredths per cent were rejected on eye abnormalities. Ear diseases caused a rejection of seventeen or four and forty-eight one hundredths per cent. This data for 1924 came on hurry request from Washington and the nose and throat figures were left out supposedly (on my part) because "underweight" was so mixed with this bit of information that it could not be hurriedly separated.

From the 1921 figures we are led to believe that the nose is not as carefully examined as the eyes, or ears, or throat. We see a much greater percentage of sinus disease alone in the ex-service men than one-half of one per cent. I am led to believe this because there are several hundred sinus operations annually at the U. S. Veterans Hospital No. 88 and it is a three-hundred bed hospital.

The above are listed as major defects and forty per cent of rejections in 1921 were made on diseases, deficiencies, abnormalities of the eye, ear, nose and throat. And the examining doctor tells me that most of these abnormalities in these particular organs are largely correctable during childhood. This may be done by co-operation of parents, teachers, and family doctors. Parents should be taught that it is most necessary to induce the child from infancy up to keep the mouth closed and to breathe through the nose even if obstruction exists in the form of temporary swelling of the nasal mucosa. This we always have in acute cold.

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

Breathing through the nose will prevent excessive growth of adenoid tissue and at the same time enlargement and infection of the tonsils; the former by the positive and negative air pressure of expiration and inspiration, the latter by keeping the unwarmed, dust-laden air from passing directly into this area. This latter produces dryness and congestion of the throat, permanently enlarging the tonsils. No effort on the part of the chest muscles is required to get the air into the lungs by this route and the chest becomes more or less undeveloped, then the lungs are not well aerated, especially at the apices. The negative pressure of inspiration causes less blood to be sucked into the lungs. Air entering the lungs is cold, unmoistened, and the lining membrane is predisposed to inflammation. This is a part of the vicious circle that results, and I mention it because over thirty per cent of the above studied rejected men suffered in this way.

In this connection I might say that the Army Recruiting Station in Memphis rejected seventeen and one-half per cent on eye, ear, nose and throat defects. This station has no medical officer. A Medical Department Sergeant makes the examinations, and he tells me that a great many that he passes on are rejected after reaching a station where there is a medical officer. For the whole corps area over twelve per cent were turned down on defects of the organs in question after having an examination by a medical officer. This makes an approximate total of thirty per cent for the Army. Some get by even at that. Now we are having thousands in the U. S. Veterans Hospitals, and many more thousands drawing compensation for defects that existed prior to entrance into the Army or Navy Service.

An article under "Current Comment" appeared in the Journal of the American Medical Association, issued January 17, 1925, on this subject. The statement is made that twenty-nine per cent of rejections were made by the Draft Boards of

certain cities during the World War. We all know that many defectives were taken. This article gives the largest percentage as rejected on unacceptable conditions of the eyes, this percentage was six. In the same article mention is made of a recent U. S. Public Health Service examination of one thousand school children, aged six to sixteen. Only ten per cent of these little fellows had rather poor vision in one or both eyes. What is considered poor vision is not stated, but a man must have twenty-fortieths in each eye to enter the Army and twenty-thirtieths in each eye to enter the Marines.

A great deal of talk is heard of periodic health examinations. Dr. W. D. Haggard, President-Elect of the American Medical Association, made his address at the recent meeting of this body, on this subject. Frequent examinations of everyone, but especially children should be carried out. Let's do it without talking about State Medicine.

DISCUSSION.

Dr. Lon W. Dotson (West Point)): The paper of Doctor Harris is very interesting from the standpoint of statistics. The striking part of the paper to my mind is the small percentage of nose defects—only one half of one per cent. When I was doing eye, ear, nose and throat work on the medical advisory board of my district, we surely had a greater percentage of nose defects than that. That is probably due to the fact that examination of the nasal chambers is a little bit more difficult to make thoroughly than to look into the throat or ear. In order to make a nasal examination satisfactorily one must use some local astringent, transillumination, perhaps X-ray, and a nasal pharyngoscope to see the true condition, and as the Doctor brought out in the paper, there are many cases in the various Government hospitals today that are being treated for sinus disease and nasal defects that were chronic and overlooked at the time these men were induced into service, and from an economic standpoint this is very expensive for the Government.

I note the Doctor gives 28 per cent. of rejections on account of adenoid and tonsil disease. This should not be. If we could institute a more thorough examination through the co-operation of the health officers and the doctors in the local

communities, we surely could educate the people to have these defects remedied, because as the doctor brought out in his paper, there were 40 per cent. of rejections of all cases due to eye, ear, nose and throat disease, more especially throat disease and eye conditions due to error of refraction. As a matter of course, there is a certain limit in which they must have eyesight before they can be induced into service, and the majority have sufficient eyesight, or it can be remedied with proper fitting glasses, but as I said the striking feature of the paper is the small percentage of nose conditions, given as a cause for rejection, which I believe must be due to the examination. I believe that more earnest co-operative efforts from these men who are being inducted into the service, and if the examinations were made more thoroughly, that could be cleared up. I appreciate Doctor Harris' paper very much.

Dr. E. F. Howard (Vicksburg): I am sure that a good many of you are a little startled at the percentages Dr. Harris has given, but I want to assure you that you have no reason at all to be. I happen to have had some experience in that same sort of work in 1917. Remember, we were handling men who had already been culled out by the Examining Board, and in the Illinois Division we got 3 per cent. for ear defects alone, remember, too, that we were handling only irremedial defects. If a man could be put in shape, we were supposed to take him into the Base, but we canned 3 per cent, with defects that absolutely could not be remedied. I am not in position to give you the ocular defects, because I was not doing that end of the work.

Dr. Robin Harris (closing): It occurs to me to wonder if there are 40 per cent. rejected on account of eye, ear, nose and throat defects, what the others were rejected for. The medical officer in charge told me that these ear defects were largely dependent on tonsil and adenoid disease also. I thank you very much for your discussions.

THE SIGNIFICANT PATHOLOGY OF SCARLET FEVER AND ITS PREVENTION.*

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NEW ORLEANS.

Scarlatina is essentially a toxemia caused by a specific hemolytic streptococcus and

characterized by special tissue changes in a number of the important organs of the body. While the angina, pneumonia, exanthem and myocarditis are frequent lesions they are not as significant or as important as are the injuries which occur to the kidneys. The renal injury is not only a constant accompaniment, occurring as it does in the mild as well as the severe forms of scarlatina, but it affects more especially that part of the excretory tissues known as the glomeruli. Although impairment of kidney function may, during the infection, be relatively little and of no clinical significance, structural changes are in consequence occasioned which may result later in permanent disability of the organs. Furthermore, the wrecking of renal function during the active stage of the infection is more often the cause of the mortality than is the pneumonia or the myocardial degeneration. Death from nephritis also occurs as a complication, and not infrequently in what the physician regards as the post-scarlatinal period. It is my opinion that the kidney lesion in scarlatina is the essential pathology of the disease. This paper, therefore, considers the nephritis of scarlet fever and its likely consequences subsequent to the acute infection.

Pertinent to the subject is the fact that in cases of scarlet fever, even in mild forms, there is a concomitant parenchymatous nephritis, which presents pathological features that justify signaling it out from other acute nephritides. The great probability that the nephritis of scarlet fever is one of the forerunners of that entity known as Bright's disease, makes it all the more important from a therapeutic aspect.

The earliest recognizable structural change in the kidney of scarlatina occurs to the glomeruli and is characterized by a multiplication of the surrounding capsular epithelium which slowly but surely crowds out or obliterates the most important part of the functioning unit, namely,

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

the whorl of capillaries known as the glomerular tuft, in consequence of which these important vessels become thrombosed and the tubular lining cells undergo degeneration. Here it should be mentioned that the specific toxin of scarlet fever has apparently a selectiveness for the capsular epithelium. The changes in the tubules and capillary vessels are the result of the capsular lesion and not that of the direct action of the toxin upon them. The capsular lesion is responsible for all subsequent changes, both functional and structural, to the parenchyme of the kidneys.

Later with the collapse of the tubules there is an attempt on the part of the supporting tissues to fill the void made by the loss of tubules. In scarlatinal nephritis, unlike other parenchymatous nephritides, there is no regeneration of tubules because of the previous destruction of the capillary tufts. This point I especially desire to stress since it explains the occurrence of the chronic diffuse nephritis that follows months or years afterwards; and its relation to the previous scarlatinal nephritis. Tubular epithelium is not regained for any kidney unit in which the glomerular vessels have ceased to function.

Obliteration of tufts entails the loss of tubules and this results in the production of replacement tissues which is of a character totally incapable of carrying on kidney function. Not only is the replacement tissue a poor substitute but it causes the destruction of perfectly healthy adjacent tubules and tufts that become accidentally enmeshed or caught in the reparatory process. Thus a vicious circle is established and there is inaugurated a chronic interstitial nephritis, non-inflammatory in character, which is slowly and insidiously progressive. As times goes on more and more tubules and tufts are destroyed through the mechanical interference with their function by the steadily encroaching replacement tissue which by virtue of its objective continues to increase.

Here it should be said that it is by no means inevitable that the occurrence of an acute scarlatinal nephritis should result in the production of a progressive chronic diffuse nephritis. I believe this happens only in the cases where the severity is such as to cause destructive changes to the kidney tufts. Of course this does not always follow in the severe cases of scarlet fever, though it just as often occurs in the mild forms of the disease. Furthermore, we know that the acute scarlatinal nephritis may be purely the result of functional derangement, without there being any structural change either during the course of the infection or subsequent thereto. However, it is my opinion that this is the exception rather than the rule.

No definite symptoms need accompany the acute stage of the nephritis. These naturally depend upon the number and extent of the injury to glomeruli and tubules. The first symptoms are indicative of the failure of the unaffected and compensating kidney units to take care of the extra burden of work thrown upon them. It does not follow that the early clinical signs of nephritis mark the beginning of functional or structural changes in the organ. No symptoms are produced until a point is reached where the burden of daily work is disproportionate to the capacity of the functioning kidney tissues. Tufts and tubules that have reached the stage of common place wreck no longer play any part in the symptomatology of the disease. Functional disorders may be relatively great without there being any structural changes, and without giving rise to symptoms of nephritis. Parts of the kidney unit have a variety of special functions which may separately become defective without our being able to suspect this from any change in their appearance. These functional disturbances for certain units, and complete loss of function for others, may occur in the toxemia of scarlet fever without any clinical manifestations. This simply means we have not learned to cor-

relate functional disturbances with structural changes that lead eventually to and are responsible for chronic nephritis.

A histopathological study of this form of nephritis (chronic diffuse) clearly indicates that the exciting cause is not a recent or existing infection of the kidney, but is the result of extensive repair tissue that has come in the course of time to replace the destroyed parenchyme. The causal factor produced its injury months or years before. Thus the processes, primary parenchymatous degeneration and secondary interstitial proliferation, are relayed and eventually there results a depletion of the necessary units for the carrying out of renal function. In consequence there appears for the first time symptoms of kidney affection. Chronic nephritis is the result rather than the immediate effect of specific injury. A very long time may have intervened between the primary injury and the appearance of symptoms of chronic nephritis.

It is no longer questioned that micro-organismal poisons are responsible for the non-inflammatory chronic diffuse nephritides. We are coming to regard more and more the hemolytic streptococcus group as the indirect excitants of chronic diffuse nephritis, (Bright's disease). The basis for this belief lies in the fact that in this type of renal disease the lesion begins as a glomerular nephritis corresponding in microscopic detail to the experimentally induced kidney lesion with hemolytic streptococci. Furthermore, we now have positive knowledge of the cause of scarlatina nephritis which in the beginning is a glomerular lesion produced by the toxin of the specific organism of scarlet fever. That other excitants are responsible for chronic diffuse nephritides cannot be denied; however, it would seem that the hemolytic streptococci will eventually be proven to be the cause of the greater percentage of cases.

We do not fully realize the harm that may result to the kidney from extra-renal infections that are streptococcal, especially those of the upper respiratory tract where they are so often chronic or recurring. The intermittent absorption of tixic products from such foci of infection is sure to have ultimately its effect upon the kidneys. These organs by virtue of their function stand in closer relation to distant focal infections than do other organs, not even excepting the heart. Too much stress cannot be laid upon the importance of possible grave nephritides following the toxemias of focal streptococcal infections.

The infectious diseases of childhood, pre-eminently scarlet fever, have long been suspected as being the basis for certain grave renal insufficiencies that appear without apparent cause in the individual past middle life. Scarlet fever is now an outstanding example of the selectiveness of the hemolytic streptococcus for kidney tissue. Of course in the majority of cases there is clinically a complete recovery, but this does not mean that subsequently we will not have to deal with the result of that injury in the form of a chronic diffuse nephritis. While as yet we have no specific means for preventing the injury to the kidney that is an indirect result of some focal infection, we do possess an absolute preventive of the renal injury in scarlatina. I refer here to the recently discovered scarlatinal antitoxin which if administered early not only exerts a lytic action upon the streptococcal excitant but promptly and efficiently neutralizes the toxin, thereby preventing the specific injury to the kidney. I regard this preventive of the renal lesion the most important virtue of the antitoxin, because after all it is the acute nephritis of scarlet fever that accounts for much of the morbidity and most of the mortalities. The specific antitoxin has the same effect in preventing the nephritis of scarlet fever as diphtheria antitoxin has in protecting the myocardium in diphtheria. It is my firm conviction that

with the use of the specific scarlet fever serum we will see in the years to come an appreciable decrease in the number of chronic diffuse nephritis, those in which the primary renal injury occurred during an acute infection of years before.

DISCUSSION.

Dr. J. B. Guthrie (New Orleans): One of the surprises that I received after graduating in medicine and starting to practice in New Orleans, was to see the discrepancy between the picture of scarlet fever as I read about it in text books and as I had imagined it to be, and what I actually saw here in New Orleans. Scarlet fever with us apparently is not the virulent disease that it is in certain other localities, neither in point of morbidity nor of mortality. We see many more mild types of scarlet fever than they do in the east apparently.

I have listened with a great deal of interest to what Doctor Duval has said in regard to the assurance he felt that in the absence of clinical symptoms during scarlet fever, that is clinical symptoms in the kidney, that even though no damage showed to the kidney, it would eventually break down. This is surprising to know. We clinicians are in the habit of thinking that we can tell what is going on in the kidney during the period of observation. We flatter ourselves that we have tests and means of observation that will tell us whether or not a nephritis is existing or going on, just the same as you know that a pneumonia has occurred, or that damage to some other of the important viscera is there. I feel in the absence of proof that Doctor Duval has failed to give us, that he may have in mind, the work done by somebody else, and for that reason did not give it to us in his discussion. If Doctor Duval told me that he had proof in his own work, I should accept the statement, but we see so many mild cases of scarlet fever here, and we so oftentimes see that the kidney does not show any evidence or give any response such as we would expect in any other fever. Of course we all know that the most virulent acute nephritis occurs in scarlet fever, but I do not mean that; I mean where the kidney seems to be all right, where the clinical evidence is lacking as to the occurrence of nephritis. It is news that that damage must inevitably occur. We have to go to Doctor Duval here for information of that sort. For instance, we do know that diphtheria anti-toxin uniformly strikes the myocardium, and it is impossible to conceive of a diphtheritic infection of any severity that clinically does not present a certain amount of myocarditis. I sup-

pose there is some sort of obscure nephritis that exists in this condition. I am not contradicting, I am simply giving my reaction to the statement in order to bring out discussion.

Dr. C. J. Bloom (New Orleans): I would like to ask the Doctor what he thinks about the particular serum as advocated by Dochez and Blake as compared with the anti-toxin as advocated by Dick and Dick.

Dr. H. P. Jones (New Orleans): My experience has been that where we have sufficiently carefully examined the urine in cases of scarlet fever, and the same is true of typhoid fever, or any disease in which you have most pronounced kidney lesions, that I have never treated a case of scarlet fever in which I thought I was not able to demonstrate some kidney irritation at one time or another during the course of the disease, and I believe that Doctor Duval's statement is correct, that every case of scarlet fever is essentially one of acute nephritis which may subsequently become Bright's Disease.

We have a great many cases of scarlet fever to treat at the Charity Hospital, and very often we are upset and perhaps misled by the claims of the commercial houses who have serums that is just as good as the Dochez or the Dick type. They do not say it is the same, but they say it is like it. We do not use the serums, but we do it conscious of the fact that we are not using the Dochez serum or the Dick serum, because I do not believe that until lately any one has had the Dick serum, certainly not in this community, for use even experimentally. I would like Doctor Dick to clear up that point and tell us what serum we had best use and if it is available.

Dr. R. T. Lucas (Shreveport): I would like to ask Doctor Duval whether, as in diphtheria, a single dose of anti-toxin is sufficient, whether you need to repeat it, and if so how often, and when do you figure it is not further necessary to give it?

Dr. Charles W. Duval (Closing): *In answer to Dr. Guthrie.* Scarlet fever is now known to be a localized infection of the pharyngeal mucous membrane in which situation the specific streptococcal excitant remains and elaborates its toxin. The disease, therefore, is essentially a toxemia and in this and certain other respects is similar to diphtheria. The scarlatinal toxin apparently has a selectiveness for the parenchyme of the kidneys, more so perhaps than for any other tissues not even excepting the skin exanthem. In the kidneys the immediate effects are seen for the encircling epithelium of the

glomerular vessels, which multiply in the capsular spaces causing in time the obliteration and destruction of the capillary tufts. The prompt administration of anti-scarlatinal serum in adequate quantity will prevent the action of the toxin upon the kidneys by neutralizing it en route. In this way not only is the acute nephritis warded off but the subsequent kidney sequelae prevented.

In answer to Dr. Bloom. The Dochez scarlatinal anti-toxin is regarded as more potent than the Dick's product because in the former the unfiltered broth culture is employed as antigen, while with the Dick's only the culture filtrate is used in the production of the immune serum.

In answer to Dr. Jones. Both the Dochez and Dick's anti-scarlatinal sera are obtainable from the various biological houses who manufacture anti-toxins for commercial use.

In answer to Dr. Lucus. Various laboratories are at the present time attempting the standardization of scarlet fever anti-toxin, and along the same line as was successful for diphtheria and tetanus sera. It will not be difficult to determine per cubic millimeter of blood the amount of circulating toxin in a given case of scarlet fever. With this data it will be easy to determine the amount necessary to neutralize a given quantity of toxin. In regard to the size and number of doses of scarlet fever anti-toxin, it depends upon a number of factors, more particularly the severity of the case and the length of time the disease has been in progress. The physician is governed here very much as he is in his curative serum therapy for diphtheria. Of course it stands to reason that the earlier the anti-toxin is administered the greater are the chances of toxin neutralization with smaller amounts of anti-toxin. Again the prompt giving of the immune serum prevents the toxin injury to the kidneys.

COMPLICATIONS INCIDENT TO THE OPERATIVE TREATMENT OF SIMPLE GOITER

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The causes, the prevention and the treatment of the operative and post-operative accidents incident to the surgical treatment of simple goiter are well worthy of study.

Goiters associated with hyperthyroidism, primary or secondary, the various types of suppurative and malignant neoplastic disease of the thyroid gland differ so much from simple goiter in etiology, pathology, clinical manifestations and therapeutic indications that they are outside of the scope of this paper. Aberrant goiters, cervical, lingual, endothoracic, etc., presenting additional and special dangers by virtue of their anatomical relationships, are likewise excluded.

A simple goiter may, at any time, become the seat of: (a) Hemorrhage. This may lead to a sudden and marked increase in the volume of the goiter, to cyst-formation or to extravasation of blood into the paratracheal, mediastinal and other neighboring regions. Any of these conditions, singly or collectively, can determine tracheal compression, obstructive dyspnea (1.19) and necessitate immediate surgical relief. (b) Abscess formation or diffuse suppuration. This may occur in the course of or after any of the infectious diseases; it may occur in the absence of any other evident constitutional disturbance (2). The advent of infection increases the pressure symptoms. (c) Malignant disease (3): sarcomatous or carcinomatous. Malignant disease occurs more frequently in goitrous than in normal thyroid glands (3b). (d) Degenerative structural changes, provocative of hyperthyroidism, hypothyroidism or dysthyroidism (4). (e) Inflammation. The processes of degeneration present in goiters lower the local tissue resistance and predispose to inflammation. The swelling inherent to inflammatory neoplastic and other degenerative processes of the thyroid gland exerts nefarious pressure on the trachea and esophagus. The severity of this pressure is determined largely by the size and location of the swelling, tumor or cyst.

The operative removal of goiters eliminates these potential dangers and has further advantages. It can and should be

strongly emphasized that intraglandular enucleation and subtotal thyroidectomy, each, give extremely good immediate and remote functional results. The trachea is freed from all abnormal pressure. Many of the disturbances of phonation and respiration occurring immediately after operation are temporary, normal function being restored in from a few days to several weeks. Operations for simple goiter, for goiter unassociated with hyperthyroidism, are not attended with more than the usual risks incident to all major surgical operations. They give highly satisfactory cosmetic, functional and curative results, especially if surgical relief is sought before the patient has been subjected to repeated courses of iodine therapy and before the occurrence of degenerative visceral changes.

De Quervain (5) reports 2,200 operations for simple goiter with a mortality rate of .86%. For all patients up to forty years (1,682 cases), the mortality was only .06%. In patients under the fortieth year, these operations, performed according to the approved present-day technic, are practically devoid of risks. The risks increase rapidly thereafter; after the sixtieth year, in the absence of urgent indications, it is preferable not to operate.

Operative treatment is indicated in all forms of simple goiter, the goiter of adolescence, of pregnancy and of the menopause being excepted, if the goiter, by its pressure, causes: (a) Respiratory disturbances (bronchitis, pulmonary emphysema, obstructive dyspnea, asphyxia, etc.). In all patients presenting symptoms of obstructive dyspnea, early intervention is urgently indicated. (b) Circulatory disturbances. Many goitrous patients are cardio-vascular, cardio-renal defectives. "Every goitrous patient is exposed to asphyxia and to cardiovascular accidents" (11). "A goitrous patient is predisposed to myocardial disease" (12). (c) Nervous disturbances. "The paralysis of the recurrent laryngeal nerve which antedated

the operation, in ten cases was not improved by the operation" (4). (d) Difficulty in deglutition. (e) In the presence of severe pain, of unsightly deformity, of rapid growth of the goiter. (f) If the goiter becomes excessively large, interfering with the patient's work, with his sleep in the recumbent posture. (g) If the goiter does not respond to medication. One should not lose sight of the dangers of non-operative methods. Hyperthyroidism has followed treatment by radium, by serum, by injections of boiling water, etc. As adenomata of the thyroid gland do not respond to medication, they should always be removed. Operation reveals the relation of the goiter to the other cervical structures, shows whether the goiter extends into the thoracic cage, around the trachea to the esophagus, etc.

Accurate and detailed knowledge of the origin and nature of the operative and postoperative dangers incident to intraglandular enucleation and to sub-total thyroidectomy acts as an incentive to early, to more timely operations and to the institution of surgical relief previous to the advent of local complications, previous to the development of degenerative visceral changes. The earlier the operation, the less the risks, the better the end-results. Timely operations skillfully performed will lessen the frequency and the morbidity of the accidents herein considered, will reduce the operative mortality and improve the end-results.

These surgical complications, avoidable or unavoidable, of minor or major importance, are due, in part, to the patient's unfavorable physical condition at the time of operation, to the use of a method of anesthesia not adapted to the case at hand, to lack of proper correlation of the anesthetic to the technic, to the operator's lack of technical skill, experience and judgment in surgery of the neck, etc. Owing to the study given to diseases of the thyroid in recent years, these accidents are now better recognized, better understood

and better managed. The main conditions that may confront the operator are: Hemorrhage, primary or secondary; injuries to the recurrent laryngeal nerve or nerves (compression, contusion, laceration, division); injuries to or partial or complete removal of the parathyroid glands (tetany); postoperative hyperthyroidism; excessive removal of thyroid tissue (myxedema) and postoperative infections. Chief among the uncommon complications are: Air embolism, collapse of the trachea, esophageal injuries, pneumonia and recurrence of the goiter. Complications, such as unilateral or bilateral division of the sympathetic and vagus nerves, injury to the pleura, etc., which we have not met in our private or hospital practice, we refrain from discussing.

Hemorrhage: It is of arterial, venous, capillary or mixed origin. In operating on goiters, we are operating in a very vascular region, on a vascular organ, an abnormally vascular organ. The thyroid gland presents extensive anastomoses not only between the vessels of the same lobe, but also between those of the different lobes. After ligation of the four thyroid vessels, the circulation is re-established through extra-glandular anastomoses (16). Serious hemorrhage may occur at the time of operation, immediately after the patient has been conveyed to bed or during the post-operative period.

At the time of operation, some hemorrhage is unavoidable. Profuse hemorrhage (5) must be guarded against; it is alarming and, if not controlled, may prove fatal. The vessels of a goitrous thyroid gland show a marked tendency to degeneration. They are dilated, their elasticity is impaired, they tear easily. In some cases, the cervical veins, especially those located at the lower part of neck, are dilated tremendously. The arteries show a thickening of the intima and degeneration of the elastic fibrillae. Care must be taken not to injure the internal jugular veins or the carotid arteries. During the op-

eration, owing to the lowered blood pressure, small arterioles and venules may not bleed and thereby escape ligation or suturing. With the return of consciousness, the blood pressure rises and hemorrhage may occur. Immobilization of the operative region not being feasible, for the first two days following the operation, the patient is to be closely watched. as violent coughing, violent retching, vomiting, too frequent change of position, undue activity can bring on abnormal intra-venous pressure followed by hemorrhage.

Secondary hemorrhage following thyroidectomy may be sufficiently serious to cause death. Chief among its causes are premature absorption, slipping or unknotting of unsecurely tied ligatures, erosion of vessel-walls, errors of technic such as faulty asepsis, overlooking of bleeding points at time of operation, delayed removal of drains, etc.

Hemorrhage manifests itself by pallor, rapid and superficial breathing, rapid and weak pulse; the dressings may be saturated with blood. If the hemorrhage be not checked, it leads to obstructive dyspnea, to asphyxia; it may result in collapse. The loss of blood in itself is a danger. Furthermore, the extravasated blood may exert dangerous compression on the trachea thereby giving rise to serious respiratory disturbances.

In cases of secondary hemorrhage, reopen the wound widely and carefully and rapidly remove all the blood clots. Locate the bleeding points and ligate the bleeding vessels at their divided ends; reunite the wound edges and apply appropriate dressings. After the hemorrhage has been controlled, if the pulse be alarmingly weak, give normal salt solution subcutaneously and rectally and also such medicinal agents as are indicated.

To lessen hemorrhage, primary or secondary, operative or post-operative, always (a) Operate in suitable surround-

ings, aided by competent assistants and as rapidly as is consistent with the indications, with the patient's safety. It is needless to employ a long and laborous technic. Celerity is an element of success. (b) Use an incision that gives an adequate exposure of the goiter. (c) Be gentle in all operative maneuvers. There should not be any needless traumatizing of tissues, any avoidable tearing of vessels, etc. The rupture of a large deep seated vein leads to troublesome hemorrhage and to an obscured operative field. (d) Secure thorough hemostasis. Keep the operative field as dry as possible from start to finish. Every bleeding point should be tied with catgut before the wound is closed. (e) Follow standard operative technic; knot all ligatures carefully, grasp and ligate veins as they are divided. It is not necessary to place a cart-load of hemostatic forceps on the patient's neck. In goiter operations, attempts permanently to control hemorrhage by compression, are unreliable. In the enucleation of adenomata, all dead spaces are to be obliterated by suturing.

Recurrent Laryngeal Nerve Injuries: The recurrent laryngeal nerves (2) are more commonly injured than is believed. They supply all the muscles of the larynx except the crico-thyroid. Dubs (21), in 840 goiter operations, reports twenty-six cases of recurrent nerve injury. Capelle (17), in 1,700 bilateral resections, had 1.3% permanent injuries of the recurrent laryngeal nerve. In operations on goiters, the branches or trunk (26) of one or of both nerves may be clamped, compressed, contused, stretched, lacerated, torn, included in a ligature or divided. Post-operative paralyses of these nerves are occasionally due to their inclusion in scar tissue, to their compression by inflammatory exudates or to the retraction of cicatricial tissue. The pareses or paralyses caused by injuries of the superior laryngeal nerve are not so manifest, not so significant as those due to re-

current nerve injuries and will receive here no further mention. An injury of the recurrent laryngeal nerve may be symptomless, may escape detection. It may first be detected by mirror examination of the larynx and may have only slight appreciable effect: a change in the pitch of the voice, more or less permanent hoarseness, slight difficulty in breathing, etc. When a uni-lateral nerve injury is not compensated by the uninjured vocal cord, aphonia, obstructive dyspnea and other symptoms result. "The complete restoration of phonation and respiration to normal occurs with restoration to normal of the muscles and cord on one side" (8). Normal voice is restored through compensatory efforts of the normal cord.

Vocal cord paralyses of operative origin result from stretching, clamping, tying, or division of recurrent laryngeal nerve or nerves. Traumatic injuries unassociated with complete nerve division produce symptoms of a temporary character, symptoms which in time disappear (13). Injuries involving both recurrent nerves constitute a serious complication. If both cords assume the cadaveric position, there follows a permanent aphonia and later an obstructive dyspnea which, if unrelieved, may be a contributing or decisive factor in the patient's death. Complete division of both nerves has resulted in death from deglutition pneumonia.

Preoperative mirror examination of the larynx gives the examiner exact and positive information concerning the state of the vocal cords (9); it is a protection to the physician and to the patient. Previous to operation, one cord may be found to be motionless. When one nerve is paralyzed, the patient depends solely on one cord for phonation and normal respiration; in these cases it behooves the operator to be most careful not to injure the opposite and unaffected nerve.

The recurrent laryngeal nerves are found posterior to the capsule of the thy-

roid gland, along the side of the trachea and in the groove between it and the esophagus. By scrupulously respecting the posterior capsule with which the nerves are intimately associated, the recurrent laryngeal nerves, always, and the parathyroid glands, almost always, will remain uninjured. The recurrent laryngeal nerves and the parathyroid glands are most surely avoided by leaving the region they traverse entirely unmolested and by not removing the posterior mesial lower part of each lobe of the thyroid gland. Gentleness in the use of hemostatic forceps, in the insertion of sutures and in the handling of tissues tends to lessen the incidence of nerve injury. Rough attempts to shell out, to drag out a deep seated goitrous gland may so stretch the recurrent laryngeal nerves as to cause paralysis of both vocal cords. The nerves may be pinched by a hemostat with other tissue, may be included in a ligature. Some operators, in resecting the lobes of the thyroid gland, proceed from within out. At the time of the patient's discharge from the hospital, re-examine the larynx and determine the presence or absence of any incompetency of the vocal cords.

After subtotal thyroidectomy, loss of voice of varying degrees (8) is due to one or more of the following factors: (a) Change in position of the laryngeal muscles and cartilages, due to the removal of the goiter and the consequent shifting of the displaced larynx back into its normal place. (b) Edema, obstructive or inflammatory, of the laryngeal and peri-laryngeal tissues. Keep the line of dissection away from the trachea and larynx thereby saving more tissues about these structures and preventing the swelling from extending to the mucous membrane. The laying bare, the denudation of the trachea predisposes to severe bronchitis and endangers somewhat the recurrent laryngeal nerves. In catching bleeding vessels on the surface of the trachea, include in the ligatures as little as possible of the peri-

vascular tissues. These tissues contain the sensory nerves to the trachea and their irritation causes cough and increased secretion of mucus. (c) A true myositis. (d) Trauma of the recurrent laryngeal nerve. (e) Prolonged interference with function.

Pemberton, in discussing postoperative obstructive dyspnea, says: "The routine laryngeal examination of all patients before and after operation and the careful search for a traumatized recurrent laryngeal nerve in all cases of obstructive dyspnea coming to necropsy, has clearly demonstrated that the cause of fully 90% of all cases of marked postoperative obstructive dyspnea is due to a paralysis of one or both vocal cords, the result of an injured inferior laryngeal nerve."

If the vocal cords be in the middle line position, the same author suggests one of the following three procedures: (a) Permanent tracheotomy. This has obvious disadvantages. (b) Removal of a portion of one vocal cord and of part of the ventricle. This may result in aphonia; it may give only partial relief. (c) The descending branch of the hypoglossal nerve has been anastomosed to the inferior laryngeal nerve (Frazier). This procedure is difficult and is, as yet, only in the experimental stage. Crile (14) advises that the vocal cords be clipped in the center of their free margins, leaving a free space for the passage of air.

Postoperative Tetany: The parathyroid glands, four in number, two on each side, are, as a rule, located posterior to the capsule of the thyroid gland and lateral to the esophagus. These glands, inconstant in number, irregular in location, have a function which appears distinct and separate from that of the thyroid gland. Their physiological importance is out of proportion to their small size. The anatomical integrity of these glands is of essential importance to the human organism. Numerous theories concerning the function of

these structures have been advanced. They are said to regulate muscle tonus, to form a part of the detoxication metabolism of the body and to control calcium metabolism (24). Calcium metabolism enters into many medical problems.

The prophylaxis of postoperative tetany presents difficulties due chiefly to the irregularity in number and location of the parathyroid glands. According to most anatomists, the parathyroid bodies receive their blood supply (15) from tributaries of the superior and inferior thyroid arteries and from anastomotic branches of the esophageal arteries. Postoperative tetany is infrequent. It can be caused by any interference with the blood or nerve supply of the parathyroid glands which may follow direct trauma, pressure from obstructive or inflammatory edema of surrounding parts, contraction or retraction of scar tissue or by removal of one or more parathyroid glands. The parathyroid glandules, after interference with their blood supply, do not resume their function and the manifestations of tetany do not come to an end before the collateral circulation is re-established.

De Quervain (25), in 2,203 goiter operations, never had a case of pronounced tetany. He observed symptoms of slight functional disturbance of the parathyroids in only three patients. The best technicians take great care neither to traumatize nor to remove any of these glandular bodies. Injury and removal of the parathyroids can almost always be avoided by leaving a layer of glandular and capsular tissue undisturbed at the back of the thyroid gland. This same precaution protects the recurrent laryngeal nerves.

The deficiency of one or two parathyroids may not cause hypoparathyroidism. Nevertheless, if a parathyroid gland be accidentally removed, it should be transplanted at the close of the operation, preferably beneath the remaining thyroid lobe. Be sure of the nature and state of the trans-

plant. We advise this because the actual condition of the individual glands is not known, as they are often rendered useless by hemorrhage or degenerative changes.

Eiselsberg (17), in 2,373 goiter operations, records six deaths from tetany; six other patients developed chronic tetany. Knaus (18) reports 619 goiter operations. Five of these were followed by tetany; three recovered and two died. As the operation is nowadays usually bilateral and less radical and because surgeons have come fully to realize the value of preserving some part of the thyroid gland on the posterior capsule, injury to the parathyroids is of very infrequent occurrence. Leave the posterior capsule; do not remove it.

Parathyroid insufficiency may appear any time from six hours to three or four months after operation (20). It almost always manifests itself by circumoral pallor, by a tight glossy appearance of the skin of the forehead, nose and face, by a sensation of stiffness in the fingers, by carpopedal spasms, etc. It is difficult for the patient to raise his fingers to his mouth or to hold anything. The lowered calcium content of blood serum or plasma causes exaggerated nervous irritability (Mac Callum). These symptoms pass off in a few hours or a day, possibly after one or two doses of morphine or the condition gradually progresses until the contractions involve the muscles of the hands and arms; sometimes the contractions become general. If, in the course of goiter operations, injury or removal of the parathyroid bodies be avoided, tetany will be a rare complication and occur only in its slightest forms.

Postoperative tetany is treated as follows:

(a) By restoring the calcium content of the blood serum to within normal limits. This is effected by administering calcium lactate, gr.xx every four hours until relief is obtained. It is to be given orally, by

enema, subcutaneously and exceptionally, intravenously and in larger doses, if necessary. The calcium lactate should be given in water and continued as long as the patient shows symptoms of nervous irritability such as Chvostek's and Trousseau's signs.

(b) By transplanting human parathyroids. The parathyroids used are obtained from fatal accident cases and from normal infants who have died during delivery. These transplants are difficult to obtain, are readily absorbed and of service to the organism (15) while the remaining parathyroids undergo compensatory hypertrophy or the injured or diseased ones recover. Transplantation may be made in the left abdominal wall between the peritoneum and the rectus muscle. Should the patient later submit to an operation for appendicitis, the transplants will not be disturbed. Some operators embed the grafts in the supraclavicular fossa beneath the cervical fascia. The microscope enables one to determine whether or not the transplant is unquestionably parathyroid tissue.

(c) By the various parathyroid serums in the market.

(d) By the ingestion, orally, of parathyroid products. Lahey (11) and others dispute the therapeutic value of parathyroid extracts.

(e) By medicinal therapy largely symptomatic in nature. Chloral hydrate per mouth or per rectum, repeated as needed; morphine sulphate; magnesium sulphate in 25% solution subcutaneously (15,20). Have patient drink plenty of milk and avoid all kinds of meat.

Air Embolism: It is a possible, though a very uncommon complication of operations about the neck. Many active surgeons possess only a theoretical knowledge of the condition. Among its predisposing etiological factors should be mentioned: The restlessness of patients operated upon under local anesthesia, great loss of blood

and wounds of valveless dilated veins. From the prognostic standpoint, owing to its rarity, it is almost negligible.

If during inspiration air is sucked into a wounded vein and carried to the right heart, there is usually produced a peculiar whirring or churning sound synchronous with the cardiac systole. The danger of this complication is in direct ratio to the quantity of air aspirated and to the rapidity with which it enters the veins. If dangerous symptoms or death do not immediately follow the occurrence of air embolism, the accident need not cause the surgeon any further worry. A few cases of temporary paralysis due to air embolism are recorded in the literature.

Treatment: Prophylaxis is the watchword. To lessen its incidence, keep in mind its possibility, minimize hemorrhage, avoid rough handling of tissue, keep patient in the horizontal recumbent position during the entire operation (the sitting posture favors the development of air embolism) and doubly ligate large veins before dividing them (23).

As soon as this accident occurs, to prevent further aspiration of air, elevate the foot of the table, tampon and flush the wound with normal salt solution. While the tampon is being cautiously removed, clamp the wounded vein or veins and ligate them. Artificial respiration may lead to more air aspiration and therefore is not to be practised. Naegele, Jehn and others use forced inhalation of oxygen.

Tracheal Collapse: Long continued, unilateral or bilateral, pressure of voluminous goiters can determine either a loss of elasticity, a softening, an atrophy or an almost complete disappearance of the cartilaginous tracheal rings. In these cases, the trachea, after losing the support afforded by its attachment to the thyroid gland, sometimes persists in kinking and in collapsing at the close of the operation. There is no danger of tracheal collapse if the tracheal rings are normal. Many fac-

tors enter into the causation of tracheal flattening and collapse: The patient's age, the goiter's histological structure and consistency and, especially, the long continued traction or pressure exerted by the goiter as in the scabbard trachea.

Collapse of the trachea causes obstructive dyspnea, amounting in some cases, to asphyxia. With increased violence of the inspiratory efforts, there results a more complete mechanical obstruction to respiration.

Tracheal collapse may be fatal (3 b) in extreme cases, it may necessitate a tracheotomy (23). It may take days, even weeks, for the trachea to recover its efficiency. In about six months, complete recovery usually takes place.

Treatment: By means of a sharp tenaculum inserted on each side of its collapsed portion, the trachea is drawn forward. Should it persist or show signs of recurring collapse, fasten, by a few catgut sutures (stay sutures), the sides of the trachea to the surrounding tissue or fix the resected goiter stumps to the under surface of the sternocleidomastoid or omohyoid muscles and thus secure the tracheal dilatation and prevent recurrence of the collapse. Avoid perforating, by needle or tenacula, the cartilaginous rings or the entire thickness of the tracheal wall and thereby eliminate such complications as necrosis of tracheal rings, wound infection, etc.

Tracheotomy is rarely indicated. In twenty-three cases of tracheal collapse due to tracheomalacia, Czermak performed it only twice.

Recurrence of Goiter: Recurrence of goiter and recurrence of symptoms are noted in a small and decreasing percentage of cases. The portion left, the opposite lobe or the isthmus, may hypertrophy. It is most frequent within the first five years after operation (22). Recurrence causes symptoms chiefly when

bilateral. Some recurrences cause only cosmetic defects. After enucleation, cysts or adenomata of new formation have been observed. Dubs (21), in 840 goiter operations, reoperated fifty-three patients in each of which the recurrent goiter visibly and palpably exceeded the normal consistency and size of the thyroid gland.

If the operators underestimate the amount of gland tissue to be removed, if the blood supply of the tissue left is not sufficiently shut off, if the primary cause of the goiter persists, if focal infections are left untreated, recurrence is more probable. Recurrences become fewer as the surgeon's experience increases.

In general, the amount of tissue to be left should be the functional equivalent of a normal gland. Postoperative prophylactic treatment: The use of boiled drinking water, orange juice, the suppression of all foci of infection (teeth, tonsils and others), etc., is very important. I follow the practice of Crile (20) who believes that, by giving minute doses of iodine for not less than one year after thyroidectomy, recurrences are prevented. In this connection, keep in mind that some patients are iodine-refractory and others are iodine-susceptible. Operation on a recurrent goiter is more dangerous than the primary operation on account of the necessity of preserving an adequate amount of gland tissue and of the presence of cicatricial adhesions.

Postoperative Hyperthyroidism: Owing to the present-day combined medical and surgical treatment of goiter cases, postoperative hyperthyroidism is infrequent. According to the latest researches, it follows the entrance of glandular elements and ferments squeezed out of the gland into the circulation. The absorption of thyroid secretion, during the operation and afterwards, also takes place through the wound surface. The patients are seized by a psychic storm, usually of an agitated maniacal type, there is restlessness, ac-

celerated pulse-rate, reaching 150 to 160 per minute, elevation of temperature (105°-106° F.), disturbed cardiac action, etc.

The frequency and severity of postoperative hyperthyroidism are lessened by observance of the following precepts: Operate as rapidly as consistent with the patient's safety and the completeness of the operation, secure perfect hemostasis, avoid squeezing of the gland and all needless traumatizing of tissue, make ample provision for drainage and see that oozing blood and effused thyroid secretion escape easily and do not remain in contact with the wound surface.

Drainage relieves tracheal compression due to postoperative hemorrhage and prevents hematoma formation. After all goiter operations, give large quantities of normal salt solution subcutaneously and rectally. By this practice the absorption of thyroid secretion is lessened and general elimination is increased. For the high temperature, the cold pack is most serviceable.

Postoperative Myxedema: Total thyroidectomy, having been frequently followed by myxedema, is now no longer performed. In goiter operations, hypothyroidism will not result if a small piece of thyroid tissue with adequate blood and nerve supply is left. "The old procedure of removing one lobe is inadequate. The old dictum that one-fifth of the thyroid mass should be left is equally unsatisfactory" (27). If we leave a quantity equal to about one-fourth of the healthy gland, symptoms of thyroid deficiency will not develop. In the individual case, the quantity of gland tissue to be saved is to be left to the surgeon's judgment. He alone has a thorough knowledge of the patient's condition. This is essential to determine when and what to do rather than where and how to do it. Some operators leave small masses at each horn of the organ and, in addition, a thin layer of thyroid tissue attached to the posterior untouched part of

the gland capsule. These masses are well supplied with blood and lymphatic vessels and can, if needed, undergo compensatory hypertrophy.

In postoperative myxedema, there is impaired memory and intelligence, there is apathy, somnolence, great disinclination to effort. An edematous swelling of the skin develops and the patients complain of feeling cold. In young individuals, the growth is stunted. Hypothyroidism is characterized by a definite reduction in the basal metabolism; the metabolic rate is always lower than that of normal individuals of the same age and sex.

The successful management of these cases is one of the noteworthy triumphs of organotherapy. Intitute treatment at the first appearance of symptoms. Make up the deficit of thyroid secretion by thyroid treatment. In directing and guiding thyroid administration, metabolic rate determinations are of the greatest importance. Bring the patient's metabolism to normal and ascertain the dose necessary to keep it there. The patient is to be given iodothyryn or another suitable preparation of thyroid gland or the patient may be fed gland substance. The active principle of the thyroid gland, thyroxin, may be given intravenously. Thyroid gland tissue has been implanted. The treatment by organotherapy is to be continued for weeks, for months and thereafter is continued intermittently for some time; it may have to be continued for many years. In course of time, the symptoms of thyroid deficiency usually subside and may permanently disappear.

Postoperative Infections: Despite careful asepsis and perfect hemostasis, every now and then postoperative infections occur. They usually come from without, exceptionally, from within. In their causation, local tissue resistance and the individual's general resistance are not negligible factors. In the space remaining after removal of the

goiter, blood and wound secretion easily pool and are prone to infection.

The indication is self-evident. Let your technic be flawless. Do not wound the trachea or the esophagus; these wounds are often followed by infection of neighboring regions. Should the esophagus be accidentally wounded, immediate exact apposition and suture of the wound edges is indicated. After all goiter operations, drain for about forty-eight hours, thereby preventing the symptoms and sequelae due to retained thyroid secretion and extravasated blood. The treatment of postoperative infections occurring in this region is that of infections in general.

Postoperative Pneumonia: Owing to its unfavorable prognosis, it always gives the clinician the greatest concern. The pain in the wound hinders expectoration and lung aëration. The pneumonia may be endemic or epidemic in nature, may be postanesthetic, may follow the aspiration of mucus, blood or stomach contents, may follow exposure to cold during or after operation, may be due to infective emboli, etc., but, most often, almost always, is primarily due to an injury of the recurrent laryngeal nerve or nerves. In the etiology of pulmonary complications, injury of the recurrent laryngeal nerve or nerves is the paramount factor. In old individuals, this condition is frequently hypostatic in type and fatal in outcome. The abandonment of prolonged anesthesia, the avoidance of unnecessary exposure, denudation and rotation of the trachea and especially care to not injure the recurrent laryngeal nerves, have practically eliminated postoperative pneumonia as a danger in goiter operations. If by accident the trachea be opened, guard against the aspiration of blood. Should the latter occur, lung abscess or deglutition pneumonia may follow. The treatment of postoperative pneumonia is, as yet, purely symptomatic.

Disturbed Deglutition: In dislocating large goiters, the nerves supplying the

pharyngeal muscles may be traumatized. Dysphagia of several days duration always follows goiter operations; it is usually manifested by pain on swallowing. Sometimes after operation, patient chokes when trying to swallow fluids. The liquid flows back into the nose or drops into the larynx and trachea. Combat this by turning patient on his face with his head over the edge of the bed; place the glass on the floor or on a low stand and let him drink through a tube uphill. All nourishment will have to be given in this manner until normal control of the pharynx is regained.

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TREATMENT OF PERTUSSIS BY
INTRAMUSCULAR INJECTIONS
OF ETHER.*

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NEW ORLEANS.

Those among us, who have the care and treatment of children as our daily work, will appreciate the fact that anything which will help us to aid children affected with whooping cough, with its many serious complications, is worth a fair trial. The treatments for this condition have been many, the results anything but gratifying. The death rate has remained the same, and the results have not markedly improved. I believe that it is the opinion of most clinicians that in spite of the toxic effect of the invading organism, that the complications and sequelae of the disease are due to the paroxysm, with its strain on the vascular system; and the disturbance of nutrition. Therefore, anything that will ameliorate or lessen the number and force of the paroxysms will be of distinct value in the treatment of the disease.

My attention was first attracted to the use of ether by an abstract in the *A. M. A. Jour.* for Oct. 28, 1922, by G. Genoese from the *Jour. Policlinico*, Rome, who cited 50 *additional* cases which he had treated with intramuscular injections of ether, with such good results. I have since had the opportunity of reading a translation of his two original articles in which he gives the results in a total of 64 cases, and these were so encouraging that I began the use of ether for whooping cough in the early part of this spring. My results were better than any I have had with any other form of treatment. He stated that the treat-

ment could be given to the youngest patient and improve the condition, even when it fails to cure, and that the younger the patient, the better and quicker the results. He gave a total of from 2 to 12 cc. in different cases, injecting 0.55 cc. on alternate days. The benefits were most pronounced the earlier the treatment was begun.

He states that the first use of ether in whooping cough was by inhalation. The ether being sprinkled on a handkerchief and inhaled by the patient during a paroxysm; in this manner a considerable diminution in the manner of attacks and a much lessened intensity of the attacks were obtained. This method was not satisfactory, due to the difficulty in using it. Cadet of Gassicourt was the first to use it in this manner. The intramuscular method was first used by Adrian in 1914 and confirmed by Weil, Donfourt, Renard, De Herripon, Dalche and Variot. There has been no work done on this subject by English writers that I can find.

During the latter part of this winter and during this spring, there has been an epidemic of whooping cough of fairly large proportions, prevailing in the city. My series comprises 107 cases treated with ether, in clinic and private practice. My results fully confirm all that Genoese claims for it; in fact, in some instances they were startling. One instance, a physician's family, where there were four children varying in age from 3 months to four years, they were in the third week of the infection and coughing almost constantly. They were unable to sleep or retain any nourishment. The first injection was given to all of them in the morning, and the two eldest children promptly took a nap of about 6 hours. The improvement was steadily for the better from that time on; the number of injections required fully to control them were four, the dose varied from 0.5 cc. for the youngest to 1.5 cc. for the eldest, given every other day.

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Among my series, the cases varied in age from 2 months to nine years. The stage of the attack included those beginning with a slight cough with a history of exposure, no temperature, no chest findings to account for the cough, cough gradually increasing in severity, especially at night, cough being paroxysmal in character, and with a high percentage small lymphocyte count; those who were coughing and vomiting, having reached about the second or the beginning of the third week of the disease; those with the whoop fully developed; those in the stage of decline; and eight in whom the pneumonia had already developed. The ether treatment was begun in all cases promptly, including those with the pneumonia.

Among the cases with pneumonia two died. The other six made uneventful recoveries, there being no empyema or abscess of the lung, which is often found in cases of whooping cough with pneumonia. One child, not among the pneumonias, died in convulsions which lasted about 36 hours, twelve days after the last injection of ether had been given. I was not able to observe this child in the final outcome.

There were fifteen cases of the series complicated by diarrhea, which responded very promptly to dietetic treatment alone.

Fifty per cent of the cases of the series showed marked improvement after the second injection or within 72 hours. Twenty per cent, after the third injection, or in four or five days. Twenty per cent required four injections to control the paroxysms, and ten per cent required from five to seven injections, the largest number of injections made, and a space of twelve days entirely to relieve the condition. Those cases requiring the larger number of injections gave evidence of being mixed infections, probably with the influenza bacillus. Taking the series as a whole, they all improved before the sixth day of treatment.

The younger the patient, and the earlier the treatment is started, the better the results. In fact, in some of those that were treated at the beginning the parents doubted that the child had a true case of whooping cough.

Only one case developed pneumonia after the treatment was started, this was a very weak infant, very much under weight and had four hernias in the left lower quadrant of the abdominal wall. This patient is one of the two who died with the pneumonia. No form of treatment was of any value in this case.

I used the buttocks as the site of injection, being always careful to place it deep into the muscle. If the injection happens to be made subcutaneous it is followed by a slough that is very painful and annoying to the patient and usually brings about objections from the parents to any further injections. With reasonable care this is easily avoided, this treatment not being much more painful than the vaccine treatment.

The injections were given every 48 hours as suggested by Genoese. The amount injected was varied with the age, weight, severity, and the results obtained by the first injection; the dose being increased if the first showed no results. The amount given at one injection varied from 0.5 cc to 2 cc. The largest doses did not cause any untoward effects that could be noted. Within about a half hour after the injection the odor of ether could be noticed on the breath. A check was kept on the urine and blood to see if there was any pathology that could be attributed to the ether; the findings proved entirely negative; in fact during the whole series there was nothing found that could be called a contra-indication to the use of the drug.

During the latter part of the series in those cases which showed a bronchial cough after the whoop had been controlled, or were inclined to whoop with any

effort to cough, I made use of **Chloretone****. It is claimed to be an anti-spasmodic with a low toxicity. It was given in a mixture of Glycerin and simple syrup, the Glycerin being used as a solvent for the chloretone. It was used in nine cases with very good results. It was given in doses of $\frac{1}{2}$ gr. to 2 or 3 grs. depending on the age and weight of the child, sufficiently large doses being used to control the cough without causing drowsiness. The children took it readily, the taste not being unpleasant or nauseating.

Conclusions.

First: Ether is an effective treatment for whooping cough. The results being better than those obtained by any other form of treatment in my experience.

Second: The dose should be varied with the age and weight of the patient, and the severity of the case.

Third: Absence of risk or danger in using this treatment further recommends it. Care, however should be taken to make the injection intramuscular and not subcutaneous.

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- *From School of Medicine Tulane University.
 **Prepared by Park-Davis & Co.

Dr. H. P. Jones ((New Orleans): During the last year we had 38 cases of whooping cough in the infectious service. These cases of course usually come in in extremis or are very ill and are hard cases. Out of that number two of them died within 36 hours of broncho-pneumonia and the remainder made a most satisfactory progress under the use of ether injections alone given practically as Doctor Pollock has mentioned. So that at the present time that is about all the treatment we are using for whooping cough except to correct other things that may turn up. It certainly is the most satisfactory treatment for these cases that I have ever come in contact with.

Dr. C. J. Bloom (New Orleans): I have refrained from discussing the paper of my good friend and confrere, Doctor Pollock for the reason that I am not yet a convert to his particular plan of treatment. I am delighted, however, to

see the good results that he has obtained, but as most of you know I still feel rather satisfied with the plan that I have been using since 1914. I am not going to burden you with statistics at this time, but granting for the sake of argument that the plan used by Doctor Pollock is as efficient as the one we use, that is the vaccine therapy, we cannot prevent whooping cough by the use of ether administration. If we consider the remarkable effects and if we take into consideration the statistics we have to offer, as we have demonstrated in two of our institutions here in New Orleans, in the way of preventing whooping cough; when you consider the 350 cases that we have inoculated in the way of prevention, running back as far as 1914, and only four cases of that number having developed whooping cough, I believe the vaccine therapy should be considered seriously by all of us. At the Seventh Street Protestant Orphan Asylum, at the present time, we have not a single case of whooping cough, nor have we had a case for 14 months, and under ordinary circumstances naturally some of the children would have had whooping cough in 14 months. However, I am delighted with the good results that Doctor Pollock has had with the ether plan of treatment that he has explained to us this morning.

Dr. John Signorelli (New Orleans): I wish to give a report of a limited experience with ether and compare it with experience I have had in a larger number of cases with the injection of various vaccines. When vaccines were first put upon the market we used the preparations both as a prophylactic measure and as a curative measure, and we were convinced that if they were used early you were able to obtain a certain amount of improvement in individual cases. If the case had already progressed to the paroxysmal stage, very little benefit resulted. So far as alleviating the symptoms in cases that had reached the paroxysmal stage, in looking over the literature to find some light on that, I came across one which was reported from some Italian clinic where they had been using injections of sterilized whole cow's milk with the idea of the introduction of a foreign protein into the body. We tried a series of these cases at St. Vincent's Orphan Asylum, but we got no results, although the author quoted a series of cases in which he had obtained good results. My results were so poor that I determined never to use milk again and I struggled along until, on looking through the Italian literature I encountered the same paper that Doctor Pollock mentioned. I am happy to say that I am thoroughly convinced that if you use ether according to the method outlined by Doctor Pollock, in any young case, regardless

of the stage, you will be pleasantly surprised with the results. So far as the older children, after 12, are concerned, I do not believe we get the same results. It would be difficult to explain why, but for some reason we have not been able to observe the same happy results in older children. I believe the injections of ether are the best method of treating whooping cough, regardless of the stage, provided you use it in the younger children under 12 months of age.

SOME OF THE COMMONER DISEASES OF THE CHEST IN EARLY LIFE*

N. C. WOMACK, M. D.,
JACKSON, MISS.

Chest pathology in early life is assuming more importance as knowledge increases and improved diagnostic methods are more universally used. Further, improved diagnostic methods, particularly the X-ray, have caused considerable change in our views relative to chest pathology, notably in hyperplasia of the thymus, Hodgkin's disease, tuberculosis and the pneumonias.

The presence of an enlarged thymus in the newborn is not infrequent. Blackfan and Little⁽¹⁾ show in a series of cases examined routinely that 48% present an enlargement of the gland. Other writers show an average of approximately 50% enlarged thymus under a routine examination. More exacting methods, however, will show a considerable lowering of this incidence as the thymus shadow is relatively larger on expiration than on inspiration, and on diastole rather than systole. Also, a short target distance increases the size of the picture over a six-foot distance when the rays are parallel. Of the enlarged types, only a small percentage show any symptoms and the hyperplasia would not be detected unless under routine examination by the X-ray and, therefore, present no pathology. In those cases that are pathological, the symptoms are definite: the short, thick neck, respiratory embarrassment, stridor,

cyanosis on exertion, dull percussion note over the thymus, and, lastly, fluoroscopic and radiographic examinations, determine the diagnosis. Quite a large percentage of cases will show absence of any enlargement at birth and immediately thereafter, but any time after six weeks or two months show the definite shadow of enlarged thymus, wide mediastinum, stridor, dullness on percussion, etc.

These cases should not only have the benefit of a careful tuberculous history, tuberculin test, etc., but tuberculous glands should be definitely ruled out. It is my opinion that the majority of these cases are tuberculous processes rather than enlarged thymus. Wessler and Jaches⁽²⁾ are authority for the statement that in infants more than two months old the presence of abnormal masses in the superior mediastinum should be interpreted as tuberculous tracheal and bronchial glands rather than an enlarged thymus, and they further state, that these enlarged glands are a more common cause of stridor than enlargement of thymus gland. Also, that actual enlargement of the thymus gland is relatively a rare occurrence, while the incidence of tuberculous tracheo-bronchial glands is very common. In the light of present knowledge a further study of these conditions in their relation to each other would be interesting.

The X-ray has given a new impetus to the study of pulmonary tuberculosis in infancy and early life. In a paper read before this Association several years ago, I reported 55% of all cases examined under five years of age as showing positive diagnosis of tuberculosis. Again quoting Wessler and Jaches⁽³⁾ "so ubiquitous is this disease, that up to the age of puberty, over 90% of city-dwelling children have passed through such a period of pulmonary infection." Since the percentage of recoveries is so great, it is reasonable to suppose that the body immediately after infection begins to develop an immunity to the disease, and only in those cases in later life when resistance is lowered by some intercurrent

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disease such as influenza, measles, pneumonia, etc., does the active lesion again manifest itself. As the primary lesion usually begins in the parenchyma of the lung and is so unattended by symptoms as to escape detection, it is not until involvement by the tracheal and bronchial glands that the real symptoms of the disease develop. In those cases where the primary infection is massive and virulent, the clinical picture of infantile phthisis may occur, resulting in early death, but in my own experience this is rare, practically all cases assuming the secondary or glandular type and becoming chronic. A not unusual feature in the massive glandular infection, during the sub-acute stage, is that, at irregular intervals, of rupture of a lymph node into the surrounding structure setting up an atypical pneumonia; we are all familiar with that type of patient who can boast of having had from two to five attacks of pneumonia living through them all; a picture of this lung will show where each battle was fought and the lymph node encased in fibrous tissue.

Hodgkin's disease is essentially a lymph adenoma and early involves the lymphatics of the lung hilum. Its diagnosis is not difficult except in the very earliest stages when the pulmonary picture closely simulates glandular tuberculosis, however, the universal glandular involvement, the tendency to fibrous matting of superficial glands, the rapid course, the splenic enlargement, the negative Pirquet test, all serve to make the diagnosis clear.

The pneumonias are mentioned in this paper only to emphasize certain points in diagnosis. It is not difficult to diagnose typical lobar or broncho-pneumonia. However, the X-ray here again plays a prominent part in clearing up obscure and so-called concealed pneumonias. In the diagnosis of lobar pneumonia, the X-ray will anticipate the diagnosis from 24 to 48 hours before the physical signs are sufficiently developed to detect the disease. In cases of broncho-pneumonia, unless the technique

is perfect, the X-ray will naturally not be so helpful.

I wish to present some lantern slides showing case reports.

1. Baby Owen. An enlarged thymus gland associated with congenital heart lesion. This baby presented typical symptoms of both diseases, also a negative tuberculosis history and negative Pirquet test. The heart is very much enlarged and thymus enlargement is well defined.

The next few pictures presented will show tuberculosis either as an active process involving the lung tissue or the lymph nodes in the lung hilum. These are the cases that, at birth, would not present any thymus enlargement but later present a picture such as you see here and diagnosed by many as being an enlargement of the thymus gland.

2. Baby Ingram. Age 6 months, well until 6 weeks of age, then chicken-pox and influenza. Present illness: cough, irregular fever and evidence of rickets. The picture shows a wide mediastinum, isolated lymph nodes and enlarged glands at hilum of lung, base inward. This is a diagnostic point in tuberculosis as contrasted with lobar pneumonia. In tuberculosis the inflammatory mass shows base to the center and apex to the surface; in pneumonia, the base is to the surface and apex to the center. This baby had two attacks of apparent rupture of infected glands giving rise to tuberculous pneumonia since she came under my treatment. Von Pirquet test, 3 plus positive.

3. Elaine Oswalt. Age 2 years. Provisional diagnosis rickets. A noteworthy observation in these cases of tuberculous lymph nodes is that undernourishment is a constant condition and rickets is practically always included in the provisional diagnosis. X-ray shows wide mediastinum, heavy tuberculous infection of the right lung, Pirquet test, 3 plus positive. The original report on this baby showed that physical examination of the lung was entirely negative.

4. Bill Bouie. Twenty months of age. Shows wide mediastinum, enlarged bronchial and tracheal glands. Von Pirquet test, 3 plus negative.

5. Baby Cannon. Age 2 years, 7 months. Has had convulsions practically all of his life. Complete muscular paralysis of practically entire body up to 2 years of age. Diagnosis of advanced rickets made originally, with possibly some lesion of the nervous system. Pirquet test, 4 plus positive. Paratracheal and parabronchial thickening down to the 6th rib. A noteworthy observation is the tendency to convulsions in these advanced cases, probably due to low resistance. Many cases of pro-

nounced tuberculosis in infants are accompanied by convulsions, the convulsive level is low.

6. Dorothy Spivey. Age 17 months. Frequent convulsions. Provisional diagnosis enlarged thymus. Shows wide mediastinum, enlarged parabranchial and paratracheal glands.

7. Baby Levine. Four months. Gives history of having been sick practically all of its life. Pirquet test, 4 plus positive. Picture shows wide mediastinum, enlarged and thickened paratracheal and parabranchial glands; isolated lymph nodes on both sides.

8. James Hambrick. Age 6 years. This case is known to a good many doctors in East Mississippi. Had been sick practically all of its life. Came into hospital with acute otitis media but on account of his high temperature was referred to me for examination. Acute inflammatory process due to rupture of a lymph node was present at the time of examination. Notice base to center and apex to the center. Child was operated on for tonsillectomy and put on tuberculosis treatment.

9. Baby Chapman. Age 3 years, 9 months. Chronic asthmatic all its life. X-ray shows large glands. Negative Pirquet test. Cannot explain the negative test except for the chronic asthma. Chronic tuberculous process.

10. Baby Waggoner. Age 10 months. Pirquet test positive. Base and part of lower right side show inflammation. Apex to the surface.

11. Sam Waggoner. Age 29 months. Dizzy spells with rickets. X-ray shows enlarged tracheal and bronchial glands which are tubercular. Pirquet test positive.

12. Pernicia Stroud. Age 10 years. Perfectly normal in every way. When 3 years of age had posterior cervical glandular enlargement with discharge of pus. Present examination shows enlarged posterior cervical gland which was removed and found apparently full of tubercular pus. Picture shows isolated lymph node similar to Hodgkin's disease. Subsequent history justifies this opinion.

13. Baby Johnson. Age 9 months. Had influenza and brought to hospital because of fever and lung involvement. Empyema on the right side. Operated on, pus removed and tube inserted.

14. Baby Alexander. Age 18 months. Case of pneumonia. Involvement of the lung is outside, triangular shaped, base to surface. Diagnosis by X-ray 24 hours before physical signs developed.

15. Evans Richardson. Age 9 years. X-ray shows consolidation of right middle lobe of lung.

X-Ray 24 hours before physical signs developed.

16. Horace Henson. Age 5 years. Admitted to hospital with pain in abdomen and slight cold. No symptoms of pulmonary inflammation except fever. Physical signs entirely negative. X-ray of chest showed beginning pneumonia which must have been at least 24 hours old. Next picture taken 3 days after first, shows well-defined inflammatory area, base outward, apex to center. Next picture 2 days later shows general consolidation throughout middle lobe of left lung. Patient had usual crisis clear of fever for 4 days. Readmitted to hospital with high temperature. X-ray showed left side full of fluid. Next picture shows rib resected with tube inserted. Next two pictures are continuations of improvement in the condition.

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DISCUSSION.

Dr. C. A. Sheeley (Gulfport): I enjoyed this paper very much. It seems a peculiar thing that nature put two of the so-called vital organs in the chest, and then went off and left them the least protected. We might say the chest wall is probably the thinnest part of the anatomy, the other organs being better protected; but to compensate for this, a furnace, so to speak, was placed in the chest.

The child has probably the least developed central nervous system, and it is governed very much by its autonomic nervous system, that is, the vegetative system. That system is subject to the changes of environment and so it always seems to me that in the treatment of diseases of the chest in children, and I think this applies to grown people as well, that they should be placed in an environment where they can keep warm without any exercise of their vital functions. That means that their systems will react better if they are placed in an environment which is as nearly as possible the temperature where plant life grows and thrives the best. The nurseryman and florist recognizes this principle and keeps his plant life in a warm temperature, and that same thing applies here. If you keep these little fellows in a good warm room where the temperature is wellguarded, where you know just exactly what it is at all times, they will do better. These people are sick and do not have their normal powers of resistance and cannot be kept warm by clothing. When a child has pneumonia we have gotten away from the idea that he is breathing rapidly because he needs oxygen. He is breathing rapidly because toxins are acting on his nervous system and that affects his respira-

tory centers. The child is not suffering from an accumulation of carbondioxide. The carbondioxide does affect the respiratory centers but it does not necessarily make respiration more rapid, so that rapidity of respiration is no criterion as to the amount of involvement of the chest.

The thing I want to impress on you doctors is—let us have these little fellows in a warm place and keep them well protected. Do not put ice bags on the chest any more than you would call in the ice man to cool off your furnace.

Dr. Joseph E. Green (Richton): This is to me the most interesting paper that has been read today. I cannot add anything to Doctor Womack's paper, except that if we would do more of what he is doing there would be fewer "Baby Gone to Rest" tombstones over this country. That thing is thorough examination of the patient. It is true that many of us in the smaller towns have not the advantages of the doctor who is in the larger town in the way of microscopes and X-Ray, etc., but if we could examine our patients thoroughly, many a poor baby that has an earache would not be given a dose of castor oil and paragoric. I would urge that we take more time making our examinations and be more interested in getting the baby well than we are in getting the dollars into our pockets.

ACIDOSIS IN INFANCY*

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NEW ORLEANS.

This paper is written not with the idea of presenting anything new, but only to emphasize this subject more fully. The term "acidosis," so often used by the physician to imply a distinct and definite disease, is erroneous—the very word "acidosis" fills the layman's breast with fear.

Acidosis is a process which results in the depletion of the fixed alkali of the body. Normally in the metabolic process considerable amount of acid is produced, such as carbonic, phosphoric, sulphuric, as well as certain organic acids. Under normal conditions, the body is able to eliminate these acids or to neutralize them with ammonia so there is no depletion of

the reserve of the fixed alkali in the blood and tissues. In any disease which interferes with this normal metabolism and allows the alkali reserve to be drawn upon, the condition "acidosis" may be said to be present.

Causes: Acidosis may be produced in many ways.

1. Increased acid production as occurs in diabetes (this type we are not discussing).

2. Acute starvation as when the fats break down and give off acetone, diacetic acid and betaoxybutyric acid. Under this heading are included infants that vomit from whatever cause; for example, otitis media, the infant vomits all formulas for 12 or 24 hours with a resultant starvation acidosis.

3. Fever from any cause. We have an increased metabolism and if the carbohydrates are not in sufficient proportion to oxidize the fat acidosis results.

4. Watery diarrheas. The kidneys fail to excrete acid phosphate due to the fact that so much fluid has been lost from the body by other channels. The blood volume in these infants is markedly decreased. The volume flow of the blood is decreased because of the reduction in blood volume and this in turn depends upon the concentration of the blood through loss of fluid.

Symptoms and Signs: Extreme restlessness or drowsiness; stary, sunken eyes, red lips, sweet odor to breath, anxious expression, temperature, subnormal or elevated. The most distinctive clinical evidence of acidosis is the characteristic air hunger. The breathing is deep, the increase in rate is less marked, the respirations are pauseless, and individual respirations may vary in depth, the most striking feature is the amplitude of the respirations and the distinct effort with which they are accomplished. There is no cyanosis.

Laboratory Diagnosis: (1) The determination of the carbon dioxide tension in the alveolar air. We use Marriott's method. The alveolar air is collected by having the patients rebreath air from a rubber bag. The sample of air thus obtained is analyzed by bubbling it through a standard bicarbonate solution containing

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an indicator and comparing the color with that of the standard tubes. In normal infants at rest, the carbondioxide tension in the alveolar air varies from 35 to 40 mm., tensions between 25 and 30 mm., are indicative of a mild degree of acidosis. When the tension is as low as 13 the patient may be considered in a critical condition.

(2) The determination of the bicarbonate reserve of the plasma by the method of Van Slyke.

(3) Alkali tolerance test.

(4) Acetone bodies in the urine. Acetonuria is exceedingly common in sick infants. It is almost regularly present in all febrile diseases. In many instances, although sufficient acetone bodies are present to give a qualitative test in the urine, the amounts are insufficient to lead to any detectable reduction in the alkali reserve of the body. From acetonuria alone the diagnosis of acidosis should never be made, though when the amount in the urine is very large, it should inspire a careful examination for additional evidence of acidosis. Severe and fatal acidosis frequently occurs when there is no overproduction of acetone bodies and when they cannot be detected in the urine.

Treatment: A thorough physical examination of the infant for a focus of infection. An otitis media if not discovered will often cause vomiting and later a severe diarrhea due to absorption of pus. To attempt to treat the diarrhea and acidosis without first doing a paracentesis would be useless. Occasionally the physical examination will be entirely negative for a focus of infection. Here we treat the acidosis and later go into the history. Often due to improper handling, such as playing with the infant from daylight to dark, the babies threshold has been so lowered as to bring about an increased irritability. Careful regulation of habits will prevent a recurrence from the above

cause. Skin tests for sensitiveness to foreign proteins—if any are found eliminate from the dietary and a recurrence is prevented. The mild cases will respond to milk of magnesia, large amount in broken doses, soda bicarbonate by mouth, sugar and soda enemas, weak condensed milk formulae, orange juice, stick candy, and plenty of water. The fluid intake must be *at least* 3 oz. per pound body weight for the 24 hours. In the severe cases, if vomiting is present, gastric lavage with 5% soda bicarbonate solution, wait 15 minutes, then start with small, frequent feedings of weak condensed milk or orange juice. Do not attempt to put formulae in stomach through tube after lavage, for if you do it will most assuredly be vomited. If you start with 1 oz. of formula every half hour and the infant vomits, go to $\frac{1}{2}$ oz. every 15 minutes; if vomiting persists, 1 teaspoonful every 5 minutes. As the baby gradually holds formula, increase quantity and lengthen the interval of time between feedings. These infants must be fed day and night. Atropin sulphate, 1-500 of a grain, by needle every 4 hours, often helps to control the vomiting. Drugs by mouth are here of secondary importance. Food and fluids come first. To an infant with many watery mucous stools, do not use calomel, milk of magnesia or cascara in an attempt to further cleanse the intestinal tract. A very small dose of castor oil will soothe the already inflamed bowel and exert a constipating effect. For example, where a teaspoonful of castor oil will be a dose for an infant as a purgative, give only 10 drops. The majority of the severe cases of acidosis in infancy are also dehydrated. To these, in addition to carrying out the above procedure, an intraperitoneal injection of normal saline or normal saline by hypodermoclysis, or both. About 30 minutes later, 10% glucose intravenously is given very slowly; 10 c.c. of the glucose solution per pound body weight. This procedure may be repeated every 8 hours if necessary. The results

with this method of treatment are nothing short of miraculous. The mistake often made is giving a hypertonic glucose intravenously to these dehydrated patients with acidosis without having first given the normal salt solution. The patient, as a result, is further dehydrated. As pointed out by Schloss, it is very important to give the isotonic saline solution into the tissues first and the hypertonic solution of glucose into the circulation shortly afterward. Otherwise, the hypertonic solution will draw the fluid from the tissues and cause further dehydration.

DISCUSSION.

Dr. C. J. Bloom (New Orleans): If we consider the fever which is so often present in the newly born, and if we try to limit this loss of weight and the apparent starvation process which is evidenced during the first five days of the infant's life, the so-called acidosis or starvation fever will be obviated.

In regard to the frequent purgation so often instituted in the treatment of these diarrheas, I think it is the most frequent mistake made. Give an initial purgative, and if you desire later on, give a small dose of castor oil, or a few drops of paragoric. You cannot expect yellow movements after frequent purgatives have been given.

As to water, we never give water while children are vomiting. I believe in giving three ounces of water for each pound of weight in 24 hours, but as long as children are vomiting, give some other liquid of choice, such as 5 per cent. sugar, or 2 per cent. bicarbonate of soda, or orange juice, weak tea or other liquids.

Do not attempt to treat the bowel condition primarily, for if you do this by giving purgatives, you will simply add insult to injury. Treat the cause and you will get the effect, and what is true in regard to the treatment of the bowel condition is more true in regard to the treatment of the temperature. If you have fever in these cases and if it goes beyond the initial rise and you attempt to use antipyretics, you will lose the child in most cases. But if you attempt to give fluids by the mouth to neutralize this acetone it will be only a question of a short time until the fever subsides.

In addition to giving sugar and carbohydrates as the main diet by mouth in those cases where you have diarrhea that stimulates colitis, you will find giving irrigation of either 5 per cent. glu-

cose, or dextrose or lactose, alternating with 2 per cent. bicarbonate solution three times a day; the amount of acetone will be reduced in the urine and therefore the life of the child will be saved.

Dr. Emmett L. Irwin (New Orleans): No matter with what branch of medicine one allies himself, sooner or later he is confronted with the problem of acidosis complicating some of the diseases which he may be called upon to treat. While the true nature of acidosis is even now problematical, it is known that an insufficient utilization of carbohydrates to produce complete oxidation of fats will result in acidosis. An altered carbohydrate metabolism, whether due to organic disease, lack of intake or faulty assimilation, is essential to the production of a state of acidosis. The underlying factor then in its treatment should be, "utilization of sufficient carbohydrates completely to oxidize the necessary fat." There is no condition or complication which is more striking or more formidable to the physician than a severe acidosis. The surgeon finds it complicating a number of his cases, both pre-operative and post-operative. Chief among these are the acute surgical diseases—appendicitis, etc.

One can look back to the time when acidosis was lightly considered and these individuals suffering from severe acidosis complicating the acute surgical diseases were immediately operated upon and promptly died. Fortunately, we are able to offset this condition and prepare them rather rapidly for the operation. The acidosis eliminated, chance for recovery is increased and many of these are now saved.

For some time glucose has been used in combating acidosis, though the results have been varied due to lack of assimilation, but when the glucose is supplemented with insulin, the former is certainly utilized and the state of acidosis disappears.

It is very striking and almost miraculous to see the way these individuals will respond to the administration of glucose when supplemented with insulin, and I think the fundamental in the treatment, "carbohydrate utilization," is accomplished. Sometimes these cases are so very ill they vomit everything taken by mouth, necessitating glucose administration by skin, rectum, or intravenously. The latter is by far the most efficacious, and response is immediate.

The results obtained at Charity Hospital are beyond description. One must see the cases to fully appreciate them. For the past year, sodium bicarbonate therapy has been abandoned and the

more efficacious glucose-insulin therapy employed.

The acetone breath will appear before acetone can be found in the urine and it will remain on the breath even after it has disappeared from the urine. This simple and practical test may be employed rather than going to the more elaborate and complicate methods of determination.

Usually one or two infusions of glucose supplementing each two grams with one unit of insulin will clear up a case of acidosis, but may be repeated as often as necessary.

Dr. Farrar Patton (New Orleans): I wish to express the pleasure it has given me to hear Doctor de la Houssaye's paper, which I regard as one of the most practical I have yet heard, and congratulate him, as one of the younger men of the profession, on his moral courage in trying to discourage the promiscuous diagnosis of acidosis in cases where a specific diagnosis should be made. As Registrar of the Charity Hospital I have particularly discouraged this among the Internes, believing that it is always possible to locate the underlying condition. Let us find out what the actual condition is and call it that.

Dr. Roy E. de la Houssaye (closing): I am very glad Dr. Irwin mentioned insulin. I deliberately refrained from discussing it in my paper because, until more work has been done, I think it is dangerous. We know that insulin is eliminated in the urine. Most cases of acidosis in infancy are also dehydrated with a consequent diminished urinary output. Again, if you use insulin it should be controlled with blood sugar determinations and in these infants, if you take 5 to 10 c.c. of blood, it is a great loss. Again, the pancreas in infants is very rarely diseased so the ability to metabolize carbohydrates is not interfered with. The results with the method I have given you are so miraculous that I can see no reason for taking a chance with insulin.

ABDOMINAL SURGERY UNDER LOCAL ANESTHESIA.

CARROLL W. ALLEN, M. D.,
NEW ORLEANS.

The possibilities of major surgery under local anesthesia within the abdominal cavity in the present state of our knowledge on the subject, although limited, comprise

a long list of the commonly performed surgical procedures.

Certain general rules should be observed in selecting cases for this form of anesthesia. Very stout, rotund individuals with tense abdominal walls should be avoided. Operations in the presence of acute inflammation should rarely ever be attempted. Highly nervous subjects and those hard to control should also be avoided.

The ideal patients for this class of surgery are those of a placid, tranquil temperament, not too stout, and with relaxed abdominal walls.

The "abdominal brain," the sympathetic nervous system and its numerous plexuses, have no pain sense but receive fibres from the cerebro-spinal system through the rami-communicantes through which all painful sensations are transmitted. These communicating branches are given off from the anterior division of each of the spinal nerves as they emerge from the intervertebral foramina and running forward join the sympathetic chain as it courses downward along each side of the vertebral column. It is probable that the large nerve ganglia in the upper abdominal cavity are liberally supplied with sensory nerves which have communications all through the cavity as it is to these points that painful sensations are usually referred.

A knowledge of the source of nerve supply and its distribution is the key to the successful application of local anesthesia to this great storehouse of surgical pathology. We must aim at the source of nerve supply, namely that region alongside of the vertebral column and particularly in the epigastric region for all operations above the pelvis. In the less extensive operations such as appendectomy, all that is needed is to infiltrate the retroperitoneal tissue on the proximal side of the cecum.

For the more commonly performed operations on the gall bladder and stomach the cavity is opened under infiltration high up

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in the midline and the space between the liver and stomach sought for. A finger is then gently passed down to the vertebral column. A long blunt pointed needle is then passed down alongside of the finger and made to penetrate the peritoneum just to one side of the column. Thirty cc. of $\frac{1}{2}$ % novocain solution are injected at this point. The opposite side is similarly injected. Care must be exercised not to injure any vessels or other viscera during these manipulations. The solution injected in this manner diffuses in all directions and effectively reaches the entire nerve supply.

These two injections are sufficient for all gall bladder or stomach surgery. When the field of operation extends below the stomach, this organ together with the transverse colon and omentum are retracted upward and the space just below the transverse mesocolon sought for and two additional injections made in a similar manner. These four injections when properly made are sufficient to anesthetize the entire abdominal cavity above the pelvis.

Within the pelvis we have a somewhat different nerve arrangement. The lumbo-sacral cord passes down on each side of the vertebral column to form a plexus with a large number of small nerves which pass out of the anterior sacral foramina.

To anesthetize the pelvic cavity the needle is entered high up along the course of the lumbo-sacral cord and about 30 to 40 cc. of solution injected just beneath the peritoneum on each side, this solution diffuses downward infiltrating the entire sacral plexus.

As a rule no further anesthesia is needed here although the small intestines may at times give trouble by coming into the field. This can usually be satisfactorily controlled by packing off, which is favored by the Trendelenburg position. Where trouble is encountered from this source a fair degree of anesthesia of the intestinal

coil can be obtained by an injection of 30 to 40 cc. of solution made as high up over the anterior portion of the vertebral column as can be conveniently reached. With the patient in the Trendelenburg position the solution flows upward along the column to the root of the mesentery.

Where only a limited amount of manipulation is needed and the parts not bound down as in the case of an ovarian cyst, all that is needed is to surround the operative area in the broad ligament with a fairly liberal injection but if the parts are bound down and must be mobilized it will be necessary to block the entire pelvis as described above.

The utilization of the various methods of para vertebral anesthesia for intra-abdominal surgery has not proved very satisfactory in my hands. The time consumed, the manipulation of the patient, the large number of injections necessary, each of which must be accurately made, and quantity of solution needed are the objectionable features. If any one of the injections fail to reach the nerve supply a failure results which is not known until the abdomen is entered and too late to repeat.

One half per cent novocain solution with 3 to 4 drops of adrenalin solution 1 to 1,000 to each ounce is amply sufficient though some operators prefer to use a 1% solution.

A preoperative hypodermic of morphine gr. $\frac{1}{4}$ and scopolamine gr. 1-150 is quite important and had best be given one hour before operation. If a slight drowsiness is not induced it can be repeated in half the quantity just before the patient goes on the table.

In cases complicated with extensive adhesions making it impossible to carry out the above technic it must then be modified to suit the conditions by infiltrating and dissecting through the adherent areas until the posterior abdominal wall is

reached. In extremely bad cases the entire operation may have to be performed by dissecting through the adherent mass such as is often seen in old chronic gall bladders. In cases where this condition is suspected a general anesthetic is to be preferred unless absolutely contra-indicated.

TWO YEARS UNDER THE SHEPPARD-TOWNER ACT*

FLORENCE E. KRAKER, M. D.,
WASHINGTON, D. C.

When the Children's Bureau was created in 1912, infant mortality was one of the subjects it was directed to investigate. The initial study, made in an industrial town in 1913 was repeated, at the special direction of Congress, in nine other industrial towns and cities, including Baltimore, Maryland, and Gary, Indiana. Studies were also made of the care available to mothers and infants in typical rural communities of twelve States of the South, middle West, and West.

All these studies indicated the coincidence of a high infant mortality rate with low earnings, poor housing, and the employment of the mother outside the home. They also showed that there is great variation in the infant mortality rates, not only in different parts of the United States, but in different parts of the same State, the same city or town. These differences were found to be caused by different population elements, widely varying social and economic conditions, differences in appreciation of prenatal and infant care, and in the facilities available for such care.

Evidence of the methods used in successful efforts to reduce infant mortality was also assembled. It was demonstrated that where mothers had received instruction on the proper care of children, the value of breast feeding, and the importance of con-

sulting a physician upon the first indication of disease, there was a substantial decrease in deaths, especially in those from gastro-intestinal and respiratory causes. Only slight progress had been made in reducing the deaths in early infancy, including deaths caused by premature birth, congenital debility and birth injury. Consideration of the causes of infant mortality inevitably leads, therefore, to the question of prenatal, lying-in and post-natal care of the mother.

In the annual report of the Children's Bureau for 1917, Miss Julia Lathrop, the Chief of the Bureau, called attention to the method of co-operation between national and local government adopted by Great Britain in the so-called grants-in-aid for maternity and infant welfare work, and suggested that the United States should use the well-established principle of Federal aid as a basis of national and state co-operation in reducing the unnecessarily high death rate among mothers and babies in this country. The best known previously enacted laws of this general type were: The Morrill Act of 1862, providing for land-grant colleges; the Hatch Act of 1887, establishing agricultural experiment stations; the Smith-Lever Act of 1914, creating the agricultural extension service; the good-roads act of 1916 (extended in 1919, 1921, and 1922); and the vocational education act of 1917.

The Sheppard-Towner Act for the promotion of the welfare of maternity and infancy, which became a law November 23, 1921, may be briefly summarized as follows:

1. **Appropriation.** It authorizes an appropriation of \$1,240,000 for a five-year period, of which not to exceed \$50,000 may be expended by the Children's Bureau for administrative purposes and for the investigation of maternal and infant mortality, the balance to be divided among the States accepting the act as follows: \$5,000 unmatched to each State, and an addi-

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

tional \$5,000 to each State if matched, the balance to be allotted among the several States on the basis of population, and granted if matched.

2. Administration. National administration of the act is lodged with the Children's Bureau of the Department of Labor; local administration in the States rests upon the child-hygiene or child-welfare division of the State agency of health, or where such a division does not exist, upon the agency designated by the State.

3. Plan of Work. The act intends that the plan of work shall originate in the State and be carried out by the State. A Federal Board of Maternity and Infant Hygiene, composed of the Chief of the Children's Bureau, the Surgeon General of the United States Public Health Service, and the United States Commissioner of Education, may approve or disapprove State plans, but the act provides that the plans must be approved by the Federal board if "reasonably appropriate and adequate to carry out its purposes."

At the present time 43 States and Hawaii are co-operating under the Act. Porto Rico and Alaska have requested that they be included, but Congress has not as yet acted upon their petition. The States not co-operating are Maine, Massachusetts, Connecticut, Kansas and Illinois.

In all but two States the administration is in the State Agency of Health. These are Iowa, where the work is carried on under the State University Extension Department, and Colorado, where it is under the State Department of Education.

Each State has its own local problems to face and the State plans necessarily cover a diversity of conditions. But the main objective is the same, to protect child life and health. Certain basic principles underlie all the State activities, such as (1) better infant care through the teaching of mothers; (2) better care for mothers through education as to the need and value

of skilled supervision during pregnancy, childbirth and the lying-in period; and (3) more widespread medical and nursing facilities so that adequate maternity and infancy supervision will be available to all who need them.

Since the life of the child begins in utero any work designated to protect the life and health of children must include the period of gestation. Therefore all the States are including in their child-welfare programs measures designed to insure adequate care for the pregnant woman, who often fails to appreciate the importance of medical supervision during pregnancy and seldom understands how necessary it is to have skilled attention at the time of labor. The nurses find, however, that if their advice to mothers to seek prenatal care is based upon the needs of the baby, the mothers are much more willing to listen, for almost every woman can be made to see the desirability of medical attention for her children.

For obvious reasons it is more difficult to initiate prenatal than preschool work. New York and Michigan each employ an obstetrician whose entire time is devoted to the holding of prenatal conferences. This is a very costly undertaking and most of the States feel that their budgets are not sufficiently elastic to allow for this character of work.

Minnesota has an outstanding prenatal program. During the past year two of the leading obstetricians of Minneapolis, who are members of the teaching force of the University of Minnesota Medical College, have given some time to work under the State Bureau. They travel into the rural districts and spend a day conducting prenatal conferences. Prenatal examinations are given to determine the general physical condition of the patient and include examination of the teeth, heart, lungs, blood pressure, pelvic measurements, presentation and position of fetus, auscultation of fetal heart, examination of urine,

questioning as to elimination and always include advice on the importance of having adequate prenatal care. The patient is advised to put herself under the observation of the family physician in order to receive the necessary attention both before the baby is born and at the time of delivery.

As the majority of the doctors in Minnesota are graduates of the State University Medical School, the two obstetricians who work with the Bureau of Child Hygiene are well known to most of the practicing physicians. Hence the local physicians not only co-operate satisfactorily, but they often bring cases for consultation. Before the day is over the obstetricians hold public meetings to which all women in the neighborhood are invited. General talks covering the hygiene of pregnancy are given here.

Because it is difficult to reach women who live in isolated regions many of the States conduct a correspondence course on the hygiene of pregnancy, which consists of a series of lessons with a number of questions which the student is to answer and return for correction. Other states have used the so-called prenatal letters. These consist of a series of letters which are distributed monthly to expectant mothers. They deal entirely with the subject of pregnancy, telling what to expect as pregnancy progresses; pointing out danger signals; and stressing the importance of consulting a physician. Thousands of these letters are sent out every year in response to requests from physicians, public-health nurses and others.

Considerable attention is given in some of the States to the making of obstetrical packages. Under the direction of nurses, local clubs or other groups of women prepare well wrapped packages containing articles that will be needed at the time of delivery. These packages are sterilized and placed with the local druggist, the county nurse, or some place easily accessible to all in the neighborhood. In this

way surgically clean dressings are furnished for the use of the doctor, and lay people are given a practical demonstration of the imperative need of asepsis at even the most normal delivery.

The program of some States includes mothers' classes. These classes usually consist of a series of four or five lessons covering the time from the beginning of pregnancy until delivery. They furthermore give instruction in the care of the newly born baby and the health of the pre-school child.

Little Mothers' Classes are similarly conducted in many States. In these classes school girls are taught the rudiments of child care and the fundamentals of the hygiene of infancy.

Much educational literature is distributed. Some of the State Bureaus of Child Hygiene prepare their own bulletins and pamphlets and the Childrens' Bureau bulletins—Prenatal Care, Infant Care, and Child Care—are also widely used.

Much attention is given to the encouragement of breast feeding and mothers are instructed as to diets that contain the best milk forming foods, and are urged to eat such food, both before the baby is born and during the lactation period. Instruction in milk expression is also given. The Bureau of Child Hygiene of New York State has established in Nassau County a breast feeding demonstration where over 2,800 cases have been observed, and where the demonstration is to continue until 1,000 cases have been followed for nine months. This demonstration has served a further purpose in that it has furnished a teaching center in the technique and promotion of breast feeding for all the nurses on the state staff. Several of the nurses have become so interested that they are planning to begin definite demonstrations in their own counties, and three of these have already been started.

That better obstetrical care may be given, the States having a midwife problem

have instituted measures for midwife training. Many States have made surveys, and are instituting methods of instruction. What the South is doing, you all know. Mississippi was one of the first to institute classes for midwives. Today, every Southern State has some machinery for the instruction and supervision of colored midwives.

Each State aims to make facilities for a complete physical examination available to every child before his school life begins. If a child enters school relieved of the handicaps of poor vision, deafness, bad teeth, enlarged tonsils or adenoids, faulty posture, nutritional disturbances or improperly functioning internal organs, we, as physicians, can easily realize how much better chance that child will have.

Often the apparently well child may have some slight physical defect which the parent does not appreciate. If treated in the beginning, this may perhaps require but a minor operation or curtailed treatment; but, if neglected, it might develop into a really serious condition.

To give these children a chance, all the States' activities embrace the holding of children's health conferences. Pioneer work has consisted, in most cases, of holding such conferences in outlying districts, thus endeavoring to make these examinations accessible to every child in the State. So far only two States, Idaho and Iowa, have held conferences in every county, but encouraging progress toward this goal has been made in all States.

In California last year a "pre-school drive" was made during April and May in 20 counties in the endeavor to have all children between five and seven years of age given a complete physical examination so that all defects might receive attention before the fall when they would enter school. This was done only in the counties where co-operation from the medical and dental associations could be relied upon. In some cases the local doctors examined the children; in others the county

medical association requested that the State Bureau supply a skilled pediatrician. The results of this campaign were most gratifying and its success has been demonstrated by the fact that this year more counties have requested the State Child Hygiene Bureau to aid in a pre-school health campaign.

Very frequently these conferences are the beginning of permanent health centers, which are held at regular intervals, usually in the office of the county nurse. Where there is a full-time county health officer he attends and the nurse assists him as he examines the children and advises mothers. Where a full-time health officer is not available the local doctors make some arrangement among themselves so that the responsibility for conducting the conferences is divided among them. At these children's health conferences the mothers often are instructed in the hygiene of pregnancy; they are advised to put themselves under the observation of a physician early in pregnancy; and literature is distributed. Not only are children examined and corrective work indicated, but the importance of keeping well and preventing illness is put before the public in such a way that incalculable educational work is accomplished.

In several instances dental advice is given at the children's health conferences, dentists often being present to examine the children's teeth and to give directions to mothers.

The administration of toxin-antitoxin to children of preschool age has been included in the activities of several of the States. Through the child health centers in Pennsylvania the State Board of Health supplied physicians with toxin-antitoxin, thus trying to reach all children over six years of age. To date 135,598 preschool children have been immunized. The Schick testing is done six months later.

Nutrition classes form a part of several of the State programs. In these classes the undernourished and overnourished

children have proper diets prescribed for them and are kept under observation until they show satisfactory improvement. The nutrition workers also instruct the mothers in the preparation of food and give them advice as to proper dietaries.

A study of the reports of the state bureaus for the United States' fiscal year 1924 shows that 15,547 Children's Health Conferences were held at which 303,546 children were examined. This indicates rural work almost entirely as very little Federal money is spent in cities.* Knowing the population of our country, we can easily appreciate how very much still remains to be done.

The burden of the responsibility for the furtherance of this work rests upon the medical profession and it is your duty in Mississippi to help individually and collectively, in every way possible.

You can all know the nurse in your county and familiarize yourself with her work. You can easily ascertain what she is teaching and, if you disapprove, give her such instruction as you find necessary. The county nurse can be used to give instruction to patients, and can keep these patients under her observation, referring them to the physician only when his personal attention is needed. In that way the burden of the busy practitioner can be lightened while the patient is still safeguarded. Not only will you find the nurse helpful during the prenatal period, but she can also aid you by visiting the patient during the early weeks of the baby's life, that period of adjustment for the mother where she needs so much teaching concerning the care of the small baby. The nurse can also persuade the mother to return to the physician at the end of six weeks for the internal examination which should then be made. The county nurse has had specific training in all branches of public-health nursing and stands ready to supplement you in your services to your State.

We are confronted by tremendous handicaps of tradition, and by the burdens of superstition prevalent among a large proportion of the general public. But all of this can be overcome, and is being overcome, by the steadily increasing co-operation of the family physician, who realizes more and more his responsibility and upon **whom** rests the ultimate success of all preventive medicine.

DISCUSSION.

Dr. W. D. Beacham (Hattiesburg): This is certainly a very interesting paper and only those of us who have given much thought to this subject appreciate it. While we admire the woman who has succeeded in a commercial and a professional and political world, all honor to the woman who has propagated her race and has been called "Mother." She is certainly entitled to every consideration and every aid to render child birth as easy as possible, and for the protection and care of her offspring.

As director and full time County Health Officer, I will say to you that in Forest County we are mailing these circular letters to quite a few mothers. We are having mothers' meetings and instructing them how to care for themselves, and as you know, it is a problem of the midwife, and caring for expectant mothers is still a problem in our state. Quite a few of our doctors say that we ought not to mention the word "midwife," that we ought not to give recognition to them to that extent. Others say we should teach them since we must use them. As an official, I say to the medical profession that I am not exercising mid-wife control; I am not teaching them to be doctors, but I am telling them what they must not do, and that if they do do things I will see that they are confined in jail. I am telling these mid-wives that when they are engaged to wait on a woman, they shall tell her they will be glad to come, but that eventually she must have a doctor, and make them select the physician. Then I insist on the midwives counselling with the obstetrician in order that the best care may be taken of the expectant mother. In our laboratory we gladly analyze the urine. We thought for a while we would open the door, say once a month, for the examination of these expectant mothers and to educate the people to employ skilled physicians, but the medical fraternity said, "Hold on, don't get in too big a hurry." Our position is that the public health will never get anywhere unless we have the co-operation of the medical profession, and I will say that the medical pro-

fession of Forest County has given all the help the Department asks them for to assist in this great work, and render this service without cost. I hope the time will soon come when the doctors will give these women a thorough examination, or will permit the all time health department to do it, and refer them to the medical profession for treatment when they need it. Seventy-five per cent of puerperal eclampsia are in cases that you are called upon to treat where you have not seen the patient previously, and if these patients had been cared for properly beforehand, this condition could have been prevented in most cases. Since the doctors are going to the larger centers and the rural districts are without competent physicians to do the necessary operations to preserve the health and life of these women, it is important that they have an examination before they arrive at this all-important hour. It means so much to have a blood test, especially where syphilis is suspected, in order that they may have proper medication, and there are many other things too numerous to mention. We are recognizing the importance of a thorough examination of the expectant mother, but as has been said before today, there is too much of the old style practice being used—look at the tongue, count the pulse, and give a purgative and quinine. We may as well be frank, put the cards on the table face up, and call a spade a spade. The time is coming when the boys who come out of school will be better doctors because they are willing to work, and the man today who is not willing to work is not worthy the title "M. D."

As to the babies, last summer at Saluda, North Carolina, Doctor Royster read a paper on cranial hemorrhages that I thought was worth the whole trip to Saluda. Learn how to take care of these new born babies—too many of them die. If you want to learn something about this work spend a few days at Youro in the obstetrical department and the child welfare department.

Dr. Oscar Dowling (New Orleans): It is no new thing for Louisiana to follow in the footsteps of Mississippi, and the results up to the present time have been very satisfactory. We hope that some time in the future we can establish what we will call emergency stations where expectant mothers may go to be examined and where if necessary they can be confined and taken care of up to a certain period after the coming of the child. We realize that entirely too many babies have died in Louisiana; there are too many miscarriages, a number of which could be prevented if the mothers had proper attention beforehand. We know approximately to what an extent syphilis prevails, and if the ex-

pectant mothers who have syphilis were properly treated, many lives might be saved and they might bring children into the world who would be an asset instead of a liability.

An important thing is to look into the living conditions, and beginning at the close of the school year at Tulane this year, six or eight students will be employed who will visit the towns of the state and some of the plantations to make an investigation of the living conditions of the people, following it up on the basis of last year when it was confined to the living conditions of the colored people. This year they will take both colored and white and see what improvements have been made in connection with the living quarters of the negroes.

We must protect the milk supply. Mississippi is equally as far behind as Louisiana in the production of good milk. We want to see this milk supply properly protected for the benefit of the babies as well as of sick people who have to use the milk. You can be wonderfully helpful in this and any assistance you may give will help Louisiana. We want more babies and better babies in Louisiana, with the rich red blood of health, and we know you want the same thing in Mississippi. Where they are colored we want to give them the same chances as the white in order to reduce the death rate as much as possible.

Dr. Florence E. Kraker (closing): There is something I want to tell you. Under the auspices of the Children's Bureau a committee of some of the leading obstetricians of the United States has been meeting for the purpose of formulating standards for prenatal care. These men have been working for several months preparing a plan which is now almost ready for publication. It will be printed and distributed to every physician in the United States. You can use it in your offices and prenatal clinics.

A week ago the committee met for careful final discussion of each item in the standard. In regard to one paragraph which said, "The woman who is to be delivered by a licensed midwife should be examined by a physician six weeks before delivery and again two weeks before delivery," Doctor Adair, of Minneapolis, said, "The woman who is to be delivered by a licensed midwife should have the same prenatal care as that to which every other pregnant woman is entitled." This was agreed to without a dissenting voice.

It is only by control of the midwife by the doctors working with them that we can improve their work and so help the women who are dependent upon them for maternity care.

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“TIS WELL SAID AGAIN.”

The past year has been a good year. The physicians of many sections of Louisiana and Mississippi have shared in the general prosperity.

What the coming year may hold we can none of us foresee; but it is the earnest desire of the JOURNAL that for you it may bring a generous harvest of happiness and good fortune.

The humanitarian attitude and service of the physician is known to all. He gives his time and sacrifices personal convenience to the need of the hour, he gives his skilled service in unstinted measure for the relief of pain. He works freely in the cause of preventive medicine and sanitary science. If the inner consciousness of duty

faithfully performed, of good work well done is in any degree a recompense for labor, then the medical profession of these two states should feel happy and satisfied with the results of their efforts.

There is one phase of medical effort which should be stressed—greater activity by the medical societies.

Through the medical society higher standards of knowledge are encouraged insuring better service to the public. It makes us more careful of what we do and what we say. When warm and genuine feelings of fraternity pervade our hearts then do we become incapable of wronging each other, even in the absence of any written code of ethics.

We should strive to secure the membership of every reputable physician possible, and even if he is not in a very strict sense reputable, still if there is no just cause of unprofessional conduct, legally or ethically, against him, he should be invited to join his local society. Our local societies should make it a matter of pride to vie with each other as to which can most nearly absorb into its membership all the doctors within its jurisdiction.

There are very few doctors, who, if properly approached, can not be induced to join the local society. Some stay out for reasons that appear too insignificant for respectful consideration, but those who are members and who have the good of the profession at heart can afford to be generous—can afford to study and adopt such measures as shall induce professional confreres to return or to join.

This is the spirit that wins and is so like that of the Master, that it is twice blessed—it blesses him that gives and him that receives.

Suppose we make a New Year Resolution to get all doctors who are available to join the society and see that all are properly disciplined—such as would naturally grow out of a complete organization,—then we would realize how powerful an organization we constitute.

Again The JOURNAL extends cordial good wishes. May fortune smile upon you and favor you with many blessings. May peace and happiness be yours during 1926.

THE GREEN WAVE.

It is with some trepidation that the Editor assumes to chronicle the prowess of the 1925 Tulane Eleven. So easy is it to allow enthusiasm to carry one away from *terra firma* in such a matter that proper moorage must be furnished an Olive and Blue pen. It is unusual to comment editorially on a foot-ball team in a medical journal. But then, the Green Wave was an unusual aggregation. Gridiron experts the country over place Tulane this year among America's Big Four, the other three conquerors being Dartmouth (East), Michigan (Middle West), and University of Washington (Pacific Coast). Coach Shaughnessy's boys swept everything before them this year except the Missouri warriors, whom they played to a tie. At their hands Louisiana College, Ole Mississippi, Northwestern, Mississippi Aggies, Auburn, Louisiana Tech, Sewanee, Louisiana State and Centenary tasted the dust (or mud) of defeat.

Regarding individual players, it is difficult to pick those most conspicuous when all of the eleven men were stars. Half-back "Peggy" Flournoy is conceded All-American material, having individually registered 129 points—the highest score made in college foot-ball this season. Captain "Les" Lautenschlaeger was the best quarter-back in Dixie and rated by many critics as the fox of the gridiron this season—a distinction worthy of the man. "Irish" Levy completed the trio of outstanding Olive and Blue defenders, he being acclaimed honorable mention as All-American guard by the Associated Press.

Clark D. Shaughnessy, after years of unremitting effort, has given Tulane a team second to none and no praise, sufficiently extravagant, can begin to laud his labors. May his shadow never grow less. Dr. Lucian H. Landry, president of the Alumni Association and surgeon to the team, de-

serves the thanks of all followers of the Green Wave for the excellent physical shape in which he kept the boys. The doctor is soon forgotten once sickness is passed. It was no wonder therefore that the press, in the furore of victory after victory, should have forgotten to mention Dr. Landry. We forgive them.

In honor of this team the citizens of New Orleans joined the student body and alumni of the University in raising \$300,000 in four days to build for Tulane a stadium commensurate with the dignity to which the Green Wave is entitled. The capacity of the new stadium, which will be completed for next Fall, will be 42,000.

Tulane, our *Alma Mater*, we salute you!

MEDICAL PUBLICITY.

We were pleased to note at the annual election of officers for the year 1926, held recently by the Orleans Parish Medical Society, a measure directing the officers to purchase space in the daily press advertisement columns was voted down. The measure proposed that at intervals the Society print quarter page advertisement in New Orleans papers, the principal part of most of the ads dealing with dissertations on "Why Don't You Pay Your Doctor Bills?" In a locality such as New Orleans, where the profession has done practically nothing to educate the lay public relative to preventive medicine, modern medical advances and the like, it would be the height of poor taste and judgment to run advertisements in the daily papers reeking with commercialism. Unquestionably such expositions of rancor would prove a boomerang to the society who fostered them. That the patient has a responsibility to his physician in offering fair remuneration for services rendered needs no argument to affirm. That this matter, at some future time, might tactfully be alluded to, in concluding a series of articles written for the lay reader, seems not objectionable.

For years certain members of the Orleans Parish Medical Society have made efforts

to interest the officers of the Society to the end that short articles, written in clear language, and dealing with the medical problems of the day, be furnished at intervals to the daily press so that the public might be appraised of the advances being made. The articles to be approved by the Orleans Parish Medical Society and issued under their jurisdiction. The daily papers would cordially welcome such contributions and would print them at no cost whatever. It has been done, and is being done today, throughout the length and breadth of the land. Why can it not be done in New Orleans?

The JOURNAL feels that the lethargical attitude of the physicians in Louisiana relative to this matter should cease. Let us have some action. We sincerely hope that the newly-elected president of the Orleans Parish Medical Society, Dr. Maurice J. Gelpi, and his efficient corps of co-workers will consider this matter among the first of its problems to be solved during 1926 and that ways and means will be evolved at an early date so that the program of educating the public in matters medical shall be retarded no longer.

"NOW IS THE TIME."

We cannot refrain from calling the attention of the medical profession and, especially, of organized medicine, to the fact that the state legislature will again meet next spring. We may be considered a little premature, but we are not. "In time of peace, prepare." Now is the time to reflect and consider what we want to bring up for the good of the people of this state (not so much for ourselves) at the forthcoming gathering of our law-makers at Baton Rouge. It is true that the State Society will meet in Monroe just before the legislature convenes and we should speak through our House of Delegates; our new officers will have been installed and they should be flush with enthusiasm.

Be on the "qui vive," Doctors! We must not sleep on our rights or the needs of the

public. A certain cult, like the proverbial bee, is already "on the wing," so to speak, with propaganda; we might as well make up our minds to wake up and stay awake, early and late.

ROCKY MOUNTAIN SPOTTED FEVER.

The United States Public Health Service, one of the duties of which is to investigate diseases of man with the ultimate purpose of devising means for prevention and cure, has recently announced the results of experimentation which lead to the belief that a most unusual vaccine has been produced which may protect human beings against Rocky Mountain spotted fever.

"Rocky Mountain spotted fever, sometimes called tick fever, which occurs principally in certain Northwestern States, has been the subject of investigation and experimentation for a number of years", says Surgeon General Cumming. Little was known of the disease before 1902. It has an exceedingly high fatality rate; in some localities about 7 patients out of every ten die.

It is a fatal disease when contracted in the laboratory. Assistant Surgeon McClintic, an officer of the Public Health Service, contracted Rocky Mountain spotted fever while engaged in experimental studies in Montana and died in line of duty, as did also Laboratory Assistants William E. Gettinger, and George Cowan—all martyrs to Science.

The disease is transmitted by ticks. A peculiar feature of the virus which produces this fever, a feature discovered by Public Health Service investigators, is that it passes through developmental phases in the tick—the intermediate host—whereas it has no such phase in man or animals.

At one period in the life of the tick, the virus of the disease as obtained from the ticks will not, when inoculated, produce the disease in animals. This period corresponds in time with the hibernating

period in the life of the tick, or at least to the period of its life in which the tick takes no food. At another stage of development, corresponding to the feeding time of the tick, the virus is highly infective and virulent.

In 1923 and 1924, the investigators prepared a protective vaccine made by extracting and attenuating the virus from macerated infected ticks during the stage at which the virulence of the virus was highest—a period following the ingestion of animal blood by the tick; and this vaccine was found to protect laboratory animals from the disease. During the present year these experiments were continued and the vaccine was tested on monkeys and man. It was proved that it protects guinea pigs, rabbits and monkeys, and it is now believed to have modified the severity of the disease in the case of a man who contracted it after having been vaccinated. The man was engaged in dipping cattle in Montana—an occupation involving exposure to the infection. Together with several other men, he was vaccinated late last spring, and, sometime afterwards, he contracted the fever. This case was exceedingly mild, though it is usually severe and highly fatal in that locality. None of the other vaccinated men contracted the disease.

Should this vaccine fulfill the expectations confidently hoped for, another advance will have been made along that high road of preventive medicine known as "immunology", toward the goal set by Pasteur when he stated that it was within the power of man to cause all germ disease to disappear from the world.

CORRESPONDENCE.

Dear Editor:

When Dr. John Callan as a member of the Board of Administrators of Tulane, brought about the birth of the School of Tropical Medicine, (he was the father and the accoucheur), the child was born with all the marks of a premature weakling. It was christened and I was selected as the god-

father. I took charge of the little fellow and placed it at once in Dr. Bill Seemann's Incubator, and fed it carefully on Tropical Parasites. It survived the ordeal but it never had a strong voice, the Caruso-like thunders of the healthy baby. Its voice was so feeble, so monotonous that, surroundings aiding, my class during the lectures on tropical medicine, would go to sleep. Now here, I was trying my best without the result of rearing the child as I dreamt of. So I resigned the job to make room for a better educator, with more tropical potential than I possessed. I thank my stars to have lived long enough to see my baby, now, in the hands of Castellani. I can now die contented. The child shall and it will live and prosper. I am delighted. No artist could describe and present to you the infancy of the School of Tropical Medicine in New Orleans, in any other mood than that of genuine, pleasant *humor*, because surroundings made it so "funny," as is the rule in everything else. Think of the beginnings of medicine and surgery, we admire so much in all their growth, as we admire and stare at beautiful things. I am 67, but I feel young, and I keep posted on literature, Tropical literature included, in my reading courses from the Bible, Cicero, Pasteur's life, to the dailies, and I know perhaps better than many, that Castellani is a giant in Tropical Medicine. Like Brown-Sequard, my *ex-worshipped* master at the College de France, I start reading at 2 or 3 o'clock in the morning so I must know some things. The portico of the Tropical School Building could "a propos" paraphrase Dante's famous warning at the entrance of Hell: "Voi ch'intrate, lasciate ogni speranza," that means "Whoever enters here must abandon all hope," and bear the warning, "Who enters here shall emerge full of tropical medicine with great hopes for good to mankind." Dr. Bass (now Dean of Tulane Medical College) who was present at the birth of the Tropical Medicine School, certainly had a good inspiration in selecting Castellani, and I would not be a bit surprised to hear from a reliable source that my friend Matas contributed his share to the conquest, as usual for the benefit of medical education in our native city, nobly struggling to recognition among large educational centers. At twenty, just as I started my first year in medicine (1880), I had charge of academic lectures on literature and language in the popular "Association Polytechnique," branch of the 13th district of Paris, and I had a strong desire to abandon medicine and to go into "Classical literature of fiction writing." Well now, 47 years later today, I am glad I stuck to medicine for medical literature is really classic fiction, more real today than ever truth was. I think you.

DR. E. M. DUPAQUIER.

NEWS AND COMMENT

DEPARTMENT EDITORS.

H. Theodore Simon, M. D., Louisiana.

J. S. Ullman, M. D., Mississippi.

LOUISIANA.

"Every man owes some of his time to the up-building of the profession to which he belongs."

—Theodore Roosevelt.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY—DECEMBER.

During the past month the Board of Directors held their usual meeting, and in addition there was an executive meeting at which the election results were announced, and one scientific meeting.

At the scientific meeting there was a total attendance of 66. The following papers were presented and discussed:

"The Significance of Early Diagnosis of Esophageal Diverticulum. Case Report."

By Dr. A. L. Levin.

Discussed by Dr. S. K. Simon and closed by Dr. Levin.

"Pellagra. Gastric Content." By Dr. J. Birney Guthrie.

Discussed by Drs. Silverman, Jamison, S. K. Simon, J. H. Musser, A. L. Levin and closed by Dr. Guthrie.

"Evidences of Hypophyseal Dysfunction, with lantern slides." By Dr. I. I. Lemann.

A Committee of the Board of Directors appointed to prepare a necessary revision of By-Laws has completed its work and has reported to the Board and to the General Society. Besides some necessary revisions the Committee has determined on the phraseology of resolutions which have been adopted by the Society in the past three or four years. This matter will be brought to the attention of the Society for disposition at one of the meetings in January.

The following have been elected to interne membership: Drs. Frank J. Beyt, Julian Graubarth, John F. Lucas, H. Aubrey White, Robert C. Hill, James A. Johnson and Marion A. Young, Jr.

Dr. J. N. Lockard was elected to active membership.

The application of Dr. A. J. K. Genella has been dropped from our list of applicants owing to his failure to meet the necessary requirements.

As Dr. John F. Dicks was absent from the City, his letter declining his nomination was received too late to allow notification of the membership of his action.

The Board of Directors extended an invitation to the Radiological Society of North America to meet in New Orleans in 1926, but advised its representative, Dr. Amedee Granger, that the Society could not obligate itself in any financial way for this meeting.

At the annual election the following Officers were chosen and will be installed at the annual meeting, January 11th, 1926.

President, Dr. Maurice J. Gelpi.

First Vice-President, Dr. J. Birney Guthrie.

Second Vice-President, Dr. Marcy J. Lyons.

Third Vice-President, Dr. E. J. Richard.

Secretary, Dr. H. Theodore Simon.

Treasurer, Dr. John A. Lanford.

Librarian, Dr. Daniel N. Silverman.

Additional Members to the Board of Directors.

Dr. Jules Dupuy, Dr. Urban Maes, Dr. L. M. Provosty.

The total vote numbered 86 including one spoiled ballot. The vote on the "Advertising Campaign" is as follows:

For, 35; Against, 50.

The above results were certified to by the three tellers, Dr. Cosmo J. Tardo, Dr. L. J. Stookey and Dr. Morell W. Miller, and in addition were signed by the Secretary.

An executive meeting preceded the banquet, the order of business being the announcing of the election returns. The annual dinner of this Society held at Kolb's Restaurant with an attendance of approximately 175 members, proved a very enjoyable affair. Dr. Urban Maes, presided, but turned the conduct of the affairs of the evening over to the very capable hand of the evening's chairman, Dr. Paul J. Gelpi. In

addition to an attractive menu several stunt features were provided, certain members being called upon to respond after being the recipient of a gift. A splendid feeling of fellowship prevailed and the president-elect stated in the course of a few remarks that he hoped this would become an annual affair and he felt that this was one of the best means of bringing our membership closer together.

Dr. Dorothy Edwards resigned on account of removal.

The membership to date is 480.

FOURTH DISTRICT MEDICAL SOCIETY.

The regular semi-annual meeting of the Fourth District Medical Society was held at the Shreveport Charity Hospital on Tuesday evening, November 17th. The meeting was marked by an attendance of about one hundred doctors and by the high quality of papers presented. The meeting was conducted by Dr. C. M. Baker, of Minden, President, and Dr. J. E. Heard, of Shreveport, Secretary. The visitors, Drs. Doussan and Sellers, of New Orleans, were introduced and received an ovation.

After call to order by Pres. Baker, Dr. A. P. Crain, Vice-President of Shreveport Medical Society, spoke words of welcome. Dr. R. C. Young read a paper on "Pseudo-Diphtheritic Conjunctivitis with Corneal complications; Report of Case;" discussed by several members. Then Dr. J. E. Doussan, State Registrar, gave an interesting and forceful talk on "Vital Statistics," stressing the necessity for co-operation of the doctors; after discussing this matter, dinner was served by the Hospital authorities, Dr. J. M. Moseley, Supt.

After dinner, Dr. T. B. Sellers, of New Orleans, read on the "Treatment of Pernicious Vomiting of Pregnancy, with Report of Cases;" this paper was well received and provoked much discussion. Dr. B. Johns gave a paper, entitled "The Surgical Treatment of Seminal Vesicles and Prostate, which are producing Focal Symptoms," followed by discussion. The last paper was "Diagnosis and Management of Postoperative Intestinal Obstruction with Report of Cases," by Dr. T. J. Fleming; this paper lead to free discussion.

After a few remarks by District Councillor Herold, election of officers resulted as follows: President, Dr. W. B. Hunter, of Coushatta, Red River Parish; First Vice-President, Dr. O. O. Hamner, of Arcadia, Bienville Parish; Second Vice-President, Dr. J. E. Heard, of Shreveport; Secretary-Treasurer, Dr. C. E. Hamner, of Shreveport; Delegate to State Society, Dr. C. M. Baker,

of Minden, Webster Parish. The meeting then adjourned till the spring of 1926.

MONTHLY BULLETIN OF THE SHREVEPORT MEDICAL SOCIETY.

November, 1925

November meeting of the Shreveport Medical Society, November 3rd, was held at Charity Hospital, at 8 p. m.

November Scientific Program.

Reports from Congress of American College of Surgeons, by Dr. Abramson, Dr. Johns and Dr. Sanderson. Clinical Case by Dr. Norfleet.

Charity Hospital, October 7th, 1925.

The regular monthly meeting of the Shreveport Medical Society was called to order at 8 P. M. by President Sanderson. The minutes of the last meeting were read and approved. The Secretary read an application for membership from Dr. Helen E. Heinton, which was referred to a committee composed of Drs. Pirkle, Williams and Boyce. A letter was read from Science Extension, announcing lectures by scientists. The letter was referred to the Secretary for investigation. Letters from Dr. Dowling, President of the State Board of Health, and from Rapides Parish Medical Society were read and explained, and a motion was passed that the letters be filed.

Dr. Sanderson reported that Dr. Fishbein can probably be secured for a meeting next spring. Dr. Sanderson brought up the subject of having a medical meeting for the general public. Dr. Knighton made a motion that such a meeting be held in November, if possible. Discussion by Drs. Barrow, Hendrick and Rigby. Motion was passed. A special committee was appointed to arrange details for this program. The committee consists of Drs. Knighton, Hendrick, Herold and T. E. Williams.

Scientific Program.

Dr. Willis P. Butler read an interesting and instructive paper on vaccines and sera. Discussion by Drs. Gowan, Herold and Hendrick. Dr. Hendrick called attention to dogs going unmuzzled on the streets and requested enforcement of the muzzle law. Dr. Butler called attention to a meeting with some of the officials on this subject. Dr. Hendrick made a motion that the Commissioner of Public Safety be asked to remove the menace of rabies by proper muzzling of dogs or vaccination, and the Medical Society will cooperate with him in any way possible. Discussion by Dr. Sandidge. Motion passed. Secretary was instructed to communicate the resolution to the

Commissioner of Public Safety and the Humane Society, and send a copy to the press. Discussion of Dr. Butler's paper by Drs. Carl Young, Knighton, Bodenheimer, Hammer and Lucas. Closing by Dr. Butler.

There were no clinical cases.

Dr. Caldwell brought up the question of a Medical Library and made a motion that a committee of three be appointed to act as a library committee. Motion seconded and passed. On the committee were appointed Dr. Caldwell and two others to be named later.

Dr. Barrow made a motion that a resolution be passed expressing our confidence in Dr. Garrison, dentist, professionally, and as a man. The motion was seconded by Dr. Butler, and passed. Discussion by Dr. Sanderson.

On motion, the Society was adjourned.

R. T. LUCAS, Secretary.

SHREVEPORT MEDICAL SOCIETY.

At the December meeting of Shreveport Medical Society, the following were elected for 1926: President, Dr. A. P. Crain; Vice-Presidents, Drs. I. B. Rougon and M. S. Picard; Secretary, Dr. W. R. Harwell; Treasurer, Dr. J. R. Stamper, re-elected. Delegates were chosen to the Monroe meeting, viz: Drs. J. E. Knighton, R. G. Douglass, S. C. Barrow, E. L. Sanderson, J. M. Moseley, W. P. Butler; alternates: Drs. J. L. Scales, F. H. Walke, R. T. Lucas, F. S. Furman, C. R. Gowan, G. A. Caldwell.

ST. TAMMANY PARISH MEDICAL SOCIETY.

The St. Tammany Parish Medical Society held its regular monthly meeting on December 11th last. Inasmuch as this was the Annual Meeting, scientific papers and discussions were dispensed with, and the Society engaged in a round table talk with the welfare of the doctor as an individual, and the Society itself as the subjects.

The Society unanimously and strongly endorsed the stand and contemplated action of the Rapides Parish Medical Society against that Parish's Police Jury's attempt to prevent Physicians from writing and druggist from filling prescriptions calling for whiskey or any other alcoholic liquor, even though the prescription be written in the exercise of the doctor's professional duties.

This Society offered its active as well as moral support and instructed its delegate and alternate to stand by the Rapides Society if the matter

should be taken up by the State Medical Society or its Board of Delegates, at the approaching meeting in Monroe.

The following officers were elected for 1926:

President, Dr. F. T. Singleton, Slidell; Vice-President, Dr. C. F. Farmer, Pearl River; Secretary-Treasurer, Dr. H. E. Bulloch, Covington (re-elected); Delegate to the State Society, Dr. J. F. Buquoi; Alternate, Dr. A. G. Maylie, both of Covington.

These officers will be installed at the Annual Banquet at the Southern Hotel on January 8th, 1926, with Dr. J. E. Doussan, State Registrar of Vital Statistics, and the respective Presidents of the Washington and Tangipahoa Medical Societies as guests of honor.

In attendance at the meeting were Drs. G. A. Pennington, F. R. Singleton, H. D. Bulloch, J. K. Griffith, J. F. Polk, J. F. Buquoi, F. F. Young, F. F. Young, Jr., L. R. Young, C. F. Farmer, H. E. Gautreaux, W. L. Stevenson and A. G. Maylie

An event of more than passing notice was the formal opening of the up-to-date new Haynesville Hospital at Haynesville, Claiborne Parish, on October 5th. This modern brick building, with full equipment would be a credit to any city. Dr. C. O. Wolff, of Haynesville, is President and Chief Surgeon, and it is due to his energy and enthusiasm that this project was successfully carried through.

Mrs. F. A. Kolman, of New Orleans, Organizer of the Tuberculosis and Public Health Association of Louisiana, recently visited every parish in the Fourth Congressional District and did very effective work.

Drs. Louis Abramson, E. L. Sanderson, Barron Johns, L. H. Pickle, Allyn Moise and Guy A. Caldwell represented the Fourth District at the recent Clinical Congress of Surgeons at Philadelphia.

Among the Louisiana Doctors attending the Southern Medical Association meeting at Dallas in November, were the following from the Fourth District, viz: Drs. W. B. Hunter, of Coushatta; W. B. Hewitt and B. C. Cooper, of Mansfield; J. L. Scales, J. E. Knighton, I. H. Smith, J. M. Bodenheimer, F. H. Walke, G. A. Caldwell, J. L. Kimbell, M. S. Picard, R. T. Lucas, C. B. Erickson, J. A. Hendrick, A. A. Herold, of Shreveport; R. E. Baker, of Dixie; C. M. Baker, of Minden, and others.

CLAIBORNE PARISH MEDICAL SOCIETY.

A well-attended and enthusiastic meeting of Claiborne Parish Medical Society was held at Homer on the evening of December 8th, under the presidency of Dr. J. D. Baucum, of Haynesville. After the transaction of routine business, including the payment of dues for 1926, Dr. Rivenbark, the Secretary, read a most interesting and instructive paper on "The Acute Abdomen," stressing especially the "Don'ts" in handling these cases; the paper was freely discussed. Dr. A. A. Herold, District Councilor, present by invitation, made a talk on "Modern Advances in Therapeutics," which was also discussed; he also spoke on the State Society and urged a good attendance at the Monroe meeting, as well as at the Fourth District Medical Society. Dr. J. G. Gladney, of Homer, was chosen delegate, with Dr. E. B. Middleton as alternate, for the Monroe session.

 POINTE COUPEE PARISH MEDICAL SOCIETY.

On Tuesday, November 1st, the Pointe Coupee Parish Medical Society held its regular monthly meeting at New Roads.

Dr. M. O. Decnel reported an interesting case, somewhat out of the ordinary, which was discussed by all the doctors present. Dr. J. F. Cazayoux called up for discussion the proposed ordinance for sanitary toilets throughout the parish, said ordinance having been drawn by the State Board of Health for presentation to the police jury for its consideration.

After full and thorough discussion of the whole question, on motion duly seconded, the measure was unanimously approved by the Society. This matter having been disposed of, the Society then went into the election of officers to serve during the ensuing year with the following results: President, Dr. R. McG. Carruth, New Roads; Vice-President, Dr. Geo. B. LeSueur, Morganza; Secretary-Treasurer, Dr. F. F. Rougan, Oscar. Dr. Carruth was then named delegate to represent the Society in the State Medical body, with Dr. Beonel as alternate.

 EAST BATON ROUGE PARISH MEDICAL SOCIETY.

December Meeting, 1925.

The East Baton Rouge Parish Medical Society met in regular monthly session at the Alvis Hotel, Baton Rouge, on Wednesday, December 9, 1925, with the following members present: Drs. Paulsen, Eidson, Pipes, Sitman, Stirling, Hirsch, McCaa, Irwin, McMahan, Williams, P. H. Jones, Kemp, Riche, Weiss, Porter, Trahan, and Wallace.

As Dr. Trahan was delayed, the meeting was called to order by Dr. Riche. As Dr. L. G. Stirling had a patient present, the usual order of procedure was dispensed with and Dr. Stirling then presented the case, Bilateral Popliteal Aneurisms after successful operation. The case was discussed by Drs. Weiss, Hirsch and McMahan.

The minutes of the previous meeting were read and adopted as read.

A letter from the Baton Rouge Civic Association in regard to the establishment of a free clinic for the treatment of venereal diseases was read and discussed by Drs. Sitman, Pipes, Riche, Stirling, Kemp, Trahan and Hirsch. The Secretary was instructed to answer the letter with the following opinion: "After thorough discussion the concensus of opinion of the Society was that it would be a useless expenditure of money, especially as the Government and State have tried the clinics and found them unsatisfactory."

A letter of appreciation to the Society from Dr. C. P. May, of Jackson, for being elected an Honorary Member of the Society, was read.

The Secretary was instructed to answer the questionnaire sent out by the Bureau of Health and Public Instruction of the American Medical Association.

A letter from the Executive Secretary, Bureau of Legal Medicine and Legislation, American Medical Association, was read and discussed by Drs. Trahan, Sitman, Riche, Williams and Eidson. A committee of Drs. Riche, Porter and Sitman was appointed to see the authorities in regard to the matter. The letter was in regard to the drafting of uniform laws and regulations for the control of traffic by the National Conference of Street and Highway Safety, with respect to speed limits, parking privileges and right of way of physicians. On motion, the Secretary was instructed to purchase for the Society the necessary number of American Medical Association Insigna for automobiles.

The President, Dr. E. O. Trahan, made his report. The Secretary-Treasurer, Dr. R. B. Wallace, made his report.

Scientific Program: Dr. E. K. Hirsch presented two kidney cases, one Enartheritis Obliterans, which had been operated successfully, the other a case of Hematuria in a white female—age 72. The X-ray pictures of the cases were presented. The cases were discussed by Drs. Stirling, Kemp, Trahan, and by Dr. Hirsch in closing.

Dr. R. C. Kemp then reported a case of severe Aestevo-Autumnal Malarial Infection, which he treated successfully with one dose of Neo-Salvarsan intravenously. Dr. W. R. Eidson reported a case of an open safety-pin in the Vagina of a small child. Dr. S. D. Porter reported a case of a hat-pin in the bladder of an adult female. Dr. R. G. McMahan reported a case of the rupture of intestine in a strangulated hernia, caused in an automobile accident.

Election of officers: The following officers were elected for the year 1926: President, Dr. R. B. Wallace; Vice-President, Dr. W. H. Pipes; Secretary-Treasurer, Dr. S. D. Porter; Delegates to the State Society: L. J. Williams and E. O. Trahan; Alternates: for Dr. Williams, Dr. W. R. Eidson; for Dr. Trahan, Dr. G. W. Sitman.

The President appointed Drs. Irwin and Pipes on the Program Committee for the next meeting. On motion, the meeting then adjourned.

The Bi-Parish Medical Society of East and West Feliciana Parishes met in Jackson, Louisiana, with Supt. T. J. Perkins and Staff. Interesting clinical cases were presented by Drs. Hays and Miller. Members present: Drs. Lea, Keller, Perkins, Miller, Hays, Brown, Stringer, Daniel, May and Toler. Usual luncheon with Dr. Perkins and Staff.

Election of officers for 1926: President, Dr. T. J. Perkins; Vice-President, Dr. J. M. Daniel; Secretary-Treasurer, Dr. E. M. Toler; Delegate, Dr. C. S. Miller; Alternate, Dr. J. M. Daniel.

NOTICE.

We wish to advise that all those desirous of attending the American Medical Association Meeting in Dallas in April, 1926, can secure Pullman reservations by leaving their name with the Assistant Secretary-Treasurer of the Louisiana State Medical Society, 1551 Canal Street.

All members of the Louisiana State Medical Society who are doing railroad work, are urgently requested to send their \$1.00 dues for membership in the Railway Surgeons' Association of Louisiana for 1926 promptly. Address Dr. Roger Brewster, Secretary, 3513 Prytania Street.

Their Annual Meeting will be held in Monroe during the State Medical Society Meeting, the time, place and program to be announced later.

Dr. H. B. Gessner, of New Orleans, was elected Vice-Chairman of the Section on Surgery of the Southern Medical Association.

The following physicians of Louisiana were in attendance at the Southern Medical Association Meeting in Dallas in November:

Allums, Claude C., Ringgold, La.; Bahn, Chas. A., New Orleans, La.; Baker, Claude M., Minden, La.; Baker, L. T., Dixie, La.; Barrow, S. C., Shreveport, La.; Bass, C. C., New Orleans, La.; Bass, Elizabeth, New Orleans, La.; Bienvenu, L. J., Opelousas, La.; Bodenheimer, J. M., Shreveport, La.; Bradburn, Muir, New Orleans, La.; Caine, Ansel M., New Orleans, La.; Caldwell, Guy A., Shreveport, La.; Carruth, R. McG., New Roads, La.; Cather, E. J., Oakdale, La.; Chambers, H. C., Rayville, La.; Comeaux, A. J., Youngville, La.; Cooper, B. D., Mansfield, La.; Crebbin, John T., New Orleans, La.; DeBuys, L. R., New Orleans, La.; De Gravelles, C. C., Morgan City, La.; De Le Houssaye, Roy E., New Orleans, La.; Dempsey, J. Geo., New Orleans, La.; De Nux, E., Echo, La.; Denney, D. E., Carville, La.; Dowling, Oscar, Shreveport, La.; Dupuy, Homer, New Orleans, La.; Duval, Charles W., New Orleans, La.; Erickson, C. B., Shreveport, La.; Eustis, Allan, New Orleans, La.; Foote, J. Randolph, New Orleans, La.; Foster, M. H., Alexandria, La.; Funderburk, Joe M., Winnsboro, La.; Gessner, Herman B., New Orleans, La.; Gorton, Levin Wailes, Shreveport, La.; Gray, C. P., Monroe, La.; Guthrie, J. Birney, New Orleans, La.; Harris, Wm. H., New Orleans, La.; Hatch, Edward, New Orleans, La.; Heath, Arthur G., Shreveport, La.; Hendrick, J. A. Shreveport, La.; Heninger, Ben. R., New Orleans, La.; Herold, Arthur A., Shreveport, La.; Hewitt, W. B., Mansfield, La.; Hoffpauer, M., Crowley, La.; Holloway, Eugene, Plaquemine, La.; Hopkins, Ralph, New Orleans, La.; Hunter, W. B., Coushatta, La.; Irwin, Emmett L., New Orleans, La.; Jackson, Rufus, Baton Rouge, La.; Jamison, Chaille, New Orleans, La.; Jones, R. P., Baton Rouge, La.; Keller, David H., Pineville, La.; Kimbell, John L., Shreveport, La.; King, W. V., Mound, La.; Knighton, J. E., Shreveport, La.; Landry, Adrian A., Plaquemine, La.; Lanford, John A., New Orleans, La.; Lester, W. D., Many, La.; Levin, A. L., New Orleans, La.; Levy, Walter E., New Orleans, La.; Lucas, Robt. T., Shreveport, La.; Lynch, R. C., New Orleans, La.; Lyons, M. J., New Orleans, La.; Mangham, A. D., Elizabeth, La.; Martin, Claude A., Welsh, La.; Martin, E. Denegre, New Orleans, La.; Mattes, Abraham, New Orleans, La.; McBride, D. C., Alexandria, La.; McCormac, Edward, New Orleans, La.; McKinney, G. C., Lake Charles, La.; Miller, C. Jeff, New Orleans, La.; Miller, V. A., Lake Arthur, La.; Musser, J. H., New Orleans, La.; Nelken, A., New Orleans, La.; Newman, J. W., New Orleans, La.; O'Ferrall, J. T., New Orleans, La.; Parham, Frederick W., New Orleans, La.; Peacock, Cassius

L., New Orleans, La.; Peters, Jas. I., Alexandria, La.; Pierson, Clarence, Alexandria, La.; Rand, Paul King, Alexandria, La.; Roberts, Sam T., De Ridder, La.; Roussel, J. N., New Orleans, La.; Samuel, E. C., New Orleans, La.; Sandidge, W. J., Shreveport, La.; Saparito, Leo, Kaplan, La.; Sartor, James C., Rayville, La.; Scales, John L., Shreveport, La.; Silverman, D. N., New Orleans, La.; Simon, Sidney K., New Orleans, La.; Slaughter, J. H., Bogalusa, La.; Smith, David S., Mound, La.; Smith, I. Henry, Shreveport, La.; Tolson, F. R., Lafayette, La.; Turner, John R., Homer, La.; Unsworth, C. V., New Orleans, La.; Von Meysenbug, L., New Orleans, La.; Walke, F. H. Shreveport, La.; William, Sidney L., Shreveport, La.; Wolff, S. B., Opelousas, La.; Worley, W. B., Shreveport, La.; Yearwood, J. G., Gayle, La.; Younger, T. B., Fisher, La.

AMERICAN BOARD OF OTOLARYNGOLOGY.

An examination was held by the American Board of Otolaryngology on October 19th, 1925, at the Cook County Hospital, Chicago, with the following result: Passed, 120; failed, 23; total examined, 143. The next examination will be held in Dallas, Texas, on April 19, 1926. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grant Boulevard, St. Louis, Missouri.

The Southern Baptist Hospital expects to be completed about February 1st. A number of friends of the institution recently have made donations to establish memorials, among them being Luca Vaccaro \$10,000.00 for the X-ray Department; Fred W. Salmen, the chapel; J. E. Badger, the administrative offices; J. B. Simmons, the lobby; Mrs. J. W. C. Wright, Sam Bonart, Simon Leopold, W. D. Barker and several local church organizations each a bedroom.

At the annual meeting of the Medical Library Association, held in Atlantic City in May, one of the most important subjects under discussion was the present attitude of the German medical publishers in the high prices charged foreign subscribers for their medical publications and the greatly increased output of their periodicals.

In compliance with the action taken, the Executive Committee is now making an investigation of this matter. As a result of its findings, it is to decide whether or not concerted action on the part of medical libraries in America will cause the German publishers to curtail their output and reduce the cost of their publications to their American customers.

With the growing popularity of acidophilus treatment, various forms have been suggested and introduced for the administration of this bacillus, all of which have been subject to more or less objection.

A very convenient and practical manner for the administration of the Acidophilus Bacilli has been introduced by the H. K. Mulford Company in the form of an agar jelly block, coated with chocolate.

New Jersey's new bureau of tuberculosis has established 12 monthly clinics where diagnosis of the disease is made, and has assisted school inspectors in the examination of children, especially those 20 per cent underweight for their age and height.

There will be a sectional meeting of the American College of Surgeons, including the states of Alabama, Florida, Georgia, Mississippi and Louisiana, in New Orleans on January 25 and 26, at the Roosevelt Hotel. A cordial invitation is extended to the medical and nursing professions to attend these meetings. There will also be a Public Community Health meeting on the evening of January 25 to which the public is cordially invited, and we will be very glad if each member would notify the public of this meeting.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:

At Washington, D. C., February 8, 1926.

At Chicago, Ill., February 8, 1926.

At New Orleans, La., February 8, 1926.

At San Francisco, Cal., February 8, 1926.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

The semi-annual examination of the Louisiana Nurses Board of Examiners was held in New Orleans and in Shreveport, November 16-17, 1925.

The successful applicants are:

Misses Frances Rivers Anthony, Cordelia Frances Arbour, Annabel Ayraud, Nell Marie Bailey, Marie J. Baluski, Mary Elaine Bankston, Regina Mary Belanger, Thelma Berger, Stella E. M. Berthelot, Charlotte Madeleine Bichon, Allie Maude Brian, Clara Elizabeth Burke, Mrs. Odile Delaune Carriere, Frankie Virginia Childress, Katherine Olive Clausen, Valras Julie Clingen, Edith Marie Daigle, Bert Dalrymple Velma Davis, Willie M. Decker, Mary Louise De Soto, Bessie Pearl Dodwell, Dorothy Irene Farrow, Cecelia H. Finnegan, Lucy Firmin, Rosalie Marie Forsman, Alma Marjorie Greer, Susie Mae Hart, Mary Margaret Hennigan, Marie Hohorst, Ethel Horton, Noelle Frances Hotard, Pauline Marceline Hyver, Beulah Mary Jarveaux, Mable Donna Johnson, Elizabeth Browne Jones, Lillie Anne Keller, Mrs. Cecile Morse Klein, Mrs. Annie Alice Denson Love, Margaret Mary Lynch, Minnie Jane McRight, Theresa Mary Meadows, Mrs. Inez Vander Cruyssen Mouton, Mrs. Vivian Hadley Munson, Marie Owsley, Mrs. Fannie A. Howell Parker, Ola Permenter, Lenamae A. Pevey, Emily J. Picou, May Edyth Pittman, Alice Louise Poche, Alice Faust Reuther, Vera M. Robards, Mrs. Bertha Parent Rousseaux, Louise Marie Savoie, Rose Schexnaydre, Viola Scott, Vera Cecile Smith, Sister Mary Berchmans, Sister Mary Camillus, Sister Mary Carmel, Sister Mary Emanuel, Sister Mary Hilda Mintken, Sister Mary Pius Murphy, Eleanor Mary Templet, Willie Ruth Thompson, Flavia Mary Cecelia Toups, Mary Ilys Valentine, Thelma Waldron, Willie Lee Waldroup, Annie Jane Waller, Bernadette Marie Webre, Agnes Elizabeth Williams, Mrs. Mauxine Dunn Williams, Ruth Willard Williams, Ruby Worley, Bertha Lucille Woodville, Mrs. Myrlie D. Walker Wright.

Veronica Ethel Armand, Mrs. Bessie Mae Wactor Armant, Isabel R. Ball, Camille Courtney Barker, Eleanore Marguerite Bonnet, Rubye Rebecca Crawford, Julia Eleonor Du Rocher, Bertha Elizabeth Earles, Belle Elliott, Mrs. Grace F. Estes, Elizabeth Compton Hanlon, Lorene Jackson, Mary Beatrice Kendrick, Vivian

Catherine Leidner, Myrtle E. Powell, Annie Maniah Pryor, Estelle Louise Ryan, Marguerite Louise Sanarens, Gladys Heloise Stallings.

Colored applicants: Tommy Elmira Logan, Josie Olivia McKay.

RAPIDES PARISH MEDICAL SOCIETY UPHOLDS LAW.

At a special meeting, November 25th, 1925, the Rapides Parish Medical Society unanimously adopted the following as part of the Constitution and By-Laws:

WHEREAS, it has come to the attention of the Rapides Parish Medical Society, that certain of its members have not been too careful in complying with the laws of the land; and,

WHEREAS, such practices should be condemned and stopped; therefore, be it

Resolved, By the Rapides Parish Medical Society, that if any member be found guilty of prescribing any form of opium, especially morphine, illegally, he or she shall be expelled from the Society; and, be it further

Resolved, That if any member of this Society be found guilty of selling or trading or giving away his or her National Prohibition prescription book or books, either in whole or in part, in quantities, to any druggist, drug store or individual, this member shall be expelled from this society; and, be it further

Resolved, That the Rapides Parish Medical Society vehemently disapproves of the writing of prescriptions for intoxicating liquor for any purpose save medical in the treatment or cure of disease.

This is indeed a move forward and shows a disposition on the part of the Medical Society to help suppress illegal prescribing or dispensing of narcotic drugs and whiskey. The authorities whose duty it is to enforce the laws of the land will be appreciative of this evidence of co-operation on the part of organized medicine in Rapides.

It might interest the readers of The Journal to know that the lamented Chaille, who taught so many of the medical profession of Louisiana and Mississippi, held that the prescribing of whiskey was a hygienic problem, and so did the late Dr. Peter Bryce, of Alabama. Each of these noted authors held that the benefits of whiskey were far outweighed by the harm it does even as a medicine.

The Medical Profession is still divided as to the value of whiskey as a therapeutic agent. When the last referendum on this subject was taken by

the American Medical Association, of the sixteen southern states comprising the Southern Medical Association, four—Louisiana, Maryland (including District of Columbia), Missouri and Virginia—voted for and twelve against whiskey as having therapeutic value. The vote of the doctors showed 46.7% favoring the use of whiskey and 53.3% against.

During 1922 the physicians of Louisiana wrote 96,049 whiskey prescriptions, in 1923 there were 158,685, and for 1924 the records reveal 194,786. Mississippi physicians are not permitted to write whiskey prescriptions.

There is no record of pre-Voistead prescriptions by physicians for whiskey as a medicine.

DR. ROYSTER HEADS S. S. A.

Dr. Gilbert A. Royster, of Raleigh, N. C., was elected president of the Southern Surgical Association at their recent meeting in Louisville. Dr. Royster had been secretary of the association for the past nine years. He succeeds Dr. Irvin Abell, of Louisville. Dr. Louis Frank, of Louisville, was elected vice-president, and Dr. Frank K. Boland, of Atlanta, was elected second vice-president. Dr. Robert L. Payne, of Norfolk, Va., was elected secretary.

GYE HONORED.

Dr. William E. Gye, of cancer research fame, has been awarded the annual fellowship established by London University for the graduate of that institution who has done the most towards the advancement of medical science in the past five years. The fellowship carries a stipend of about \$1500.

MISSISSIPPI.

Mrs. S. W. Johnston, of Vicksburg, has taken over the presidency of the Woman's Auxiliary of the State Medical Association, Mrs. S. H. Hairston, of Meridian, having resigned.

Miss Baker, of Laurel, was elected Secretary of the Board at a recent meeting of the Nursing Board of the State of Mississippi.

The North Mississippi Six Counties Association met in Holly Springs on November 18th, and rendered a very interesting program, which included the following papers: An address, by the retiring president, Dr. George A. Brown; "Practical Points in the Differential Diagnosis of Goiter," by Dr. Wm. C. Chaney, Memphis, Tenn.; "Serum Diagnosis," by Dr. A. W. Pigott, Oxford, Miss.;

"Inflammation in and About the Ear," by Dr. B. S. Guyton, Oxford, Miss.; "The Choice of an Anesthetic, with Special Reference to Nitrous Oxide-Oxygen, with the Gwathmey Apparatus." Discussion opened by Drs. Bramlett and Wesson.

Dr. J. I. Mayfield, of Ripley, was elected President, and Dr. S. E. Eason, of New Albany, was chosen Secretary and Treasurer.

Dr. B. B. Sayle, one of the oldest practitioners in Yalobusha County, died at his home in Coffeeville on the morning of December 10th.

Newton-Neshoba-Winston Tri-County Association met in Decatur, Mississippi, December 8th, in regular bi-monthly meeting, and elected officers for the ensuing year as follows:

President—Dr. A. L. Majure, Dixon, Miss.

First Vice-President—Dr. W. J. Pennington, Decatur, Miss.

Second Vice-President—Dr. M. L. Montgomery, Louisville, Miss.

Secretary-Treasurer—Dr. S. A. Majure, Hickory, Miss.

Censor—Dr. Dudley Stennis, Newton, Miss.

Delegates to the State Medical Association were Dr. W. T. Hunter, Decatur, Miss.; Dr. J. C. Hickman, Philadelphia, Miss., and Dr. T. F. Kilpatrick, Noxupater, Miss.

The next meeting will be held in Philadelphia, on the second Tuesday in February, 1926.

The following list of the officers and councillors of the Mississippi State Medical Association may prove useful as reference to the members:

President—G. S. Bryan, Amory, Miss.

Vice-President—F. G. Riley, Booneville, Miss.

Vice-President—O. N. Arrington, Brookhaven, Miss.

Vice-President—E. S. Bramlett, Oxford, Miss.

Secretary—T. M. Dye, Clarksdale, Miss.

—Treasurer—J. M. Buchanan, Meridian, Miss.

President Woman's Auxiliary—Mrs. S. W. Johnston, Meridian, Miss.

Councillors: First District—J. W. Lucas, Moorhead, Miss.

Second District—J. S. Donaldson, Oakland, Miss.

Third District—M. W. Robertson, Rienzi, Miss.

Fourth District—T. W. Holmes, Winona, Miss.

Fifth District—D. W. Jones, Jackson, Miss.

Sixth District—W. G. Gill, Newton, Miss.

Seventh District—T. M. Dye, Clarksdale, Miss.

Eighth District—W. H. Frizell, Brookhaven, Miss.

Ninth District—D. J. Williams, Gulfport, Miss.

BOOK REVIEWS

The Surgery of Pulmonary Tuberculosis: By John Alexander, B. S., M. A., M. D., with introductions by Hugh Cabot, M. D., C. M. G., L.L. D., F. A. C. S., and Edward R. Baldwin, M. A., M. D. Philadelphia and New York. Lea & Febiger. 1925.

The subject covered in this book is one which has been given practically no thought in our midst. It is surprising to note the great advances made by surgery in this particular branch; as brought out in this little volume. With due consideration, and until internal medicine shows us a better way, it appears—as the author has pointed out—that surgery is a valuable therapeutic measure; especially when the indications and contraindications, so excellently outlined by the author, have been duly considered.

While the various methods of procedure have been carefully covered, the author appears to lay particular stress on thoracoplasty and not enough emphasis is laid on artificial pneumothorax. Although the latter is dealt with at length the author fails to outline its technic; and it seems that a book dealing on this subject would certainly include such. Artificial pneumothorax is accordingly made to look more insignificant than it should be considered. However, in spite of this, the phthisiologist will find this little volume of value and interest. It is a book that should hold the interest of both internist and surgeon alike. The author is to be congratulated on writing such an excellent book on a subject that is still in the incipient stage.

FRANK L. LORIA, M. D.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the Pronunciation, Derivation, and Definition Including Much Collateral Information of an Encyclopedic Character. By W. A. Newman Dorland, A. M., M. D., F. A. C. S. Thirteenth Edition, Revised and Enlarged. Philadelphia and London. W. B. Saunders Company. 1925.

This handsome and useful volume needs no introduction to be medical and allied professions and sciences. It is now twenty-five years since the first edition appeared and the thirteenth is a worthy descendant of the original edition. It defines about 2500 new terms and words, including several hundred dental terms. The binding, thumb index and typography leave nothing to be desired.

FRANCIS M. MUNSON, M. D.

Science and Art of Anesthesia: By Colonel William Webster, D. S. O., M. D., C. M. Illustrated. St. Louis. C. V. Mosby. 1924.

This is a small volume intended for medical students and general practitioners, and it seems that it has been very difficult to harmonize the needs of these two widely different classes. The material is excellent and comprehensive and its handling is of a high order so it is with much reluctance that we conclude that as a practical manual it is not satisfactory. The pharmacology and toxicology of general anesthetics is neither complete enough for a text, and the technique of the induction and maintenance of anesthesia, most important for both medical students and practitioners, is so casually considered as to be of slight value to persons without practical experience.

The opening chapter is a brief and very interesting history of anesthesia. Physiology is then considered with reference especially to chloroform and to the theory of cell asphyxia as the cause of the anesthetic state. Ether, nitrous oxide, chloroform, ethylene, ethyl chloride, ethyl bromide, and somnoform are discussed separately. A great many methods of administering each anesthetic are given, and while these are of much interest, I am sure the student would come to the end in a state of complete confusion, with little if any, idea as to which should be used.

A chapter on local and spinal anesthesia is so incomplete, even inaccurate, that it would have been best omitted.

To me the most interesting, almost startling thing about this book is the attitude toward chloroform and ethyl chloride. Both are considered as safe and satisfactory drugs, though their dangers are mentioned in passing. In America, I believe, both these agents are in well-deserved disrepute and I am sure most teachers in this community would consider it little less than a calamity to have students leave school with an impression such as Colonel Webster conveys. Possibly we are wrong, but the evidence is very convincing.

Our conclusion is that the author is able and well-informed, thoroughly capable of producing an exhaustive treatise on general anesthesia that would be valuable and authoritative, but that he has made an unfortunate compromise.

J. D. RIVES, M. D.

A Textbook of General Bacteriology. By Edwin O. Jordan, Ph. D. Eighth Edition. Thoroughly Revised. Philadelphia and London. W. B. Saunders Co. 1924.

The rapid progress of bacteriology makes necessary the frequent revision of the standard textbooks and the eighth edition of Professor Jordan's popular work is thoroughly in keeping as to reliability and clearness of statement, with the earlier editions. New material has been added on the bacteriophage phenomenon, tularemia, botulism, scarlet fever, and other subjects in which recent advances have been made. The chapter on anaerobes has been extensively revised. No change has been made in the typographical work or the binding.

FRANCIS M. MUNSON, M. D.

Bone Sarcoma: By E. A. Codman, M. D. New York. Paul B. Hoeber. 1925.

This little volume is timely in that it shows the necessity of standard nomenclature, even in so common a condition as Bone Sarcoma.

Prior to this classification many different terms were used, and "while each term was vaguely understood by all who were interested in bone tumors, yet there was a considerable amount of misunderstanding among individuals," as evidenced by the writings of Bloodgood, Mallory and Ewing.

Each heading of the eight divisions of the official nomenclature is taken up, giving and discussing the clinical, microscopic and radiologic characteristics which make each heading a clinical entity.

In order to reach the desired goal—aid future sufferers from Bone Sarcoma—the author stresses the necessity first of a uniform classification which roentgenologists, clinicians and pathologists can use in order to have a mutual understanding of the clinical entities which are referred to, and second in "the spirit of co-operation"—co-operation first by registering the cases, and second by studying groups of registered cases.

P. G. LACROIX, M. D.

Methods in Surgery. Used in the Surgical Division of Barnes Hospital, St. Louis Children's Hospital, and Washington University Dispensary: By Glover H. Copher, M. D. St. Louis. The C. V. Mosby Co. 1925.

Doctor Copher's book is somewhat unique and promises to be very useful. It was prepared primarily for the guidance of house officers and students of the Washington University School of Medicine serving in the surgical division of the leading hospitals of St. Louis, but that will not limit its field of usefulness. No attempt is made to formulate rules for every contingency nor to do away with initiative or original work; rather it seeks to direct such effort. Some of the procedures presented represent the application of newer physiological ideas to the surgical clinic.

It appears to the reviewer that this manual would be especially valuable to physicians and nurses engaged in establishing a new hospital.

FRANCIS M. MUNSON, M. D.

Eye, Ear, Nose and Throat Manual for Nurses: By Roy H. Parkinson, M. D. Illustrated. St. Louis. C. V. Mosby Co. 1925.

This Manual is designed primarily for use as a system for classroom teaching in the Nurses' Training School. Its style is clear and concise and its aim is to give the student nurse a general rather than a specific idea of what may be encountered in cases relative to Eye, Ear, Nose and Throat Diseases.

Part one gives short, clear lectures on the Anatomy, Symptoms and Diagnosis of the more frequent Eye, Ear, Nose and Throat conditions, and concludes each lecture with questions helpful to both student and instructor. The second part fills a long needed want in that it presents the various Operative procedures with good illustrations, in addition to complete lists of the instruments used in the treatment and surgery of Eye, Ear, Nose and Throat cases. The third part deals with problems pertaining to Public Health and should be of inestimable value to the reader.

F. E. LEJEUNE, M. D.

Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine: By Francis Marion Pottenger, A. M., M. D., LL. D., F. A. C. P. Third Edition, with Eighty-six text Illustrations and Ten Color Plates. St. Louis, C. V. Mosby Company, 1925.

The fact that three editions of Doctor Pottenger's book have been published in six years would seem to indicate that it has gained a place in the field of the more advanced medical subjects. Several changes have been made in the present edition to make it conform to newer knowledge. Body reactions have been discussed from a broader standpoint than in previous editions. The physical state and the ionic content of the cell have been coupled with nerve response and there has been an attempt to show the part in reaction which is played by the chemical components and the physical state of the cell. Changes have been made throughout the text to bear out this conception of the topic. The book is a creditable presentation of the difficult and obscure subject of visceral neurology and its clinical applications.

FRANCIS M. MUNSON, M. D.

Diseases of the Nose, Throat and Ear, Medical and Surgical: By William Lincoln Ballenger, M. D. Revised by Howard Charles Ballenger, M. D. Fifth Edition. Philadelphia and New York. Lea & Febiger. 1925.

To those of us specializing in diseases of the nose, throat and ear, Ballenger's book has been an old and valued friend. The new edition follows the same clear and concise exposition of the subject that made the older editions popular.

The section on the technique of tonsillectomy has been revised, the editor favoring the Ballenger-Sluder method instead of the scalpel dissection preferred by the fourth edition. The chapters on Hay Fever, Hyperesthetic Rhinitis and Asthma have been revised. The newer ideas of Meniere's Symptom-complex and Gradenigo's syndrome have been incorporated.

The section on tracheotomy still adheres to the statement in the former editions, that "high tracheotomy is preferable," a dictum with which most laryngologists today will not agree on account of the great danger of cicatricial stenosis of the larynx which attends the wearing of a tracheotomy tube through a high tracheotomic incision.

On the whole the book will continue to be the valued work of reference that its preceding editions have been.

H. L. KEARNEY, M. D.

Personal and Community Health: By Claire Elsmere Turner. Illustrated. St. Louis. The C. V. Mosby Co. 1925.

Teachers of public health will find in this recent addition to the literature of the subject a textbook of genuine merit, especially adapted to the class-room. It has been prepared for the student at the university, college or professional school and deals with the health of the individual and with the health of the community from the standpoint of the college or professional man who is not a sanitarian. It contains the information that the educated man should possess in order to protect his family and meet his responsibility as a citizen. It is not a "non-technical language-words-of-two-syllables" book for the untutored proletariat. It will make its strongest appeal to the thoughtful person who has a real interest in public health and in personal hygiene.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

W. B. Saunders Company, Philadelphia and London: "Thoracic Surgery," by Howard Lilien-

thal, M. D., F. A. C. S., Volumes I and II. "Chemical Pathology," by H. Gideon Wells, Ph. D., M. D. "Medical Diagnosis," by James M. Anders, M. D., Ph. D., L.L. D., and L. Napoleon Boston, A. M., M. D. "Massage and Therapeutic Exercise," by Mary McMillan. "Psychology for Nurses," by Maude B. Muse, R. N., A. M.

C. V. Mosby Company, St. Louis: "The Therapy of Puerperal Fever," by Privatdozent Dr. Robert Koehler, American Edition prepared by Hugo Ehrenfest, M. D., F. A. C. S. "Physiology," by William D. Zoethout, Ph. D.

P. Blakiston's Son & Company, Philadelphia: "Gynecologic Urology," by Lynn Lyle Fulkerson, A. B., M. D., F. A. C. S. "Radiography," by Charles D. Enfield, M. D., F. A. C. P. "Medical Ophthalmology," by R. Foster Moore, O. B. E., M. A., B. Ch. F. R. C. S. "Insects and Diseases of Man," by Carroll Fox, M. D.

The MacMillan Company, New York: "Psychological Healing," by Pierre Janet, Volumes I and II.

Paul B. Hoeber, Inc., New York: "Annals of Roentgenology, A Series of Monographic Atlases," edited by James T. Case, M. D., Volume VI, "Skull Fracture," by Wm. H. Stewart, M. D. "William Cadogan (His Essay on Gout)," by John Ruhrah, M. D.

Government Printing Office, Washington: The Medical Department of the United States Army in the World War, Volume XV, Statistics, Part Two, Medical and Casualty Statistics.

F. A. Davis Company, Philadelphia: "Intravenous Therapy," by Walton Forest Dutton, M. D.

Thomas Seltzer, New York: "Man: His Making and Unmaking," by E. Boyd Barrett.

The Oak Press, Chicago: "Submucous Endocapsular Tonsil Enucleations," excerpts from Clinics of Charles Conrad Miller, M. D.

Miscellaneous: "Eye Sight Conservation, Bulletin 7." "The Old Time Country Doctor," by Wm. Allen Pusey, M. D. "L'Anatomie en Poche," by Victor Pauchet and S. Dupret.

Reprints.

"Hookworm Disease in China," by W. W. Cort, Ph. D., J. B. Grant, M. D., and N. R. Stoll, Sc. D.

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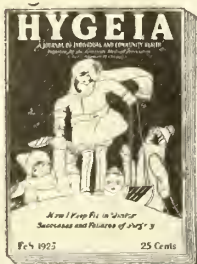
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Louisiana State Medical Society, Monroe, April 15, 16, 17, 1926

Mississippi State Medical Association, Jackson, May 11, 12, 13, 1926

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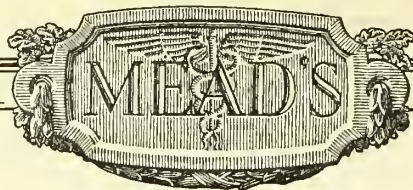
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CARDIOSPASM*

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Diffuse dilatation of the esophagus without anatomic stenosis, usually known as cardiospasm, has been recognized for more than a century, the first case having been reported by Purton in 1821.

In 1878, Zenker and von Ziemssen noted seventeen cases in the literature, but of late, owing to the rapidly developing interest in esophageal lesions and improvements in the technic of examining the patients, many cases are being recognized. Plummer reported forty cases from the Mayo Clinic observed previous to 1908, and 500 additional cases have been observed since then.

In spite of the large number of cases observed, the cause of cardio-spasm is still undetermined. Any one of the many theories advanced does not satisfactorily explain the majority of cases. The more one sees of the condition, the more apparent it becomes that a disturbance in the nerve-muscle mechanism of the entire esophagus is the causative factor. No other lesion in the esophagus causes such marked dilatation above the point of constriction and therefore the factor of loss of tone of the esophageal muscle above this point is quite as much to be considered as the stenosis at the cardia (3) (Fig. 1).



Fig. 1. Roentgenogram of diffusely dilated angulated esophagus.

In order to avoid confusion in diagnosis and treatment, it is necessary to make a sharp distinction in the classification of patients having symptoms of food obstruction at the cardia without anatomic stenosis. Many persons have varying degrees of spasm at the cardia, and it is frequently a secondary manifestation of disease in the gallbladder. In numerous cases of psychoneurosis, there may be a sensation of obstruction at the cardia, along with the ordinary globus hystericus. In none of these, however, can obstruction at the cardia

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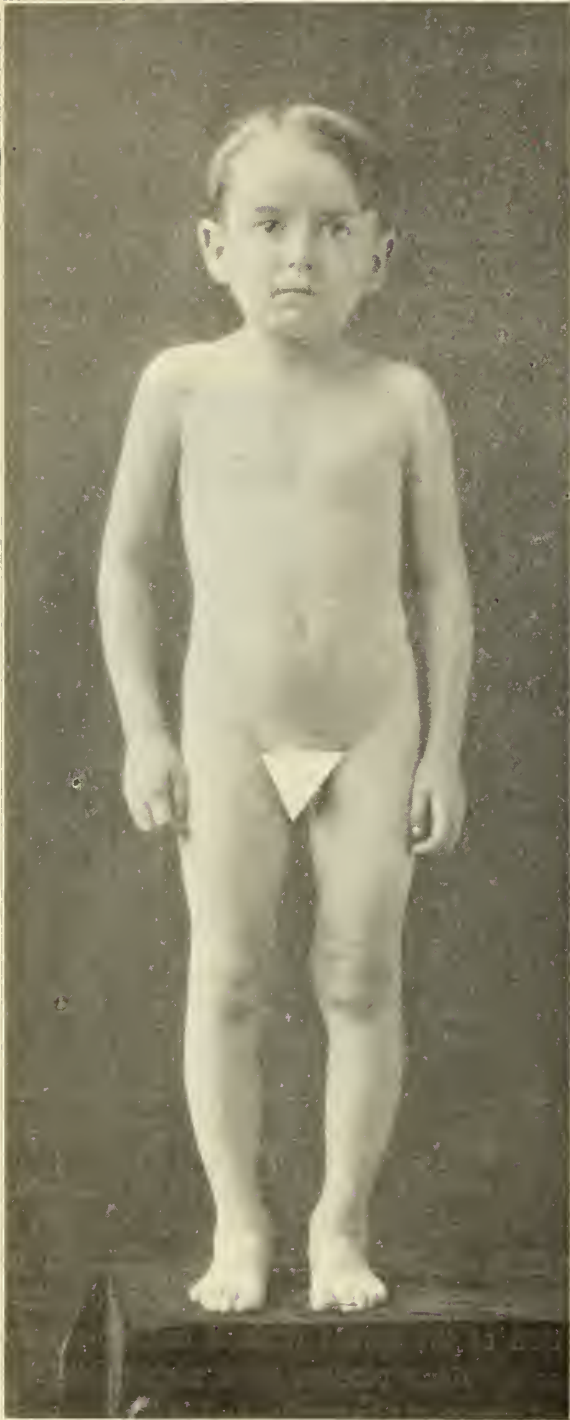


Fig. 2. Boy of seven whose symptoms of cardio-spasm began at the age of three

be demonstrated on roentgen-ray examination. The term "cardio-spasm" should be reserved for these cases of definite obstruction at the cardia demonstrated by the

roentgen ray, without anatomic stenosis, and with or without dilatation of the esophagus above the point of obstruction. In the latter group the patients are not necessarily neurotic and there is no evidence to justify the opinion that psychoneurosis is an etiologic factor.

The ages of the patients varied from five to eighty-three years; in one of them symptoms began at the age of three (Figs. 2 and 3). About one-third of the patients

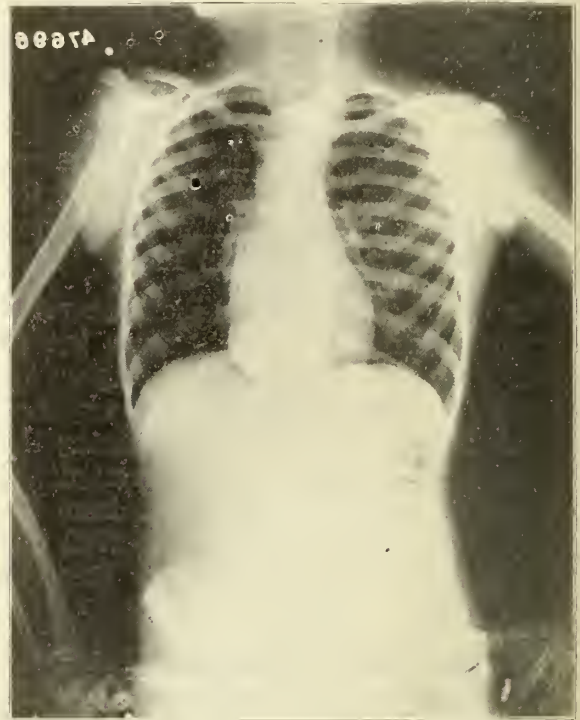


Fig. 3. Roentgenogram of the esophagus patient shown in Figure 2.

were in the third decade. They had had symptoms from two months to forty-five years, averaging seven and one-half years. Two hundred ninety-four were males, and 206 were females. Eighty-five had had a sudden onset of symptoms; the others had had a gradual onset, or it had not been noted.

SYMPTOMS.

The three cardinal symptoms of cardio-spasm are dysphagia, pain and regurgitation. Although dysphagia in my experience was not always noted in the early stages

of the disease, it was the most common, and until it appeared the diagnosis of an esophageal lesion could not be made.

The onset of dysphagia was frequently sudden and the initial obstruction occurred while the patient was eating solid food, especially an apple, or when swallowing cold water. At first, the sense of obstruction was intermittent, but as the disease progressed, it became more and more pronounced, and complete closure occurred in about a third of the cases, lasting from twenty-four hours to eighteen years. (4) The striking feature of the dysphagia was that although the patient may have been able to wash solid food into the stomach by drinking large quantities of water, he was not able to swallow water alone, particularly if it was cold.

Because of the marked dysphagia, loss of weight was common. One of the patients lost 100 pounds in a year. Many of the patients had devised means by which food could be forced into the stomach. Usually they partly filled the esophagus with solid food and then drank several glasses of water in rapid succession, pressing the chin on the chest and increasing intrathoracic pressure, when the entire content of the esophagus would pass suddenly into the stomach. A part of the water unmixed with food was then regurgitated.

Two hundred sixty-two of the patients had epigastric pain of varying severity; with many of them, it was the chief feature of the disease. Severe attacks of epigastric pain antedated dysphagia by months or years in many cases; a diagnosis of gall stones had usually been made. The pain of cardiospasm may simulate that of gallstone colic or angina pectoris.

With the onset of dysphagia, the pain usually became less severe and in some cases disappeared entirely. At times the pain was definitely associated with deglutition, but in most instances it occurred independently. The pain radiated from the

epigastrium to the back, substernally, or into the neck or ears. It was frequently severe enough to demand a hypodermic injection of morphin; in other cases it would be relieved by sipping warm water. With the onset of dysphagia, regurgitation was common. At first, the regurgitation came immediately after the ingestion of food, but later, after the esophagus had become widely dilated, it was delayed for hours or even days. Nocturnal regurgitation of food or mucus was noted in 181 cases. The regurgitation at night with frequent aspiration of particles of food caused chronic pulmonary suppuration in several cases, and milder pulmonary symptoms from aspiration and the pressure of a dilated esophagus filled with food and mucus, were noted in many others. Hiccough was occasionally noted as an early symptom.

CLINICAL AND DIFFERENTIAL DIAGNOSIS.

A diagnosis of cardio-spasm can usually be made on the history alone, but in other cases the distinction from a malignant lesion near the cardia may be difficult without careful study.

The long duration of symptoms with as much difficulty in swallowing liquids as solids, epigastric pain, nocturnal regurgitation, a smooth obstruction at the cardia on roentgen-ray examination, with or without dilatation of the esophagus, and the absence of any pronounced obstruction to the passage of a 45-French sound, when guided into the stomach on a previously swallowed silk thread, are sufficient to warrant the diagnosis of cardiospasm. In a few cases an esophagoscopy examination may be indicated.

Benign stricture at the cardia is very rare and carcinoma of the cardia, diverticulum of the lower esophagus or cardia, and hernia of the stomach through the diaphragm are the lesions from which cardiospasm must be distinguished; this, in most cases, is not difficult.

TREATMENT.

There have been numerous types of treatment advocated in the management of cardiospasm, chief of which has been the use of antispasmodic drugs, mechanical dilatation of the cardia, or some type of operation for enlarging the esophageal opening of the cardia or anastomosing the dependent portion of the esophagus with the stomach. Usually there is a varying degree of esophagitis occasioned by the prolonged retention of food in the esophagus (Fig. 4). Preliminary treatment



Fig. 4. Esophagus from a child of nine who died from starvation before dilatation could be done. Note marked esophagitis.

of this by lavage is neither effective nor necessary. A few patients are temporarily relieved by increasing doses of atropin, but a lasting result is not obtained.

Plastic operation on the cardia, as is the case with esophago-gastrostomy, is attended with considerable risk and prolonged hospitalization, and the results have not been satisfactory. The most efficient treatment has been the forcible dilatation of the cardia. This was first accomplished by making a gastrotomy and inserting one and then several fingers into the cardia. Later it was found that an



Fig. 5. Patient before dilatation

expanding type of dilator (5) could be introduced through the mouth into the cardia.

The instrument used in the Mayo Clinic is the Plummer modification of the Russell hydrostatic dilator. This is guided into the cardia on a previously swallowed silk thread. The passage of ordinary metal sounds rarely afford relief, the cardia not being stretched sufficiently to overcome the obstruction. The patients usually experienced severe pain at the time of the dilatation, and about 10 per cent had a severe recurrence of the pain within thirty-six hours after the treatment. Hospitalization for twenty-four hours after dilatation is desirable, and patients should be kept under observation for at least a week.

RESULTS.

Dilating the cardia results in immediate relief from dysphagia in practically all cases, and following the increased intake of food and water, there is frequently an extraordinary gain in weight (Figs. 5 and 6). One of the patients who had had complete esophageal obstruction for eleven days gained 22 pounds during the first five days after dilatation.

Seventy-five per cent of the patients were cured, and the majority of those having a recurrence were permanently relieved by a second stretching. When there was a recurrence, it usually occurred during the first six months after dilatation and the symptoms were rarely as marked as before the first stretching. Failure to relieve a patient by dilating usually indicated that the expanding dilator had been pulled into the esophagus, or pushed into the stomach; thus stretching of the cardia was not accomplished.

When the esophagus was widely dilated above the point of obstruction there was probably very little increase in the muscular tone after treatment, but this permanent dilatation did not interfere with deglutition. Roentgen-ray studies were made in cases after dilatation, usually without demonstrating obstruction at the cardia. There was moderate obstruction after dilatation of the barium meal without symptoms of obstruction to food in a



Fig. 6. Patient two years after treatment.

number of cases. In this group there have been no more recurrences than in cases in which the Roentgen-ray was entirely negative.

Six patients died from rupture of the cardia. Dilatation must always be considered a surgical procedure and an occasional death can hardly be avoided.

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DISCUSSION.

Dr. Homer Dupuy (New Orleans): To some of us it may appear that Doctor Vinson has purposely been drawing a distinction without a difference, yet to my mind he has approached a most difficult problem in a masterly way. He has made one very practical point which we must all take home with us, and that is the comparative rarity of cardio-spasm as a psychoneurosis. H. P. Mosher of Boston, has certainly done some very original work in cardio-spasm, and I am approaching his viewpoint, that behind every cardio-spasm, as already intimated by the essayist, is a real organic neuro-muscular alteration in the esophagus. Have you ever asked yourself why does cardio-spasm occur so often at the same anatomical point, at the lower end of the esophagus? There must be something about those parts that makes them susceptible to this neuro-muscular alteration. Mosher tells us that cardio-spasm can be brought on by morbid changes in the stomach, in the gall bladder, and even in the appendix.

I can see no reason why a laryngologist should have been chosen to open the discussion, except that the chairman of the section must have felt, as I do, that more esophageal work might enlighten us in regard to cardio-spasm. I wonder if Doctor Vinson does think that esophagoscopy is only necessary in acute cases to make a diagnosis. That might be true if we were sure we are dealing in chronic cases only with an innocent lesion, but as he just told us, it is a very difficult thing sometimes to differentiate malignancy at the lower end of the esophagus from a pure case of cardio-spasm. We all know, and are taught by the X-ray findings, that obstructions high up in the esophagus are in a great majority of cases malignant. And it is true that it is very difficult from an X-ray picture of the lower end of the esophagus to differentiate malignancy in those parts from pure cardio-spasm. Therefore, it seems to me we should plead for more frequent use of the esophagoscope, especially if there is the least suspicion that we are not dealing with a pure, unadulterated picture of cardio-spasm. I believe the terrible mortality in esophageal cancer, 100 per cent., might be reduced if we could only catch these cases in their incipiency, and yet if we are able to abide by the advice that the esophagoscope shall be used only in acute cases of cardio-spasm, can we hope to master the question of malignancy at the lower end of the esophagus?

Dr. Upton Giles (New Orleans): I am sure that the paper and demonstration so thoroughly and lucidly presented by Doctor Vinson is appreciated by all of us. However, it is a typical Vinson paper and it does not leave much comment for the internist discussing the paper.

In treating of cardio-spasm it is well to bear in mind that the normal resting esophagus is empty, except for a narrow column of air retained by a firm closure of both orifices maintained by a contraction of circular muscular fibres of the esophagus at this point.

It is estimated that the closure of the cardiac orifice thus maintained is sufficient to support a column of water two thirds the height of the esophagus. Normally the circular muscle fibres at both orifices are anatomically relaxed during the act of swallowing, allowing food and drink to pass unhindered in the stomach. Food and drink may be arrested and retained if the neuro-muscular mechanism of the esophagus is disturbed. Stagnation of food thus retained may give rise to irritation bringing about reflex spasm of the circular muscle fibres of the cardiac orifice thus increasing the resistance to the passage of food.

Anatomically, two forms of idiopathic dilatation of the esophagus may be distinguished,—fusiform dilatation with marked hypertrophy of the muscle wall of the esophagus; dilatation or slight dilatation with little hypertrophy of the esophageal wall. The first is the common form. The second is favored by atony of the muscle wall and a rapid accumulation of food stretching the esophagus before muscular hypertrophy has had time to develop.

The capacity of the normal esophagus is about 100 cc. Kinnicut demonstrated a spasm in which the capacity was 1,800 cc. 500 to 600 cc. is the usual capacity.

In one of Sippy's fatal cases the dilated esophagus held 500 cc. and the hypertrophied muscle wall was 9 mm. in thickness. The normal esophageal muscle thickness is from 1 to 2.3 mm.

Pathological specimens show no evidence of muscular atrophy or hypertrophy at the seat of obstruction. The powerful contractions of the hypertrophied muscle of the dilated esophagus, however, fail to empty the esophagus completely, because there is less resistance above, consequently a portion of all the contents may be forced upward.

This condition is unlike most chronic conditions, the longer the duration of the cardio-spasm the easier the management, *i. e.*, I have one case of cardio-spasm of 20 years duration that is easily managed with simple measures. Another case of cardiospasm of less than six months duration ended fatally.

As to treatment—in mild cases it may be sufficient to give a soft, warm, non-irritating diet, combined with bodily and mental rest. Foods should be taken slowly; chemical, mechanical

and thermal irritants should be avoided. Bromides may be of some value in combating the condition.

However, I am of the opinion that severe cases of cardio-spasm should receive intervention from the specialist.

Dr. R. C. Lynch (New Orleans): I, too, have enjoyed Doctor Vinson's paper very much, and in order to cut out any thrills I will state my disagreements right at the start.

First of all, there is nothing anatomically so far as I know, either from muscle coats or nerve supply which indicates any special construction of the lower end of the esophagus as differing from any other portion. In other words, there is no more reason anatomically why we should have a spasm at the cardiac end of the esophagus than at any other portion of the gastro-intestinal tract from one end to the other.

Second, 99 per cent. of the esophagus is intra-thoracic, and all the lesions which have been demonstrated on the screen and all the lesions which have been called cardio-spasms are intra-thoracic. The stomach and terminal portion of the esophagus is intra-abdominal. Therefore, the bulk of the pathology is intra-thoracic. The esophagus slips into a cone of the diaphragm just like your arm slips into a coat sleeve. It is surrounded by the lower portion of the posterior lobe of the lung and on deep inspiration expansion of this portion of the lung will close the esophagus momentarily. Second, the lung crosses the diaphragm, passes behind the esophagus, so that any backward pressure would close the esophagus. The esophagus at its terminal portion bends at a right angle. There are two ligaments which are attached from the lung tips to the esophagus in the intra-thoracic portion, and one from the horizontal arm to the under surface of the diaphragm. The esophagus is further interfered with normally by passing through a tunnel in the liver, being surrounded at practically three-fourths of its circumference with the liver, and therefore any adhesions intra-abdominally in the upper quadrant of the abdomen would produce lesions which are called cardio-spasms. Second, intra-thoracic conditions, tuberculosis particularly, produce adhesions of the esophageal wall and will produce constriction of the esophagus and give rise to cardio-spasms. Adhesions about the diaphragm and in the cone of the diaphragm will give rise to constriction at the lower end of the esophagus. The place as shown shows it is a constriction and not a spasm. I believe with Octroy Dupuy, that cardio-spasms are pathological and not purely spasmodic.

The treatment of the condition is absolutely correct. The dilators which are introduced check the

adhesions and bring about a cure that Doctor Vinson speaks of and which is very dramatic.

I would call your attention to the results of Doctor Iglauer, who has been working on cardio-spasms by the pneumo-perineal route and the X-ray. He took an X-ray picture of the patient before introducing the air into the perineal cavity, then he took the picture of the patient during the introduction of the air into the perineal cavity, and immediately during this operation the patient complained of something letting go and the cardio-spasm was cured. No intra-esophageal dilatation was used at all. The air evidently broke up the adhesions which permitted the lower end of the esophagus to function and no dilatation was used. Jackson speaks of a baby two days old with cardio-spasms in which passage of the esophagoscope cured the spasm. We have had seven or eight cases of this same nature in which the passage of the esophagoscope straightened out adhesions about the lower end of the esophagus through the liver tunnel, and one passage of the esophagoscope, like the dilators of Doctor Vinson's operative procedure, cured the patient the same way.

I want to call your attention to a recent article by Giese, who delivered the Seeman lecture before the British College of Surgeons. He reports that in 7,000 esophageal conditions there were 62 per cent. that were carcinoma at the lower end of the esophagus. The symptoms as described by Doctor Vinson would coincide almost exactly with the experience of Doctor Giese, and therefore I am heartily convinced that careful examination of the lower end of the esophagus with the esophagoscope is absolutely essential for a diagnosis, and it would be no more trouble than to pass an odd shaped bougie. With the dilatation of the esophagus and suction apparatus, the whole wall can be thoroughly examined. Giese also reports 7 cases of carcinoma of the lower end of the esophagus treated by radium, which I believe is the first on record, and it makes us at least hopeful about this 100 per cent. mortality that we have had up to this time.

As to the cases of spasms which last for eighteen years or five years, or two years, there is nothing in the ligaments of the diaphragm which have to do with spasmodic action, there is nothing in the musculature of the lower end of the esophagus which differs from the upper end or the middle part. Globus hystericus in about 80 per cent. of cases involves the upper end of the esophagus. Drugs do not cure it, as Dr. Vinson admits. Drugs help for a short time, but they do not cure, and if it was pure spasmodic action drugs might cure.

The angulation which Dr. Vinson speaks of is simply an X-ray of the normal bend of the esophagus that occurs in practically all strictures of the lower end.

Dr. Vinson (closing): I appreciate this discussion very much. There have been so many questions brought up that I am afraid I will not be able to answer all of them. I am glad that Doctor Dupuy mentioned the question of psychoneurosis being a negative factor in cardio-spasm. Spasms at the cardia may be secondary to various intra-abdominal lesions; cardio-spasm is an entirely different proposition. Cases of cardio-spasm associated with disease in the gall-bladder are as readily relieved by dilatation the cardia as those in which no secondary pathology can be demonstrated and are not relieved by the removal of the gall-bladder.

I did not intend to belittle the use of the esophagoscope but in cardio-spasm this examination is unnecessary in the majority of cases. The Roentgen examination is of value, but is not absolutely diagnostic. Doctor Giles' point that the duration of symptoms is not an indication of the curability of the disease is well taken. As a matter of fact, the greater the duration of symptoms, the easier they are to cure. Doctor Lynch has stated that there is no anatomical reason for spasmodic obstruction at the cardia. Some anatomists have demonstrated a circular muscle at the cardia, while others deny its presence. However, I have never seen a spasm at any other point in the esophagus except at the cardia. In post mortem examinations of patients suffering from cardio-spasm, we have never observed anything in the esophagus that resembled a scar, nor have we been able to demonstrate any adhesions around the cardia. A cicatricial structure will be relieved by the passage of sounds, but as a rule, cardio-spasm will not be benefited by any other means than the forcible dilatation of the cardia.

FOCAL INFECTION.*

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In writing a paper on such a subject as this, I realize that in the short time allotted me, and with the facilities at my command as a general practitioner I can merely skim the surface, but I hope by this short paper I may remind some one

of the many pitfalls that lie in his path as a diagnostician which may cause some one to dig out the cause of disease instead of masking his symptoms by drug therapy.

Prior to 1912 we knew very little of focal infection except in a very general way. We knew that abscess of the liver was often caused by amebic ulcers, that typhoid fever was a general infection from Peyer's patches and things like this. But we supposed rheumatism, neuritis and diseases of this class were specific infections.

Not until the investigation of Rosenow and his assistants, Billings and others, made their wonderful discoveries, did we begin to see what focal infection is.

The discovery that focal infection in almost any part of the body may be the cause of pathological lesions elsewhere aroused the careful diagnostician to search closely for these foci.

The teeth and tonsils were first suspected and many sound teeth and healthy tonsils were sacrificed before we found there were other foci equally as guilty as they.

It remained for Rosenow and his assistants to show us the real facts and proof of focal infection. By experiments he has shown that peptic and duodenal ulcer, cholecystitis, endocarditis, myositis, neuritis, nephritis, arthritis, appendicitis, ulcer of cornea, stomach and duodenum and many other diseases are due to foci of infection in the teeth, tonsils, lymphnodes, bronchi, urethra, appendix, sinuses of head, uterus, prostate and other foci. The experiments of these investigators show conclusively the cause of disease.

For instance, the bacteria from infected teeth, supposed to cause myositis, were injected intravenously into rabbits and on being killed the rabbits showed hemorrhage into and degeneration of the identical muscles.

Finally a culture from the affected muscle was injected intravenously into

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

another rabbit with the same result as from the original focus. The same was proven by cultures from diseased kidneys, ulcers, cholecystitis and other pathological lesions, in each case the original disease being produced.

In one experiment culture from apparently slightly diseased tonsils, with rheumatism, was injected intravenously into a rabbit with reproduction of identical disease. A culture from another man's tonsils apparently more diseased but with no constitutional symptoms produced no pathology in a rabbit.

This proves that all foci of infection are not of the same virulency. The most virulent bacteria so far discovered from the standpoint of focal infection is the streptococcus hemolyticus, but other strains of streptococci and staphylococci together with colon bacilli, tubercle bacilli, endemebae, pneumococci, micrococci catarrhalis, bacilli influenzae and others will cause pathological lesions from foci of infection.

One of the latest experiments in the study of focal infection, and one of the most important to us in general practice, is by Curtis of Chicago. He describes a case of spontaneous abortion following one year after the birth of a diseased child. The urine of the mother showed upon culture streptococcus hemolyticus with no symptoms in urinary tract. The culture was intravenously injected into a pregnant rabbit which resulted in abortion or absorption of fetus in every case. Later it was found that the husband of the woman had attacks of diabetes caused by infected teeth from which a culture showed the same bacteria found in the original case. This was also recovered from his urine. Removal of his teeth cleared up his diabetes and the mother later gave birth to a healthy child.

The intravenous injection of bacteria from his teeth produced the same symptoms in rabbits. He reports other cases,

one in particular, in which three abortions occurred in succession. In this case he found the streptococcus hemolyticus in secretions from frontal sinus and in her urine.

The frontal sinus was treated, with kidney lesions disappearing, and birth of a healthy child in the next year. This case and numerous others of similar foci of infection were proven by injection of cultures in rabbits producing, in every case where streptococcus hemolyticus was found, abortion or absorption of fetus. I have seen several cases of abortion that I know were caused by same conditions; also cases of birth of ill developed babies with diseased placentae.

This should remind us in all cases where we treat our pregnant cases early to clear up these foci and save many babies otherwise lost, and save women from puerperal complications and nephritis. Many of our cases of eclampsia could be prevented although we have in the past known nothing of the cause. Doubtless many other obscure etiological factors will yet be found in this way.

We may be asked why some people have diseased teeth, gums, tonsils and other foci of infection and never show pathological lesions. This is caused in various ways. All foci are not of the same virulency. All patients have not the same metabolism. All have not the same degree of natural resistance and all are not subjected to the same degree of lowered resistance. A sinus infection is more virulent when the patient develops a cold. Also his resistance is lowered. The resistance of the stomach to ulcer infection is lowered by over-eating; the appendix and gall bladder are more susceptible to infection when the patient is constipated, or following acute indigestion or fermentation of food in the intestine.

In treating chronic diseases we often find that we get no results until we accidentally discover certain foci of infection and treat the cause. We all remember when we were

taught to give salicylate of soda for tonsillitis developing during a case of rheumatism, and remember now that our rheumatism got better when we treated the tonsils locally and cleared out the pus.

How are the products of the foci of infection carried to the different organs? Both by the blood and lymphatics, and both by spread of bacteria and their toxins. Krebs and Schmidt found that in cases where no bacteria could be recovered from the infected muscles the disease was due the toxin from diseased teeth and tonsils. While on the other hand, Rosenow in cases of cholecystitis, appendicitis, peptic ulcer, and other lesions was able to recover from the diseased organs the same strain of bacteria as those cultured from diseased foci.

Among the foci of infection we first think of the teeth and tonsils but we know now that the sinuses of the head, the appendix, the urethra, the prostate, the bronchi are often the cause of infection in secondary sites. Alveolar abscess caused by infection with endameba, streptococcus and staphylococcus and possibly others furnish us abundance of infection to be carried by the saliva to the stomach, to the tonsils and to the bronchi and lungs and absorbed into lymph nodes, also carried by the blood to all parts of the body.

The tonsils owing to their peculiar spongy structure are rich foci of growth of infection and on account of rich blood and lymph supply easily infect the whole body. The lymph nodes may be infected and remain as secondary foci after removal of tonsils; so do not say you were wrong in removing tonsils because you do not get immediate results. I saw one case of corneal ulcer which had refused to heal from a year's treatment, heal in a short time after Dr. B. S. Guyton removed the badly diseased tonsils.

I have also seen cases of pyelitis and cystitis clear up in a few weeks after removal of tonsils.

Abscessed teeth or apical disease of the teeth is one of the most universal foci found. I have seen these cases suffering with rheumatism or neuritis, malaise, headache, nausea, etc., relieved in forty-eight hours by removal of diseased teeth. One man came into my office a few weeks ago, aching "all over" as he expressed it, had been unable to work for a week. His mouth was a fright. Every tooth showed pyorrhea. I persuaded him to have his teeth extracted, which he did. In a week's time I saw him at hard manual labor and he told me that except for feeling weak from loss of blood he felt better the next day.

We have all seen cases of arthritis, endocarditis and other complications following neisserian infection both in the male and female. We have seen the general infection and pyelitis from stricture and diseased prostate and cervix.

The entire digestive tract is often deranged or possibly gastric and duodenal ulcers produced from infected appendices. Sanders and Warr report that 85% of cases duodenal ulcers surgically treated reveal an associated appendix or the appendix had been removed. The same authorities find that by x-ray study of the gastro-intestinal tract in cases of chronic appendicitis more than 90% had spastic colon with constipation.

Many cases of chronic gastritis and intestinal indigestion, peptic and duodenal ulcers are traceable to foci in the sinuses of the head. I have seen cases presenting every symptom of tuberculosis: fever, cough, rales, etc., when x-ray showed lungs to be negative, clear up on treatment of frontal sinuses and antrum. These foci also may cause many of the neuralgiae and rheumatism, headache, etc.

Many cases of diabetes and peptic and duodenal ulcers have been shown to be caused from infected sinuses. Many of these have cleared up when the sinuses were treated.

Different organisms show elective action for certain tissues. It has been noted that the same organism is likely to attack the gall bladder and myocardium. So when you find infected gall bladder watch out for his heart muscle. We just had a case with infected gall bladder and degeneration of heart muscle which I am sure would have shown a common focus of infection which doubtless was his teeth.

Osteomyelitis is another disease due to focal infection, usually by the tubercle bacillus. Injury or exposure to dampness is a predisposing cause; prepares the soil for the deposit of infection.

Geo. R. Minot shows that a general lymphadenitis resembling Hodgkin's disease may be caused by infection from diseased tonsils or sinuses. Hodgkin's disease may be caused by the same foci.

Many cases of urticaria, so called eczema, etc., are produced by absorption from various foci of infection.

I saw numerous cases of influenza in 1918 which I know must have been streptococcus hemolyticus infection, in which I found gall bladder and myocardium complications. These nearly all resulted in death.

Rosenow has shown that streptococci have a special affinity for the gall bladder. He cultured streptococci from a patient with cholecystitis and reproduced cholecystitis in animals by intravenous injection. This patient suffered from tonsilitis and streptococci from his tonsils were cultured and intravenously injected in animal producing cholecystitis. Typhoid bacilli and other germs will also cause cholecystitis.

Appendicitis is caused by hematogenous infection of the terminal blood vessels in the lymphoid tissue.

The French surgeons have especially noted the focal infection of the appendix from the tonsils, nose and jaws. The lymph nodes are often infected. Kretz believes that bacteria rapidly infiltrate through the

lymph nodes into the blood streams. This may also cause local or general infection resulting in endocarditis, pericarditis, osteomyelitis, nephritis, cholecystitis as well as appendicitis.

Adrian has shown by comparison of the similar lymphoid tissue of the appendix and tonsil that the tonsils are more often the foci of infection for the appendix. He coined the term, "anginal appendicitis," to express this relation.

Rosenow has also reproduced appendicitis in animals by injecting cultures from tonsils and appendix and gets same results in each.

Many other infections could be shown, but this paper can not cover all this ground.

In conclusion let me urge that we seek out these foci of infection, when possible. Study the bacteria and the relation of infection from one foci to another and always seek to remove the cause and not cover up our work by drug therapy and let our patients drop into the hands of the charlatan and quacks.

PROSTATITIS: ITS ROLE IN FOCAL INFECTION.*

H. W. E. WALTHER, M. D.,
NEW ORLEANS.

The study of focal infections, and their etiologic relation to many bodily ailments, has attracted the attention of the profession for some time. Septic foci in teeth, tonsils and sinuses have received due consideration. Yet the profession generally has accorded comparatively little attention to the prostate gland and seminal vesicles (we hardly discuss one without including the other) as a possible cause for the continuance of many intractable systemic complaints we are called upon to treat. The failure, on the part of the examiner, to in-

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clude these organs in his routine clinical study, has doomed many a man to prolonged and untold suffering. I have seen numbers of patients who have had every tooth pulled; tonsils, adenoids, appendix or gall-bladder removed, and still no relief. They will tell you that they have consulted a number of physicians but not one of them ever palpated the prostate gland. Yet in prostatitis the improvement noted by the patient following the first or second massage to the gland often gives them sufficient encouragement to request that the physician continue the treatment, despite the pain it frequently entails, until a cure of all symptoms is effected.

I do not wish to be misunderstood in this matter; far be it for me to deride the efforts of the dentist or otolaryngologist. Infections, in the mouth, throat or elsewhere demand attention. Miraculous cures are brought about daily where the true seat of a pyogenic focus is unearthed and removed. But in these modern times the failure routinely to examine the prostrate secretion in males suffering from obscure pain is inexcusable. I feel certain that were it carried out more systematically fewer teeth and tonsils would be needlessly sacrificed.

Cases of so-called "rheumatism," "sciatica," "gout," and "lumbago" remain the enigma of medicine. That the prostate and seminal vesicles furnish bacteria which perpetuate many of these conditions is being proven in an ever-increasing number of cases. It is not my purpose to leave an impression that all joint or muscular inflammations are due to infections in the genito-urinary tract. Nor should it be presupposed that all infections found in the lower urinary or sexual tract are of venereal origin. I mention this here because many laymen are under the impression that prostate trouble can originate only from a venereal infection. We know that non-specific infections of the prostrate occur rather frequently and therefore no stigma need attach itself to one suffering from this malady. Besides the gonococcus, the bac-

teria commonly found in prostatitis are: the staphylococcus, the colon bacillus, the streptococcus, the micrococcus catarrhalis and the pneumococcus. So that prostatitis should be regarded simply as a septic focus to be grouped along with dental infections, tonsillitis, sinusitis, etc.

Osteopericostitis, arthritis, arthralgia, (particularly of the lumbo-sacral joint), synovitis, myalgia, and some types of neuritis, are accountable largely to some focus of infection for their chronicity and failure to respond to the usual lines of treatment. That a large proportion of these conditions in the male is due to infected prostates and vesicles is attested to weekly, if we are to believe the reports in the literature. Some of the leading spirits in modern surgical thought have interested themselves in this problem and no less an authority than Eugene Fuller, of New York City, as far back as 1905, directed attention to the seminal vesicles and the important role they play in the etiology of Neisserian arthritis.

DIAGNOSIS.

Digital palpation of the prostate per rectum and the microscopic examination of the expressed secretion from the gland furnish the cardinal aids in arriving at a diagnosis. Both of these points require a little elaboration. First as regards the size of the prostate. In acute prostatitis the index finger in the rectum will encounter a swollen, tender, feverish structure. But it is rarely at this stage that the physician in general practice sees the case. The patient usually comes under observation after the infection has reached the chronic period and at this time the gland need not be above the normal size. So that in investigating the prostate, as a possible source of focal infection, the size of the organ must be totally ignored.

It is by microscopic study of the secretion, and by this means alone, that accurate information is to be obtained. To massage a prostate, in order to express its contents into a medicine glass, is no complicated

procedure. Any physician possessed of an index finger can do it. With a little practice, after acquiring the proper "stroke," prostatic fluid can be obtained at will, and with little discomfort to the patient. A film of the fresh secretion is placed on a slide by means of a platinum loop, fixed with heat and stained with any of the anilin dyes. Better still, transfer the secretion to a centrifugal tube and sediment for a few minutes in the centrifuge; pour off the supernatant fluid and with a loop place some of the precipitate on a slide and stain. This latter method of concentration, devised by Foster M. Johns, of New Orleans, aids materially in expediting the microscopic study. Prostate secretion normally harbors neither pus nor bacteria. Should the stained specimen therefore reveal either or both of these elements, in varying degree, our diagnosis is made. Right here it must be stated that one or even two negative findings are not conclusive evidence that prostatitis does not exist. Due to a long-standing infection, which has "sealed itself in," it may require several attempts at massage before the barriers are opened and the pus and bacteria liberated. This point should be borne in mind particularly in examinations of males who contemplate matrimony and desire to know if they are fit. The usual excursion of the index finger in carrying out the massage is a swing from the lateral extremity of the gland towards the mid-line, downwards and outwards. The prostate lies on the floor of the rectum and just within the anal sphincter. The seminal vesicles are located to the outer margins and above the prostate, in the same relative position as the two horns on a steer. Because of the difference in glandular structure, the vesicles are emptied differently from the prostate. Here the finger adopts a downward and zig-zag movement in order more effectually to empty the sacs. If one wants to collect the prostatic and vesicular secretion separately, as is often desirable, the prostate is first massaged on a full bladder. After collecting the prostatic secretion, the pa-

tient is made to urinate (flushing out the urethra) and the vesicles are then emptied and this secretion collected in a separate receptacle.

TREATMENT.

The management of prostatitis will be considered under five heads, viz: (a) hygienic; (b) local; (c) hyperemic; (d) intravenous; and (e) oral.

Of the hygienic admonitions to be observed by the patient the two that brook of no exceptions are the abstinence from sexual intercourse and spirituous liquors. Daily evacuations of the bowels must be maintained. In the absence of such exciting factors as fever and pain, outdoor exercise in moderation is to be encouraged. Massage of the gland is by far the most valuable single factor in getting rid of infection. Prostatic massage has never been a popular procedure with the profession outside of the urologists. Why this should be it is difficult to surmise. Unquestionably a certain proportion of the profession consider rectal palpation distasteful. That this attitude is changing, at least among the younger men, is encouraging. Realizing that so much depends upon thoroughness in arriving at a correct diagnosis, physicians today know that they cannot ignore the prostate and seminal vesicles as possible sources of trouble. The actual technique, described under diagnosis, will not be reiterated here. Suffice it to say, the clinician must massage with the head as well as with the finger. It is in truth a fine art but can be acquired by any one applying himself to the task. The pressure brought to bear on the prostatic lobes must not be severe enough to bring blood yet must be given with sufficient firmness to bring down the secretion. It is my custom to have the patient bend over an examining table holding a sterile medicine glass under the penis to catch any secretion expressed by massage. This secretion is submitted to microscopic study weekly in order to determine the progress made.

Treatments are given once, twice or thrice weekly depending upon the patient's reaction to treatment, the degree of swelling present and the severity of the infection. It must be clearly impressed upon the patient at his first visit that chronic prostatitis cannot be cured in a few treatments; that it may require months to rid the gland of its pus and bacteria. Only by the complete co-operation between patient and physician can results be obtained. As it is the rule in these cases to find a coexistent congestion and low grade infection in the bladder and deep urethra, instillations of a dram of two per cent silver nitrate solution or of a one per cent mercurochrome solution are given alternately following each massage. I have abandoned irrigations with potassium permanganate because I consider the two above named antiseptics superior.

The use of hyperemia in the treatment of inflamed and infected foci is not new. But the means of applying the heat, deep within the tissues, at temperature hitherto impossible, is of comparatively recent origin. By the aid of sedative diathermy, administered with any modern high frequency machine capable of delivering d'Arsonval current, thermo-therapy can be utilized in prostatitis with very gratifying results. It certainly increases the circulation within the gland and by so doing favors resorption of toxic material. Briefly the technique consists of placing a specially constructed electrode in the rectum against the prostate and an ineffectual electrode on the suprapubic region; the electrodes being so arranged as to center the maximum thermal point directly in the gland. Diathermy can be given as often as considered necessary (usually every four days) each treatment lasting from 20 to 40 minutes.

The use of mercurochrome intravenously in the treatment of systemic infection has gained wide popularity. And whereas

it fails to benefit a certain proportion of cases (about 33 per cent) it should be borne in mind as a possible aid in treating the more refractive types of prostatitis. Usually but three injections are given by us at four day intervals. If no results accrue from these injections, we do not consider it worth while to continue. From 2 c. c. to 10 c. c. of a 1 per cent freshly prepared and sterilized aqueous solution is employed. One begins with the small dose and then increase the amount of solution according to the reaction experienced, the results obtained, and the tolerance of the individual.

Hexylresorcinol is the newest of the internal urinary antiseptics. Its final place in urology still remains indeterminate. This much can be said for it at this time. It possesses the power of inhibiting bacterial growth in the urine of certain cases, while in others it appears to be innocuous. Our experience with hexylresorcinol so far has failed to arouse enthusiasm. Neutral acriflavine in $\frac{1}{2}$ grain enteric coated tablets or urotropin in 15 grain doses still have many advocates and should be tried.

CONCLUSIONS.

1. The prostate and seminal vesicles play an important role in considering focal infections in the male and merit more serious consideration at the hands of the profession than has been accorded them so far.

2. Correctly to diagnose prostatitis it is imperative that microscopic studies of the expressed secretion be made. The size of the gland, as elicited by digital palpation per rectum, is often misleading as regards the true pathology existent.

3. Massage of the gland, when regularly and efficiently performed, is the treatment pre-eminent. As adjuncts, diathermy and intravenous antiseptics have proven of value in certain refractive cases.

FOCAL INFECTION IN THE DENTAL TISSUES.*

J. N. C. MOFFAT, D. D. S.,

CLARKSDALE, MISS.

I want to express my sincere appreciation of the privilege of appearing on your program. I do not consider it a personal compliment but I am indeed appreciative of the honor conferred upon the dental profession.

When I began the practice of dentistry over twenty years ago, the function of the dentist was to relieve pain, promote comfort and employ a system of mechanics for esthetic purposes.

I was not a dentist from choice and the goal of my ambition was to be a practitioner of medicine and surgery. Feeling as I did, I have watched with unusual interest the advances, step by step, of the important significance of dental infection in the prevention and cure of systemic disorders. Dr. Chas. Mayo, several years ago, made the statement that the next great advance in medicine and surgery would have to be made by the dental profession, and asked if the dentists would be equal to it.

The dental profession has accepted the challenge and by scientific research and investigation, backed by clinical evidence, realizes that infection in the dental tissues is a potent factor in systemic disease.

We believe that your success is largely limited without our help and we realize that our activity is largely limited without your co-operation. It seems to me that lack of co-operation can be attributed to one of two propositions—perhaps both—ignorance or indifference.

“Remove the cause” is about the only theory that has stood the test of time without being bombarded or changed and it looks as if some of us ignore that too often.

Many years ago some raised the argument that the connection between mouth infection and systemic disturbances was too hypothetical and that they were not related in cause and effect but were coincidental. The mere fact that there is a great prevalence of mouth disease without associate systemic involvement is no argument. The same is true of syphilis, gonorrhoea and tubercular immunity—still no one doubts the significance of these infections.

It would be silly to read a paper on the Christian religion to a man that did not even believe in God. If there is anyone present that attaches little importance to mouth conditions and general symptoms, I want you to stop up your ears until I finish. It is not my object to teach you something you don't already know but to stimulate interest and urge more helpful co-operation.

Dr. Chas. Mayo made the statement several years ago that people in the future would not die of plagues as in time past but would die of focal infection. He made the statement also that 90% of all focal infection is above the collar and that 72% of that 90% is found in the dental tissues. A large per cent of infected tonsils is a secondary manifestation to mouth disease. If this be true, where does your responsibility come in as the true guardians of health? It is to you that suffering humanity stretches forth its hand.

You know better than the dental profession that pathological conditions do not bob up without a cause. You know that when a patient presents himself with a case of arthritis, neuritis, endocarditis and dozens of other conditions of inflammation, that focal infection is the cause.

If you notice mosquitoes in a house that is screened, you know they are getting in somewhere. If there is some place that you know affords the best opportunity for their entrance, it is certainly reasonable to get rid of the openings at that place first. The mouth unquestionably affords the best opportunity for the entrance of germs into

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

the system so it seems that the logical thing for you to do in treating your patients is to see that the mouth is attended to and of course the dental surgeon is the only man that can intelligently handle it.

I saw a case at the Mayo clinic that I want to report. The patient was a girl 18 years old with a severe case of iritis. After a thorough examination, including, of course, x-rays of the mouth, in the absence of all other probable causes, two central incisors were suspected as the cause of the trouble. These teeth were extracted. Serum made from canals of one of the teeth was injected into a guinea pig. The pig developed the same lesion in its eye that the girl had and the girl was dismissed within a short time entirely relieved without further treatment.

Rosenow, in his research work, has produced, in pigs and rabbits, ulcer of the stomach, heart lesions, joint disease and dozens of other pathological conditions corresponding to lesions in patients, by injection of serum made from dental focal infection of these patients.

Dr. Cotton, medical director of the New Jersey State Hospital, made this statement, "By recognizing the fact that mental diseases may be the result of oral infection and toxemic poisoning due to this infection, we have been able to restore many patients who with our former methods of treatment became chronic patients and remained in the hospital until the time of their death. Thus we have been able to discharge 78% of the patients admitted to the hospital within the last nine months, whereas, for a period of ten years, the proportion of discharges to admission was only 43%."

Langsworth, in his study of cases at the University of California hospital, found chronic focal infection in 84% of ulcer patients, 66% of sub-acute cases of arthritis, 73% of the chronic cases of arthritis, and in 100% of gall bladder cases. He

stated that the acute and sub-acute cases responded well after the removal of the foci, even to the point of absolute cure. In many of the chronic cases the patients had less pain and no further progress of the disease.

Duke, in tabulating 1000 medical cases in which the patients suffered from some form of chronic disease, found a marked degree of oral sepsis in 66%.

Thoma, in a similar group of cases at the Robert Brigham Hospital in Boston, found alveolar abscesses in 88%.

Crous found alveolar abscesses in 44% in a series of 124 patients with miscellaneous disease.

Potter of Columbia University, in the *New York Medical Journal* of February, 1917, gives a list of 31 diseases to which dental sepsis contributes. I think it is reasonably possible for mouth sepsis to influence the progress and prognosis of almost every disease, and undoubtedly it does in thousands of cases where mouth disease receives absolutely no consideration as a causative factor.

I was operated on in 1919 for osteomyelitis of the femur. I laid in the hospital for 30 days and was discharged at that time with a copious discharge of pus which persisted for six months. There was absolutely no examination made of me other than the examination of the local condition. At the expiration of 6 months, I was examined from head to foot in every way. The only focus of infection or probable cause of my condition was located at the root of a non-vital front tooth. The tooth was extracted and my leg opened up and cleaned again. I was in the hospital for only 4 days, the incision healed without further drainage and I have been perfectly well since that time.

I have had dozens of patients suffering from neuritis and arthritis and the foci of infection was unmistakably pyorrhea.

Treatment would give temporary relief from pyorrhea and relief from the general symptoms would follow. In many instances patients would have a return of pain and mouth examination would reveal a return of pyorrhea. Treatment would be given again for pyorrhea and same results would follow. I have seen this occur at intervals for a period of ten years.

I know of many cases where acute symptoms would persist after surgical interference in deep seated pathology until certain focal infection in the dental tissues were removed.

You can't tell where the primary lesion is in a secondary manifestation. Is it fair, practical or scientific then, when dealing with a condition that may be caused from septic infection, to ignore mouth conditions?

There was a school teacher in our city that had a slight rise of temperature every day for over five weeks. She was out of school, lost weight and continued to go down. Her parents insisted upon her giving up her position. Patient was brought to my office and x-ray examination showed a large rarefied area at the apex of an upper lateral incisor. This tooth was extracted and further examination revealed a large pocket and destruction of bone. This was on Friday. Patient went back to her school the following Monday. Had no more fever and gained about 25 pounds in less than two months.

There was a patient referred to me suffering from neuritis. X-ray examination revealed some blind apical abscesses and severe infection from pyorrhea. I removed several of the worst teeth. Patient received temporary relief and did not return for further treatment. He remained fairly well for many months and then had what was diagnosed as a nervous breakdown, and was finally sent to one of our state institutions hopelessly insane. Sometime later all of his teeth were extracted and he is at home with his family per-

fectly well. This patient is about 45 years old.

Now, gentlemen, I could cite cases to you for hours probably, giving clinical results which prove beyond a shadow of a doubt the direct connection between focal infection in the dental tissues and systemic disease.

I contend that many patients are suffering today because some of our leading physicians and diagnosticians are ignoring oral sepsis. I know it is a questionable policy for me to say this. I realize also that a large majority of dental infection is due to improper skill, faulty technic and careless indifference of the dentist. We deserve and should have a severe rebuke from you but I also think it is proper for us to rebuke those of your profession who are not giving our field due consideration.

This is being done, not by the so-called country doctor, or slip shod practitioner, but by some who rank among the highest, and in closing this paper, I want to cite two especially interesting cases that prove my contention:

Case No. 1. Married lady about 25. She lost control of the lid of the right eye. It drooped as it would in winking. Vision in that eye was impaired to such an extent that patient could not read; could not even drive a car. She went to one of the leading specialists in the South—a man with a national reputation and one whom all of you know. He made every examination that he wanted to. He had his associate to remove patient's tonsils stating that her condition was due to focal infection. Patient was not relieved, and after recovering from operation suggested that her teeth be x-rayed. This specialist looked at her teeth and told her she had as nice looking teeth as he ever saw and said that an x-ray of her mouth would be a useless expense.

Patient returned home and several months later came to my office. X-ray of her mouth revealed a granuloma at the apex of each root of a lower six year molars and two impacted lower third molars that did not show in the mouth. There was a dark area around the crowns of impacted teeth. The infected molar and impacted teeth were removed. That has been over 8 months ago. I

saw the patient a few days ago. She has had no return of the trouble. Appearance is normal, eye sight normal and of course, she is delighted.

Case No. 2. Widow 58 years old. Began having hemorrhages from the kidney. Called one of our local physicians and after treatment for some time with no improvement, at the suggestion of her physician, she went to one of our cities and consulted a diagnostician, who is known as well as any man in the South. He examined her everywhere except her mouth. The x-ray specialist associated with him made numbers of x-rays of her kidneys and other internal organs. Her tonsils were examined. She was turned over to the leading kidney specialist of the city who made many cystoscopic examinations. She returned to the diagnostician and was told that he could not locate the cause of her trouble. Was instructed to go home and stay in bed. Was put on a diet. She was also advised not to let anyone do a surgical operation

Patient returned to Clarksdale.....Grew worse. Lost weight. Complexion bad; nails discolored and badly depressed.

She made her plans to go to Mayo Clinic. Was brought to my office. X-ray revealed 9 devitalized teeth with blind abscesses. Pyorrhea in worst form and a general septic condition. I consulted with her local physician and he said that, of course, her teeth would have to come out but he doubted beneficial results so far as patient's kidneys were concerned.

I began very cautiously the extraction. At the end of the 15th day she came to my office. All of the teeth had been extracted except three or four. She came in smiling, saying, "Doctor, my urine was clear this morning for the first time in over three months."

That has been nearly a year ago. She has had no further treatment. She says she is enjoying better health than she has had for 15 years. Her complexion is good. She has gained considerable weight, feels good and has had no other treatment.

You will please pardon the lengthy details of these two last cases. Both of them are prominent people and the last case especially is well known to the Clarksdale physicians.

I want to thank you again for the privilege of being with you, and want to apologize for the persistent use of the personal pronoun—I had to give my own observation, but hundreds of dentists have had similar experiences.

I will appreciate a free discussion of this subject and I shall gladly attempt to answer any questions along this line.

DISCUSSION.

SYMPOSIUM BY DRs. EASON, WALTHER AND MOFFAT.

Dr. A. M. Harrelson (Stringer): The thing that needs to be emphasized most is careful examination. That seems to be one of the things that was stressed by each one of the essayists and it should be emphasized and practiced by each one of us. We learn a great deal about these things by experience and one of the greatest experiences of my life as a professional man happened about 15 years ago and it made me very, very careful ever since. I was called late one afternoon to see a sick child. It was a very cold evening and the grandmother of the child was sitting by the fire with the baby wrapped in a large blanket and its feet uncovered towards the fire. The room was a little dark, but still I could see pretty well and the first thing I noticed was a large abscess on the baby's foot, which was just about ready to burst. I took out my lance and opened it, and then I carefully turned back the cover that the grandmother had the baby wrapped in and when I got in there I found the baby had been dead for about 30 minutes. That taught me to make an examination before I did an operation. I have been very careful ever since and I have not from that day to this operated on another dead baby.

Dr. H. R. Hays (Jackson): I have nothing to add to what has been so ably said, but I want to express my appreciation for these excellent papers, particularly the paper of Doctor Walther. It brought out the focal infections related to the prostate. So many times in the clinic work in this state we have seen these people come in and just a massage two or three times would transform the patient from a down-and-outer, into a man who was ready to go out and earn his living. Nor do I blame the general practitioner because I practiced medicine myself about ten years, and I do not remember in that time of palpating a single prostate gland, but in those days we did not have the criteria that we have today in our medical societies, we did not have these things discussed, and I hope this paper in particular will impress upon the general practitioners the importance of examining these prostate glands and massaging them.

In regard to focal infection, I remember one case I had, a Y. M. C. A. secretary who was in camp at Deer Island. He had been going in swimming with the boys and had been eating in camp—we had a summer camp over there. He

had been playing on the beech and had skinned his knee. He did not tell me anything about it, but he gradually began to develop a fever, a little higher every day, his tongue got long and pointed, and I thought there was a little petechia on his abdomen, so I took him as a case of typhoid fever and put him in the hospital. He had not called attention to this wound, so he was entered as a probable case of typhoid, but when they went all over him they found this wound, treated it, and when it was cleaned up his temperature went down and he made a rapid recovery. That emphasized to me again that we should examine our patients very thoroughly.

Dr. J. J. McCauley (Sarah): I was very much impressed by Doctor Moffat's paper, because I have a couple of cases that I would like to report which may possibly impress this upon the general practitioner a little more.

In 1919 I was at the Chicago Polyclinic and one afternoon a patient was presented to our class. We were divided up into groups of four or five so we could examine this man who had been in every clinic in the United States. He was about 32, fairly well nourished, and he had had a little afternoon temperature for three years, but no one had ever been able to locate the cause. He had his record and it showed anywhere from $99\frac{1}{2}$ to 100 temperature in the afternoon. Everybody went over him, but no one could locate the trouble. Fortunately there was a dentist in the crowd who had not been asked to go over the patient, so he asked permission to observe him for two or three days. The dentist took him and had an x-ray made and found a small dark spot at the root of one tooth. His mouth looked perfectly clear and he seemed to have a perfect set of teeth. The dentist insisted upon having the tooth removed, it was extracted and the sixth day after the tooth was removed the patient had a normal temperature. I have not heard from him since.

Another case was a woman about 84 years old. I was called to see her two years ago. She was brought down on a stretcher from a hospital in Flint, Michigan. She was so emaciated and her heart beats were so fast that they could not be counted. The doctor who had sent her home wrote a note stating that she was getting about 2 grains of codine and 15 drops of digitalis a day. I looked at this old lady for a week or ten days without making any diagnosis. She had a complete upper plate, and the lower teeth were all extracted except four in front. These teeth were loose so I called in a local dentist and he took them out, and in 60 days after that her heart beats had quieted down to almost normal and she returned to Danville, Illinois. I had a letter from her last week and she stated she had gained 24 pounds and was

able to walk three quarters of a mile and was feeling very well indeed.

Dr. S. E. Eason: I appreciate what Doctor Moffat said about my paper. I could not have a much higher compliment than that, because dentists think they know all there is to know about focal infection. However, I have learned a good deal of what I know about focal infection from being associated with dentists. I take many of my cases to them for examination, where I fail to find the cause.

The study of the focal infections to be thorough must be carried out by the general practitioner; because as has been shown today—Doctor Moffat shows what should be done with the teeth, and Doctor Hays and Doctor Walther tells us about the prostate, and the general practitioner must work between the two. The eye, ear, nose and throat man sees it from the frontal sinuses and the tonsils, and it is up to us to work the whole thing together, because the general practitioner really does cover the whole body, and we are the only people who do.

One thing I left out was epilepsy. In 1917, I was with Doctor C. A. Reed, who thought he had found a cure for epilepsy, and that was, an ileosigmoidostomy, completely isolating the colon above the sigmoid. I saw x-rays of a number of those cases and every one showed what he claimed was there before the operation, and in a great many of them two years after had not had a return of the epilepsy. The case I had, however, was not benefited at all from the treatment, but he had one of the worst mouths I ever saw, and every case of epilepsy I have ever seen since had the same kind of mouth. If a diseased mouth can cause epilepsy, diseased tonsils and gall bladder may cause it. We must go over all these things in order to find the cause.

Dr. H. W. E. Walther (closing): Doctor Eason strikes the keynote of the whole situation. If, in this symposium, you had had one man representing each branch of medicine, and if the audience would then correlate the facts and store them away where they could be drawn upon when needed, we would have an ideal state in which to practice medicine. In other words, we frequently have multiple foci of infection and every possible source should be investigated before we rest satisfied.

I cannot quite agree with Doctor Eason that the urologist only sees the prostate. The sloppy man might, but not the real urologist; and I even go so far as to believe the dentist has a farther vision than the teeth because I have had cases referred to me from dentists, as in turn I have

referred cases to dentists, and we know that dentists refer cases to the surgeon, to the otologist, and so forth. Team-work is what we must have, to find these multiple foci of infection. Treating the prostate, even though it be infected, will not cure the individual if he has bad teeth; both areas must be attacked.

Chronic appendicitis will be cured by the removal of the appendix, but the *patient* will not be cured if he has a bad gall-bladder, too. Both foci must be attended to. I think that is the generally recognized state of affairs today. Doctor Eason told us of one case that had bad teeth and also had bacteria in the urine. The infected teeth removed the cause that brought the patient to the doctor, but did it remove the bacteria in the urine? Might there not be an infection of the urinary tract, too, and might not that patient wind up with a chronic infection of the kidney which may do great damage?

Doctor Moffat brought out clearly my position regarding multiple foci of infection in his case report of hemorrhagic kidney due to a focus in the teeth.

I appreciate what Doctor Hays said in regard to the effect of massage of the prostate. I do not want to leave the impression that every ailment in a man is due to his prostate; that was not the purpose of the paper. It was simply to draw your attention to the fact that prostatitis is commonly prevalent and that we should be on the lookout for it.

Dr. J. N. C. Moffat (closing): I do not think there is any question that we all agree that it is necessary to remove all foci of infection. It is unreasonable to think that if you have a sore toe, bad tonsils, or a bad prostate, that you would expect to get good results simply by removing the teeth. I think this discussion is calculated to do some good. I believe the susceptibility to infection, the number of bacteria and the amount of area involved, is greatly in favor of the field of the dentist. We have 32 teeth to contend with, together with the tissue surrounding each tooth and then the deeper structures also. All statistics are based on percentages, and figuring it from that point of view, I think it is well to take into consideration the dentist's field first.

I want to express my appreciation of the discussions given to my paper and also my pleasure in being with you. I have ridden about a thousand miles and lost five days out of my office, but I have enjoyed the papers and the discussions along other lines, and I think it will do me a great deal of good. I hope that my few remarks may do you some good.

X-RAY DIAGNOSIS OF COLONIC LESIONS*

C. P. RUTLEDGE, M. D.,
SHREVEPORT, LA.

In X-ray examination of the colon the opaque meal, the opaque enema or better still a combination of the two may be used. Each method has its place and advocates; however, if one only is to be used, the opaque enema would be my choice.

When the combination method is used, my procedure is as follows:

Patient is instructed to report to X-ray laboratory without having taken purgative within forty-eight hours. The opaque meal, which consists of three ounces of



Fig. 1. Case 1.—Colon filled with opaque enema showing an incompetent ileo-cecal valve with filling of several feet of small intestine.

barium sulphate thoroughly mixed with twelve to sixteen ounces of buttermilk, is now given by mouth. No examination is made at this time but patient is allowed to pursue his normal activities and eat his meals at regular intervals, but must abstain from all purgation or enema. Examination is begun six hours after ingestion of meal at which time it is usually seen in terminal ileum, cecum and ascending colon. Patient is examined, by aid of

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

fluoroscope and films, in horizontal, vertical and other positions, the examiner resorting to palpation to detect points of fixation, tenderness, etc.

Following this initial examination, observation and films are made at intervals of twenty-four hours, or oftener if indi-

verticulitis and diverticulosis, carcinoma (more particularly when there is considerable obstruction to flow of opaque enema preventing clyisma from filling colon proximal to lesion), tuberculosis, atony, stasis, ptosis and colitis.

The opaque enema will usually give most



Fig. 2. Case 2.—Colon 72 hours after ingestion of Barium meal showing retention of practically all of meal in cecum, ascending and transverse colon, with marked coloptosis.



Fig. 4. Case 3.—Marked dilatation of cecum and proximal $\frac{1}{2}$ of transverse colon, due to adhesion of dependent portion of transverse colon low down in the left side of pelvis. Relieved by operation.

cated, for a period of from forty-eight to one hundred forty-four hours, the termination of examination being limited to a certain extent by the degree of stasis.

of the information obtained from the use of the opaque meal and much more, for in its use we can fill colon in its entirety,



Fig. 3. Case 2.—Colon filled with opaque enema, showing spastic iliac colon.



Fig. 5. Case 4.—Kinking of iliac colon following herniotomy. Spastic descending colon.

The opaque meal is especially indicated in suspected chronic appendicitis, di-

whereas with meal it is filled in sections. With this method of examination the patient should have special preparation. My

practice is to have him take two ounces of castor oil about nine or ten o'clock on the night previous to examination. On following morning colon is thoroughly cleansed by soap sud or soda enema, patient reporting for X-ray examination one hour after enema. At the time of examination the patient is stripped and operating gown put on, being fastened in back with strings. He then lies on his back on fluoroscopic table, is covered with sheet and gown pulled up under armpits. The abdomen is first examined for possible stones, diverticula or foreign bodies. The opaque enema consisting of six ounces of

oftentimes diagnosed by the clinician as left sided appendicitis and sometimes very easily confused with carcinoma, as I will later illustrate with slides. The descending colon is next easily outlined. This also is frequently narrowed, spastic and tender in many constipated individuals. Often in patients with thin abdominal walls this portion of colon can be easily palpated throughout its extent. The splenic flexure is as a rule fixed well up under ribs and cannot be palpated; however, in cases of ptosis it is often seen well below crest of ilium. The transverse colon is suspended very much like a hammock across abdomen, the more



Fig. 6. Case 5.—Marked dilatation of rectum and sigmoid. (Mega-colon)



Fig. 7. Case 6.—Diverticulosis of colon. Plate made 72 hours after giving of barium meal, showing involvement from head of cecum to anus.

barium sulphate thoroughly mixed with two quarts of buttermilk, at body temperature, is now poured into enema can. The enema tube is allowed to fill forcing out all air; the tip, which is slightly larger than main tube, is now greased with KY jelly or vaseline and inserted in anus past the sphincters which clamp down over it easily retaining tube in place. The opaque enema is allowed to flow slowly through tube, the rapidity of flow being easily regulated by raising or lowering the can. The ampulla fills first, then the sigmoid and iliac colon, which areas are often narrowed, spastic and tender, especially in many cases of chronic constipation. This is also the most frequent site for diverticulitis,

or less fixed points being the splenic and hepatic flexures, the dependent portion often lies very low in pelvis where it is frequently fixed by adhesions following abdominal operations. The hepatic flexure is as a rule slightly lower and more mobile than the splenic flexure, and often in extreme degrees of ptosis lies rather low down in pelvis. Normally the head of cecum is freely movable, but about fifty per cent of those observed by me are either slightly or rather firmly fixed in right lower quadrant by inflammatory adhesions from chronic appendicitis, or other lesions in this area.

The importance of the competency or incompetency of the ileo-cecal valve is a

very much mooted question, and the subject of much disagreement. My experience has been that it is incompetent in nearly all patients suffering from colonic stasis, which is not true of the apparently normal individual. Usually it is incompetent in chronic appendicitis and those cases in which head of cecum is fixed either following operation or from other causes.

For the past three or four years I have been especially interested in the examination of those patients who give little more than the usual history of chronic constipation, and have gone from pillar to post having taken the entire list of purgatives, laxatives, osteopathy, etc., for relief, without benefit. Very few of these unfortunates

Numbers of these cases showed colonic stasis of extreme degree, others, gastro-enteroptosis with greater part of stomach and both flexures rather low down in pelvis with atonic type of colon; still others showed markedly spastic colons with diverticula, while many had definite constrictions from adhesive bands, causing marked dilations of colon. Appropriate treatment, sometimes surgical and sometimes medical, was given, and a large percentage of these unfortunates were relieved and hundreds entirely cured.

My experience convinces me that many conditions diagnosed clinically as gastric ulcer, diseased gall bladder, or other upper gastro-intestinal pathology, are, with thorough X-ray study, demonstrated to be colo-



Fig. 8. Case 6.—Diverticulosis of colon—120 hours after giving of barium meal.

had received a thorough examination of the colon, although oftentimes they had consulted some of our very best clinicians and had received so-called gastro-intestinal X-Ray examination, which consisted usually of fluoroscopic and plate study of stomach and duodenum, or maybe thirty-six and fortyeight hour observations of opaque meal. It has been my privilege to examine considerably more than a thousand of these cases, in the majority of them using the combination of the two methods, at the same time examining stomach and duodenum.



Fig. 9. Case 6.—Diverticulosis of colon—144 hours after giving of barium meal. Patient took 2 ounces of Castor Oil 12 hours, and enema 2 hours previous to making this film.

nic lesions. I believe that many more lesions go undiagnosed in the colon than in the upper gastro-intestinal tract. The X-ray probably is of greatest value in determining the method of treatment of colonic lesions, many of which are surgical, while fully as many are subjects for the internist.

DISCUSSION.

Dr. J. E. Knighton (Shreveport): I want to call your attention to one condition so beautifully illustrated by the lantern slides—the condition of diverticulitis, a condition which so frequently follows a colitis of long standing. What I want to

emphasize is that we must not depend on getting this condition brought out as the doctor has illustrated here by simply making an examination of the patient's colon by a barium enema. You cannot depend on it. Sometimes you will get it, but many times not. And do not accept this on a single examination of the patient in which you suspect such a condition after a barium enema. In many of these cases after a barium meal has been permitted to pass down into the colon, if examination is made 24 to 48 or 72 hours after the barium meal has been injected, and in some instances even after the bowels have apparently emptied, this condition is shown beautifully. I believe in many instances serious mistakes have been made by contenting ourselves with a barium enema when we suspect the condition which is shown on these plates.

Dr. Edgar L. Sanderson (Shreveport): There is not much to be said by a surgeon regarding an x-ray demonstration, because we do not know a great deal about the interpretation of x-ray plates,



Fig. 10. Case 6.—Diverticulosis of colon—Colon as seen with barium enema (Clysm).

and my experience has been that a barium enema is misleading, especially in regard to dilatation of the lower part of the bowels or sigmoid. You can easily understand that in giving an opaque enema you are going against the natural resistance of the bowels, and you have a solution that may make you think you have a dilatation of the sigmoids when really what you have is a normal sigmoid. I think the fluoroscope is more satisfactory than plates.

Dr. Sidney K. Simon (New Orleans): I simply want to say a word in commendation of this very excellent paper of Dr. Rutledge, and especially the beautiful plates of diverticulosis of the colon. I think it is the very best plate I have ever seen either in a lantern slide or in any

text book, showing the very marked effects of a diverticulosis affecting the large bowel. That plate demonstrates the great value of the barium enema as contrasted with the meal by mouth. The meal by mouth will never show the fine variations in pathology of the colon that the barium enema undoubtedly does.

A diagnosis of diverticulosis alone is quite simple, particularly from the medical standpoint. The surgeons are interested in diverticulosis of the colon when the lesion is most marked, producing very definite symptoms of acute inflammation. Some of the cases of diverticulosis affecting particularly the sigmoid and descending colon simulate very closely the acute inflammatory condition of acute appendicitis and sometimes there are most pregnant clinical conditions. But from a medical standpoint the medical man sees these cases with indefinable pain and general discomfort in the abdomen which often are hard to interpret, but which in many instances we find can be traced to very marked diverticulosis, particularly of the sigmoid and colon. In those cases an interesting point is the marked intestinal toxemia that attends the diverticulosis of the colon. In spite of all your therapy, whether mechanical or irritation or the butter-milk theory—whatever it might be—in spite of every means at our command at present to relieve intestinal toxemia, yet in the particular marked diverticulosis the results are most unfavorable and it really presents a very difficult problem from the medical viewpoint.

The picture that Dr. Rutledge showed of diverticulosis in such marked degree is certainly a most important contribution and one that should focus our attention on the importance of diverticulosis of the colon from a medical as well as a surgical standpoint, and the great importance of barium enemas in bringing out not only this condition but many others which the meal by mouth fails to do.

Dr. A. E. Fossier (New Orleans): I want to speak of one phase of this question only, and that is the danger sometimes of giving oil, especially in cases where we have spasms of the bowel. Oil will increase these spasms. I have in mind a recent case which illustrated the danger of making the wrong diagnosis by giving oil before giving the barium meal. I had a young lady last summer who had been sick for some fifteen years; she had marked fistula and also marked colitis. The rectal condition was absolutely raw, although there were no ulcerations. Then, of course, she had all the other disturbances of nutrition and also gastric disturbances. She did fairly well, but she finally went to

Chicago to see one of their very best surgeons. She went through the routine examination, was given oil the night before and then an X-ray examination made. The first plate was made and the stomach did not empty at all. Then a flourescopic examination was made and an x-ray and the surgeon jumped at the conclusion that there was an organic obstruction of the duodenum that demanded immediate operation. The patient at this time had no difficulty. No doubt there was spasm due to the rectal condition which was increased by the giving of the oil, but the patient was not operated. They wired to me for advice and I advised against operation. She came back and in the last six months has gained over 18 pounds. Dr. Granger made a thorough examination of the gastro-intestinal tract and instead of having retention the stomach emptied quicker than it should. I mention this as a matter of precaution, that we shall be careful about spasms when we give oil. Frequently instead of giving oil we have to give belladonna in order to relieve the spasms that may exist.

Dr. S. C. Barrow (Shreveport): I would like to emphasize what Dr. Knighton brought out, and to say that a few years ago a patient of mine lost his life because the diagnosis we made by a barium meal by mouth showed a diverticulitis of the descending colon which was not demonstrated at other clinics by the opaque enema. He was treated by enemas, dilatation and so forth, thinking it was colitis, but perforation took place and the post-mortem showed that he had a diverticulitis. At two clinics, both larger than ours, opaque enemas were used and the diverticuli were not demonstrated; but the barium meal by mouth showed them very typically.

Dr. C. P. Rutledge (closing): In reply to Dr. Sanderson's criticism of dilatation of the sigmoid by opaque enema, if the enema is given as it should be this will not happen. If the enema is started with can, low and given very slowly under palpation and massage, you will not have the dilatations unless they are there. If you do have them, they are due to spasms from above, and you can lower the can and allow the sigmoid to fill again, then raise it again and you will get a correct outline.

In regard to diverticulosis, I favor a combination of the two methods. I think by the combination of the two you will miss less cases than if you adhere to one method alone. That is also true after giving an opaque enema. Sometimes you miss a diverticulum in the sigmoid. If you will lower the can and allow it to empty and then refill, very often it will show a diverticulum that you otherwise might miss.

In regard to giving castor oil; it is not given where we give an opaque meal, but it is given before giving an opaque enema. If we want to study the colon and stomach with an opaque meal, we do not give purgation within 48 hours. It increases the motility of the stomach when you do not want it.

SOME DIFFICULTIES IN THE DIAGNOSIS OF EARLY PREG- NANCY FROM THE SUR- GEONS' VIEWPOINT.*

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No more perplexing problem presents itself to the surgeon than the diagnosis of pregnancy. Like disease conditions its recognition is most difficult in the early stages when there is no pathognomonic sign to guide us. Unfortunately it is just at this period, that is, in the first three months, that the gynecological surgeon is usually confronted with the problem.

Unlike the obstetrician the surgeon is called upon to exclude normal pregnancy before undertaking operation for other abdominal and pelvic conditions. Many times he is not sure of his diagnosis until after the abdomen is opened and occasionally an unrecognized normal pregnancy is found. Those among you who have not had this humiliating experience, may recall instances when the reputation of the patient hinged upon your diagnosis of pregnancy which you strongly suspected. The reputation of the physician is always at stake, for nothing reflects more unfavorably on his integrity than mistakes in the diagnosis of this condition. Embarrassing as it is, we must frequently explain our inability to make an early diagnosis and refuse to give a positive opinion.

In establishing the diagnosis of pregnancy, the history of the case is important

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chiefly in revealing the patient's attitude toward pregnancy. Its accuracy is in proportion to the patient's truthfulness and intelligence. Too much importance cannot be attached to the symptoms of pregnancy for other conditions may produce them and menstruation may appear after commencement of gestation. I recall one patient with a tubo-ovarian pregnancy of five or six months' duration, who gave no history of amenorrhoea nor of any irregularity of menstruation. Her only complaint was pain in the right lower quadrant of the abdomen. Pelvic examination revealed a firm, rounded mass which was closely attached to the uterus and which had an irregular surface. A preoperative diagnosis of fibroids was made. I have here an x-ray picture of the specimen made after its removal. Doubtless the fetal skeleton could have been shown on the x-ray film, but the history was not even suggestive of the real condition.

The positive signs of pregnancy are objective signs referable to the fetus, but they do not as a rule become available until after the fifth month. The probable signs are referable to changes in the uterus and cervix, but these changes may be produced by other conditions, and in very obese patients, the size and consistency of the uterus cannot be accurately determined by bi-manual palpation. Examination under anesthesia is helpful in certain cases, but here again the information obtained is not positive evidence.

Owing to the uncertainty of the information obtained from the history and physical examination, research workers have, for years, tried to develop an accurate laboratory test for pregnancy. As the result of their efforts, we have today several tests, the majority of which are of little practical value.

Abderhalden's reaction which is based on the use of ferments for placental proteins, is too unreliable to be of any practical use as a diagnostic sign of early pregnancy.

It has long been known that glycosuria is a frequent occurrence in pregnancy, and from this knowledge, two tests have been developed; 1st, The glucose ingestion test; 2nd, The Phloridzin test. The principle of both lies in the fact that glycosuria is more easily produced in the pregnant than in the normal woman. In the former test glycosuria is brought about by the ingestion of glucose. In the latter by the administration of Phloridzin, a drug which has been used for the production of diabetes in the experimental animals. Both tests have some drawbacks and various observers report different percentages of success, but the tests offer the possibility of increasing usefulness since they are simple, safe and fairly accurate. In general it may be stated that their negative results have been found to be more accurate than the positive ones; that is, the tests are more valuable in excluding pregnancy than in diagnosing it.

Roentgen ray as an aid in the diagnosis of late pregnancy has been long employed. The exact stage at which this method becomes available is disputed by various observers, but in only a small percentage of cases can the fetal skeleton be shown before five months. More recently in x-ray studies of pneumoperitoneum, the early gravid uterus has been clearly shown. However, considerable experience is necessary to acquire the proper skill in making and interpreting the roentgenograms, and the introduction of air into the peritoneal cavity is to the patient a somewhat formidable procedure, not without discomfort and some element of danger. Its use is limited to selected cases, and its value as a routine procedure is fairly estimated by Stein and Arens, who, after study of a large series of cases conclude: "The uterus in early pregnancy can be demonstrated by pneumoperitoneum and is quite typical of gestation; but only when the fetal skeleton can be demonstrated on the film, does the roentgenogram become a positive sign of pregnancy." In a recent article in Sur-

gery, Gynecology and Obstetrics, Burch described what he believes to be a pathognomonic sign of pregnancy, revealed by the x-ray after the production of pneumoperitoneum. His plates show a much "thickened uterine wall with a distinct cavity and in this cavity a mass." While the plates are convincing, the series of cases is very small.

The above discussion reveals the limitation of the diagnostic methods applicable to early pregnancy. In view of these shortcomings, it is not surprising that mistakes are made and that the surgeon is in constant dread of being misled. Among the more common gynecological conditions which give rise to confusion are:

(1) Uterine malposition with lacerated cervix. The following case report serves as a good example of this condition:

A multipara, aged 26, complained of lumbar backache and dysmenorrhoea, which began three and a half years ago, after the birth of her last child. After the catamenia was re-established her periods came on every three weeks and lasted four or five days. Six weeks ago she missed a period, but a few days ago there was a slight show which lasted two days. For the past two months she has had some indigestion, manifested by anorexia, nausea, and epigastric discomfort which is worse in the morning before breakfast. Since the onset of the present illness she has lost six pounds in weight, but there has been some recent gain. Examination of the chest showed signs of an old, inactive pulmonary tuberculosis. Pelvic examination revealed a soft, lacerated and patulous cervix and an enlarged soft uterus in third degree retroversion. There was a definite bluish discoloration of the vaginal mucosa. At a subsequent examination, ten days later, the signs were even more suggestive of pregnancy. Owing to the chest findings, it was decided to curette and to elevate the uterus in spite of a strongly suspected pregnancy. At operation the uterus was found to be empty. The interesting features in this case were the suggestive history and the misleading physical signs.

(2) An interstitial fibroid, which is symmetric and edematous may simulate a gravid uterus very closely; especially if the cervix is soft and patulous as the result of

laceration and chronic infection. Differential points are usually found in the menstrual history and in the incidental physical findings, but occasionally doubt remains until the abdomen is opened. If pregnancy exists, the uterus has a purplish hue, whereas the color of a myomatous uterus is pink. The presence of a large corpus luteum is additional evidence of pregnancy, but it is not positive, because macroscopically the corpus luteum of pregnancy differs from that of menstruation only in size. If the diagnosis is still uncertain the uterus may be incised, but I have never found this necessary. Fibroids and pregnancy occasionally exist together, but one usually eclipses the other. I shall cite such a case:

A housewife, aged 42, entered the Methodist Hospital April 3rd., 1924, complaining of scanty, prolonged menstruation, which began one year before and which has continued. Since that time the flow has lasted from two weeks to one month and there has been no definite missed period. The patient has two children living and well and has had two miscarriages, both occurring in the first few months of pregnancy. The history otherwise was irrelevant. Pelvic examination showed a lacerated, rather soft cervix and an enlarged boggy uterus irregular in contour owing to the presence of several small, firm masses. There were no changes in the breasts and the rest of the physical examination was essentially normal. A diagnosis of fibroids was made and operation was advised. However, owing to the consistency of the cervix and uterus, the possibility of a complicating pregnancy was explained to the patient. At operation multiple fibroids were found, but the uterus was enlarged, soft, bluish purple in color. There was a corpus luteum cyst of the left ovary. These findings confirmed the suspicion of pregnancy, which, however, in view of the history, did not contraindicate hysterectomy. Section of the specimen after its removal showed an early pregnancy, which is seen in this photograph.

(3) Carcinoma of the body of the uterus when well advanced will produce a soft, symmetrically enlarged uterus which may be difficult to distinguish from the edematous fibroid and likewise from early pregnancy. The seriousness of such mistakes is evident and the diagnosis should

be established by curettage before the abdomen is opened, because the operative indications are different.

(4) Dermoid and ovarian cysts may produce changes in the breasts, such as increased pigmentation and colostrum-like fluid, but these conditions are seldom confused with early normal pregnancy.



Specimen with sac opened showing decidual tissue.

(5) As a rule, the typical case of ruptured extrauterine pregnancy offers little difficulty in diagnosis, but the condition is seldom, if ever, recognized, before bleeding has taken place in the sac. Differential diagnosis of the different types of ectopic pregnancy is beyond the scope of this paper. However, the confusion of ectopic gestation with abortion of a normally implanted ovum, is a sufficiently common error to require differentiation. The patient as well as the doctor is sometimes misled, and seeks criminal abortion. Fortunately in the majority of cases the following points of differentiation will serve to make the distinction. In ectopic preg-

nancy, the pain is usually on one side; it is more severe and sudden in onset and tends to grow less intense. In abortion, bleeding from the uterus is more profuse and the blood is bright red; the cervix is more dilated and the pain is spasmodic in type and more centrally located. Persistence of uterine bleeding after curettage is regarded by some as an important point, but it is available too late to be of value. A leucocytosis and some elevation of temperature is uncommon in abortion without infection.

The similarity between ectopic gestation and acute salpingitis is at times striking, but a careful history, the slower onset of pain, the high temperature and leucocytosis together with the examination of cervical and urethral smears, should differentiate salpingitis in the bulk of cases.

The close parallelism of symptoms and physical findings of early pregnancy and other gynecological conditions is evident and the above short series of case reports serves to illustrate some peculiar difficulties encountered by the surgeon. To overcome them, a number of diagnostic procedures are available, but no method is infallible. Preoperative diagnosis is accurately checked at operation where the surgeon is permitted to view the different pathological conditions which give rise to similar signs and symptoms. Through experience and analysis of diagnostic errors revealed at operation, he increases his ability to interpret the findings of a bimanual pelvic examination, which after all is our principal and most reliable means of diagnosing early pregnancy.

DISCUSSION.

Dr. J. W. Barksdale (Winona): I simply want to speak for a moment on the question of pneumoperitoneum and endorse the stand that Doctor Crisler has taken. I had the good fortune to be in Nashville two weeks ago at the meeting of the Tennessee State Medical Society, and Doctor Birch gave us a clinical demonstration of pneumoperitoneum in a Nashville hospital. It seems to me that this is a procedure that is not without a certain degree of hazard. That you

can make an early diagnosis of pregnancy by this method I think is absolutely proven. Unfortunately, the earliest case that Doctor Birch had statistics for that had had pneumo-peritoneum by the uterine route and then proceeded to demonstrate the pregnancy by subsequent roentgenograms, the patient very promptly miscarried, but they had all the evidence to show that it was a four weeks' pregnancy, which is the earliest that has been ever demonstrated by this method. The method as generally used is that carbon dioxide is injected into the abdominal cavity through the wall. Doctor Birch maintains there is no danger whatever, that he has demonstrated that you can stick a needle anywhere through the abdominal wall you choose and you will never perforate a hollow viscus. Whether this is true or not, he has attempted it repeatedly. The carbon dioxide is given under 5 pounds pressure and injected 12 cc at a time. This must be done on the X-ray table, because the effects vanish so rapidly that if you use this method in the operating room and then remove the patient to the X-ray department, the effect of the carbon dioxide has vanished. It outlines the pelvic organs beautifully, and as the Doctor has said, you see the uterine mass in the cavity in the center and in the center of this another mass, and that Doctor Birch thinks is pathognomonic of pregnancy. I imagine very few of us will use this method.

One thing more in reference to pneumo-peritoneum by the intra-uterine method. This question has been written about and a great deal of work has been done by Hunner, who two years ago at the Southern Medical Association reported 500 cases of sterility treated in this way. Where there is an impervious tube they have done a good deal of work in restoring the potency of that tube and they regard it as a matter of therapeutic use as well as diagnostic. I enjoyed the paper very much.

Dr. J. A. Crisler (closing): I have nothing to add, except to thank Doctor Barksdale for his discussion, and to say that if there be a man who does a lot of surgery and does not occasionally run into a pregnant uterus connected with some pathology, for which he is operating, I say if there lives a man who never comes across an unsuspected pregnancy, no matter how careful he is, I want to go and take a prolonged course of study under him.

TREATMENT OF RAYNAUD'S DISEASE BY NEGATIVE PRESSURE*

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NEW ORLEANS.

In submitting this article it is not the intention of the writer to go into definite details of the etiology of this disease or its pathology, but rather primarily, to give the final results of treating a case, together with the history thereto by the so-called negative pressure, or Bier's hypermia.

In 1862 Dr. Raynaud, in a medical journal of Paris, described the above named condition which he regarded as a vasomotor neurosis brought on by exposure to cold, emotional excitement, or some other condition, resulting first in local syncope, local asphyxia, and in the more advanced cases of thrombosis and gangrene, being bilateral and symmetrical.

The case I am reporting has all of these stages. The general treatment given in practically all of the reprints I have been able to secure, including those of Buerger and others, follows the same general line, namely, hot and cold application, the use of the Esmarch bandage, diathermy, and general medication, usually ending in amputation of the part or parts after gangrene has developed. The prognosis in these cases has been exceedingly grave, and this was also due to the fact that it seemed that every treatment used would sooner or later have a tendency to lose its effect, and it would therefore be necessary in order to effect a cure to have some kind of treatment that would put the circulatory system of the part concerned under more definite control wherein the vessels could be dilated and the circulation reestablished until the part or parts had an opportunity to return to normal.

*Read before Orleans Parish Medical Society, October 26, 1925.

Working upon this line, in July 1924, I came across an article written by Dr. Samuel J. Sinkow, assistant in the Orthopedic Department of the Atlanta Medical College, in which he reported a series of 20 cases treated by Dr. Gottlieb, of New York, and himself by this method with very gratifying results, amounting to a cure in every case.

Not being able to secure any apparatus from the surgical supply houses that would satisfy the demands, I constructed the following apparatus:

Taking about five inches of the inner tube of an automobile tire and a Valentine irrigating jar, cone shaped, I passed the hand (or leg) through the inner tube, placed the inner tube in position about halfway between the wrist and the elbow, putting the hand in the jar, and stretching

The amount of air exhausted depends to a large extent upon the patient's ability to stand the pain. After keeping the air exhausted from one to two minutes it is necessary to release the tube and let the air come back into the jar; then, renewing the process of exhausting the air from the jar and letting it back in again for an interval of 15 to 20 minutes, depending upon the ability of the patient to stand same. This was repeated twice daily for the first week, then once daily for the next two weeks, then twice a week for the next month, and later once every ten days, keeping this up for at least a year.

The results were most gratifying. After the first application the patient was able to sleep very well without an opiate. The extremities became warm, and as the circulation re-established itself the few gan-

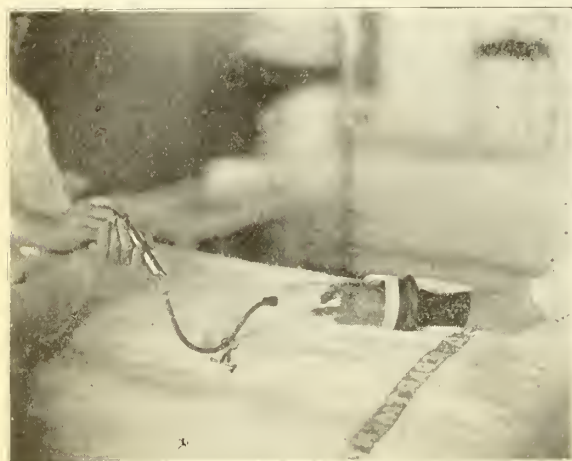


Figure 1—Showing apparatus as applied to hand.

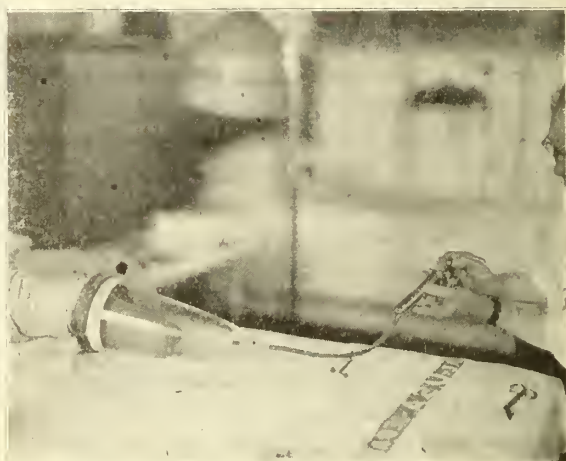


Figure 2—Showing apparatus as applied to leg.

the distal end of the inner tube over the flange of the jar until same was made secure; then attaching a rubber tube about 18 inches in length to the small end of the jar, and putting a stop-cock on the rubber tube. Then with an air exhaust pump passed into the end of the small tube I opened the stop-cock and pumped the air from the jar, the rubber tube around the arm being air-tight. As the air is exhausted from the jar there is marked dilatation of the superficial blood vessels which causes the superficial veins to stand out like whipcords.

grenous areas of the hands cleared up or sloughed off. The patient's condition immediately began to improve. The claw fingers in the process of a short time began to disappear, and it was not long until the hands had returned to their normal condition. The lifelessness disappeared, and when the hands or extremities were pricked they bled freely, which they had not done in a long time.

The patient's condition has steadily improved until now he uses the jar once about every ten days, and in my opinion the con-

dition from which he is suffering is entirely under control.

I am giving below the general history of the case which has extended over a period of years, namely, from September, 1918, and which has been under my direct observation since November 1919:

Mr. K., age 35, married, carpenter. Mother living and well. Father died of infection at age of 42, cause unknown. Three brothers, one living and well; two died in infancy, cause unknown. Three sisters; two living and well; one died in infancy, cause unknown. Previous history: Usual diseases of childhood; malarial fever 8 years ago. No other illness. Venereal history negative. Present illness: Began in September, 1918, about one mile from Verdun, France. Six weeks previous to that time he had spent on the front during which time he had suffered from cold and exposure, especially his feet and legs, which were wet most of the time. He first noticed numbness in his hands and feet, and later he noticed that at times his feet and hands were cold and clammy. These attacks were also associated with cramps in the legs. This condition gradually grew worse, and in November he noticed that the toes of both feet were purplish in color. About the middle of November he started on a hike into Germany, and when about forty miles out of Luxemburg he had to ask his captain to send him to the hospital on account of the marked swelling and redness of his legs and feet. He also stated that during October and November his feet were wet the greater part of the time, and that while they were not frozen, they frequently got pretty cold. He was evacuated to Base Hospital No. 30 at Toul, France, where he was treated for six weeks, the principal treatment being hot and cold applied alternately to his feet. He returned to the United States and was discharged April 30, 1919. During the latter part of March of that year he began to have trouble again with his feet and called a private physician under whose treatment he remained until seen by me in November of that year.

Physical examination:: Well developed, fairly well nourished; in bed with feet wrapped in flannel and complaining of intense pain, more marked in left foot; pulse 80, temperature 98.4. Teeth have some cavities; oral hygiene fair. Throat: tonsils somewhat enlarged. Chest: round and long. Lungs: negative. Heart: negative. Blood pressure, systolic 130, diastolic 80. Abdomen: negative. Extremities: superficial veins very small, hands and feet cold and clammy. Toes of both feet markedly cyanotic; also moderate cyanosis

of fingers of both hands. Watery blisters were beginning to form about the toenail of the left little toe. The pain in the left foot was so great that he could not bear the weight of the cover. He was referred to the U. S. Marine Hospital, where he remained about two weeks, when he asked to be discharged. He then consulted Dr. Carroll Allen, who advised that he go to the Touro Infirmary, the B. W. R. I. agreeing to take care of his hospital bills. On account of gangrene having set in on the left little toe, on January 4, 1920, Dr. Allen, assisted by the writer, removed the toe under local anesthesia. This not giving relief from the intense pain and because of beginning gangrene on the great toe, left foot, on January 8th, under local anesthesia, by nerve blocking and infiltration, we amputated the foot at the tarso-metatarsal articulation. At the time of the amputation there was absence of pulse in the dorsalis pedis artery and very weak pulse in the posterior tibial artery, and while no adrenalin was used during the operation, bleeding was so slight that no vessels had to be tied.

Following this operation his condition seemed to improve and he was apparently free from pain until February 20, 1920, when he was again admitted to the the Touro and the second toe of the right foot was removed on account of gangrene. In April of 1920, he was referred to Dr. John Smythe, Surgical Consultant for the B. W. R. I., and was admitted to Hotel Dieu for treatment of gangrene of the second finger, right hand, which we amputated at the metacarpo-phalangeal articulation. From this time on an Esmarch constrictor was regularly applied to arms and legs once daily and in time he was taught how to use it. In May 1920, he was admitted to the Presbyterian Hospital on account of beginning gangrene of the great toe, of the right foot. At this time there was an absence of pulse in the dorsalis pedis artery and also the posterior tibial. Efforts were made to save any further operation except to treat the gangrene locally, but the patient continued to suffer so much pain and there being evidence of beginning gangrene on the heel of the right foot it was decided to amputate the right leg at the lower third, which was done by Dr. Smythe assisted by the writer on July 10, 1920.

Following this amputation his condition improved for a short while. In January 1922, I was again called to see the patient and found him in intense pain, hands cold and clammy, and on the left hand the terminal phalanx of the index finger, also the middle finger showed gangrene that had made considerable advancement. In order to alleviate his pain it was necessary to give him one-half grain of morphine sulphate and 1/100th of

a grain of atropine hypodermically. He was taken to the Presbyterian Hospital and put on 1/100th of a grain of atrophine to be given hypodermically every four hours together with just enough morphine to alleviate the pain. After continuing this treatment for four days the gangrenous condition of the hands disappeared, the circulation was re-established, and the patient's condition began to improve, so that on the 28th of January he was discharged from the hospital, returned to his home, and was given atropine only by mouth for four months. Finally the atropine began to lose its effect, and it was necessary to go back to the use of the Esmarch bandage and hot and cold applications. By keeping up this palliative treatment the patient's condition seemed to be at a standstill, and in the spring of 1923 began to grow worse. There was sloughing of the middle phalanx of the middle finger of the right hand, which later had to be amputated at the first phalanx. The pain was intense. Not only the various drugs and other methods were used in treating this condition, but Diathermy and X-ray were tried out, all failing to relieve same until finally it was necessary to give the patient morphine to relieve his pain, as we were struggling to prevent any further amputations.

In the early part of 1924 I began to use the apparatus described above, with the result that the patient's condition began immediately to improve. The fingers, which were claw-like, resumed their normal contour, the circulation was re-established, the ulcers and gangrene that developed subsided, and the patient's condition improved to such an extent that I consider it entirely under control, and now he sleeps well, eats well, has added weight; his general condition is good, pain is absent, and the extremities and stumps have practically resumed their normal condition. I consider his disease under control.

I might add, as I have described above the application for the arm, the only difference in the arm and leg treatment is simply the difference in the use of a larger rubber cuff that goes around the leg and the larger Valentine irrigator or jar. I find it best to have the rubber cuff about 12 to 15 inches above the part where treatment is wished.

In addition to using this treatment for Raynaud's Disease, I have also used it in several instances of senile arteriosclerosis with marked beneficial results.

As a mere matter of interest I might add that the above mentioned patient brought me a letter in January, 1925, that he had received from a gentleman in Worcester, Mass., who had heard of the patient's condition, in which he reported a similar treatment that was used by an

ex-service man, Frank Frost, of Norfolk Downs, Mass., who was suffering from this same condition. In this letter he goes on to describe a very similar apparatus to the one we were using, and stated that as a result of this treatment Mr. Frost, who had been sent home from the hospital to die or shift for himself, has regained his health and is working every day.

Conclusions: This treatment brings the circulation of the extremities under one's entire control. Atropine or other drugs after a short period of time lose their effect and we do not get a dilatation of the vessels. With the Esmarch bandage it is difficult to get the hyperemia or pressure wanted because the bandage is applied at such a great distance from the periphery. With diathermy, although I followed the technique very carefully as prescribed by the best physiotherapists in the country, I have failed to produce a hyperemia equal to that produced by this apparatus. The patient can be easily taught to use this apparatus himself, and the results are most gratifying to the patient in relieving his pain and in stopping the progress of this disease, as well as restoring him to his former health.

DISCUSSION.

Dr. H. B. Gessner (opening): I have had no experience with this treatment. I want to repeat what the Chairman stated, that anything effective in the treatment of Raynaud's disease besides amputation is worthy of consideration. Those of us who have observed patients with symmetrical gangrene, whether you call them endarteritis obliterans, thromboangitis obliterans or Raynaud's disease, must welcome any help. This seems to be a great help.

Those familiar with Ward "S" of Touro Infirmary will recall the case of Tom, the Irishman, who eventually drifted to Charity Hospital, where he attempted to take his life. Another patient had a similar experience. Both lost the lower extremities to above the knee. It is certainly a sad thing to see men gradually lose feet and legs and suffer as these patients do.

The use of the Bier cups for furuncles and carbuncles has proved very effective. It beats the squeezing and pressing some people do. It gives you suction of pus and besides the hypermeia helps the patient to get well quickly. The Bier method here is very satisfactory.

I am inclined to expect a great deal from this treatment in obliterative diseases about the blood vessels. So far as the apparatus is concerned, Bier has probably prepared sets of receptacle that may save Dr. Crichtlow a lot of trouble.

I have had no experience with this method but if I have occasion to use it I will be glad to do so.

Dr. R. S. Crichlow (closing); I am presenting at this time some pictures showing the apparatus in place as applied to the arm and as applied to the leg.

I have had in my work in all, five cases of Raynaud's Disease and Obliterative Endarteritis that I have treated with negative pressure, and on all of these I have obtained practically a control of the condition presented. These have been in the various stages, namely, that of beginning necrosis; one of senile obliterative endarteritis; advanced necrosis of the great toe of the left foot and two other toes.

In all of these circulations has been re-established, the parts have sloughed off, and the condition improved.

About one year ago I went to Dr. Elder, at the Charity Hospital, and told him of this treatment and the work I was doing along these lines, and asked him to keep his eyes open for cases of this type, and that I would be glad to co-operate with him in treating any of these patients. About one week ago I was called by Dr. Elder to see a patient at Charity Hospital who had been suffering from this condition since July 1st, the etiology of which was evidently influenza of a year previous. He has made marked improvement under this treatment, and I was to have shown him here tonight, but he was not able to come on account of the inclemency of the weather.

I have searched literature for similar treatments and other articles than the one to which I have referred by Doctors Sinkoe and Gottlieb, but have failed to find them. In looking up the use of Bier's hyperemia by Bier himself I have failed to find in his writings that he applied this treatment to obliterative endarteritis; however, Doctor Gessner may have come across an article which I have not been able to locate.

THE RELATION OF MEDICAL EXAMINERS TO LIFE INSURANCE COMPANIES.*

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When requested to write this paper I was a little hesitant to accept—not that the subject is not a timely one, but because

of my inability to express myself in such a way as to be properly understood and do the subject justice.

Life insurance today is one of the largest business institutions in the world—a business built not for mercenary or monetary motive, but for the good it can do the multitude composed of the policyholders and their families. Because of this magnitude life insurance companies have to depend upon some one to make the proper selection of the risks applying to become a part or members of this great enterprise and family, for it is a large family. This has been delegated to the medical profession for two reasons:

First, for its integrity in the community; second, for its qualifications as professional men with ability to detect physical defects which would render certain risks uninsurable at the regular rate.

When life insurance was first started the selection of risks was done by a Board of Laymen at the Home Office, and each applicant was required to call at the Home Office to be inspected by this Board. Medical Examiners were not used in those days, but as the business grew and the companies began to expand into additional and more remote territory it was found necessary to devise some means of selecting the risks without placing the burden of expense and the loss of time on the applicant to come to the Home Office for the inspection, so it was then that the Medical Department was organized with the duty of selecting physicians in the field of operation that would perform the function of the inspection board in a creditable way.

To achieve success in any great undertaking an efficient service is necessary in every branch. In the business of life insurance, while there is much energy and time spent in securing risks, there is also much thought given to making them safe. If the risks are not chosen and accepted on a sound basis, there can be little hope

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for stability and permanence in any other part of the undertaking, and as a result the company falls short of success. Therefore the Medical Examiner plays no small part in the selection of risks.

It is true today that certain companies are insuring certain risks without medical selection, such as group and industrial business. It may be well to bear in mind that there obtains today an opinion slowly gaining ground that some risks, of necessity not large, may be safely insured without medical examination. This opinion is obtained on the part of the companies because of the growing insincerity of the Medical Examiners as expressed by the manner in which the reports reach the Home Office. It must be remembered, however, that this does not apply to all Examiners, but to a very large percentage at least.

Competition in all lines of business has recently become so very keen that the agent in the field and the officials at the Home Office ask for promptness of service in all departments. In no department does promptness of service count for more than in the Medical Department. Since so much depends upon the reports of the Medical Examiners, delay in getting the applicants examined, due to the indifference of the Examiners, reacts badly on the applicants, the field force and the Doctor himself. The applicant changes his mind, the agent and managers are very much disgruntled and the Doctor is blamed. Therefore it behooves the Medical Examiners, as agents for the company, to lend their co-operation and best endeavor to assist the agents in getting the applicants examined and mailing the completed examination blanks to the Home Office promptly.

It is a matter of great regret when I say that many blanks are received at the Home Office with as many as ten and more omissions and mistakes. There is no excuse for this because the last question

on the blank, "Did you review all the answers on this and on the reverse side?", is intended to remind the Examiners to look for omissions and incorrect statements. Yet I have found this is always answered "Yes," notwithstanding that many of the questions are unanswered. In principle this is a greater reflection on the Medical Director and referee than it is on the Examiners, because in making his selection the Medical Director endeavors to select the able, well educated man and one whose standing in the community is beyond reproach and will be a credit to the company represented by rendering efficient service.

To those of you who wish to undertake the work of examining applicants for life insurance, and to those who desire to continue in that work, it is urged that you give earnest thought and study to the subject of insurance medicine.

The position of Medical Examiner for a life insurance company is remunerative, and is well worthy of your thought, care, study and consideration.

It is to be remembered that the examination, as written, is part of the contract entered into by the applicant and the company, and that many times a large sum of money is involved. It is therefore very important that the work be done well, and that the Examiner keep in mind that he is in the employ of the company and not that of the agent or applicant, and that the company pays him to ascertain all the facts pertaining to the applicant's past and present physical condition.

Many examiners seem to feel that they have done their duty when they have answered all of the questions in the blank. This is not true. A real examiner does much more than is actually called for. He notes the color and condition of the lips and gums, the skin, the clearness of the eyes and speech, the gait and build. He looks at the tongue, teeth, throat, looks

for tumors; tests the reflexes; notes the condition of the muscles and looks for signs of recent loss or gain in weight. He observes the neck for signs of goiter, or for evidences of enlarged cervical glands or general glandular enlargement, and searches the applicant for any evidence of syphilis. If he has knowledge, or even suspicion concerning the applicant, that he feels would be of interest to the company, he should always make record of the same in his report or set forth the facts, with details, before the Medical Director in a personal letter. He sometimes advises the company to investigate the applicant's habits carefully, or to write to a certain Doctor for information concerning the past or present health of the applicant.

Such an examiner is a delight to a Medical Director, and he is sure to retain his commission as long as he cares.

In the span of many years that the companies have been operating and the accumulation of a vast amount of data and statistical information, we are now able to insure certain risks that heretofore were declined outright. This, however, can be done only when our Examiners give us full details of the impairment noted. For instance, if an examiner reports a heart murmur without giving full details, the Medical Director must of necessity imply the more serious interpretation to this murmur and take it as the result of a de-compensating heart, naturally taking adverse action on the applicant when as a matter of fact the applicant may be entitled to insurance.

A heart murmur may be either functional or organic; if functional, which is frequently the case in the young subject, it is usually disregarded. However, if the murmur is organic, it is desirable to have the full particulars to diagnose the case properly and give it the proper insurance classification.

By the full particulars I mean, state the relation of the murmur to the cycle of the heart, the area of the greatest intensity, the direction transmitted, the size of the

heart and have the applicant exercise to ascertain any evidence of myocardial weakness. Note carefully the pulse rate before and after exercise. After these facts have been determined, go into the personal history of the applicant for a history of some acute infectious disease antedating this heart condition, such as acute arthritis, tonsilitis, etc.

If all these facts are presented to the Medical Director he will have sufficient information to give the applicant the proper insurance classification, thereby issue to him the kind and amount of insurance he is entitled to which, without these facts, the company could not do.

As an illustration of the classification that we put to heart murmurs when all the facts are available, the following will give you a fair idea:

	Best Type		Average Type	
	With or without Small Hyp.	With or without Hyp.	Moderate Hyp.	Marked Hyp.
Mitral R.	60	75	100	125 up
Mitral Obst.	200	200	250	350 up
Aortic R.	200	200	250	350 up
Aortic Obst.	75	100	125	150 up
Pulmonic (same as (Aortic)				
Tricuspid (same as Mitral)				
Double murmurs (double the rating)				

All the foregoing ratings are for simple, uncomplicated murmurs. If in addition, the pulse is rapid, irregular or intermittent, an extra rating should be added for these additional impairments.

The blood pressure should be carefully observed, and if the diastolic or systolic, or both, are low, the case should be viewed with suspicion and determination should be made if possible whether there is any sign of failing compensation, which of course would require declination. A heart murmur developing after the age 40 should be closely scrutinized to determine whether this represents myocardial change, in which event the risk is very serious.

DISCUSSION.

Dr. H. M. Folkes (Biloxi): Life Insurance, properly safeguarded, is the safest heritage a man can leave to his family. Doctor Segura's paper is very important. It cannot be discussed in five minutes. As a matter of fact, the whole three days of this session could be taken up with the question of life insurance and its relation to the physician. It is not alone the physician, nor the applicant, nor the company, that is interested in this proposition, it is all of them. When a man finally takes life insurance—very few people go to an agent and ask for life insurance; they take it because it is thrust upon them, but after they have it they realize its extreme value. When a man goes to a doctor to be examined for life insurance it is the duty of the doctor to give him the very best there is in him. My ten years' experience as a medical director has taught me several things, and the first is honesty. If a man cannot be honest in life insurance examination, then he should not accept a commission as examiner. To make a life insurance examination properly demands the best there is in you. I have known physicians to take a specimen of urine, hold it up to the light, and say, "That is all right; there is no albumen." That man stole his fee for that examination.

The next is moral courage. It requires a high degree of courage to turn one of your friends. Very seldom do doctors take the trouble to find down, but it must be done sometimes, and the man who cannot do it should not accept the commission. I knew a former President of this Association who would never undertake a life insurance examination, because he did not want to make any of his friends angry by turning them down.

The next important thing is efficiency. If a man is not properly qualified to make a life insurance examination, he should not attempt to do so. No life insurance examination can be made properly within the time usually given it by most practitioners of medicine. Certainly it cannot be done in 15 or 20 minutes. The truth is that a correct life insurance examination is probably worth \$100.

The next thing is loyalty to the company. Doctor Segura has brought that out clearly in his paper. The doctor represents the company, he does not represent the agent nor the applicant for insurance. A man practicing in a community oftentimes knows things about the people in that community, he knows their heritage and their shortcomings and other things, and certainly he should be loyal enough, carrying out the suggestions made by Doctor Segura, to say that this man is a syphilitic, that he has hardening of the arteries, he can say that he has not put this in the examination, but that such is the case.

Then there is the willingness to do the work. If a man is so busy and has such a practice that he cannot afford to do this work, he should not try to do it. It is hard to do. I have been doing it 30 years and I know how hard it is to deal with the agents, they frequently make life a burden to you, I must admit, but the point is that if the doctor undertakes to make an examination he should be willing to sit down and quietly concentrate his mind upon that particular individual and that particular application and give the best there is in him to this work.

The last thing is the question of social disease. out from the life insurance applicant whether he has had syphilis or gonorrhoea. They may ask him the question, but rarely do they make an examination. A short time ago a man went from one of the parishes in Louisiana to New Orleans, and told a relative he felt badly. This man asked him if he had life insurance, and when he said no, this relative said, "Come on, I'll get you a policy." He did, and the man took out a policy for \$50,000, and in 60 days he died of cancer of the throat. I do not say that the majority of doctors can diagnosis, cancer of the larynx, but the majority of doctors can differentiate between heart murmurs.

Dr. J. O. Segura (closing): In closing I wish to say that I believe you have gotten more out of Doctor Folkes' discussion than you got out of the paper. Doctor Folkes is a very able and capable man in the discussion of any question, and I think his discussion in this case is very valuable.

I have nothing to add, except to say that the majority of companies throughout the United States have the attitude at the present time of going into the non-medical life insurance business. That does not mean that they will do away altogether with life insurance examinations, but it does mean that the smaller cases, from \$10,000 down, which includes about 90 per cent. of the business written, will probably be done non-medically. They cannot do it universally at the present time, because of the laws of the various states, but in a good many states they have been able to get the laws amended so they can write that kind of business. There is a move by some of the foreign companies to get the legislature of Mississippi to amend the laws so they can do this kind of business in Mississippi. I was approached by some of them, but I have always been opposed to it, and always expect to be; however we may have to follow suit. Competition today is the life blood of business, and unless you follow suit in the competitive world, you cannot get very far. I think the day is coming when the majority of life insurance will be written without medical examination and I think probably it would be a good idea for you gentlemen to think about this matter and

perhaps bring forth some way whereby it could be stopped. The remuneration for life insurance examination in the United States amounts to a large sum and a good many companies feel that they can save enough on the medical fee to take care of the extra mortality incurred because of the lack of examination. That is problematical in my mind. It is true that they have done this in Canada and in England for the last 20 years very successfully. However, conditions are a little different in those countries. I thank you.

THE STATUS OF THE USE OF MERCUROCHROME 220 AS AN INTRAVENOUS MEDICATION.*

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The current literature has numerous articles on the use of Mercurochrome 220 as an intravenous measure in the treatment of various septicemias and local infections. Since the introduction of this drug, there have been numerous "panacea-like" claims made for its powers, and many miraculous cures attributed to its use. Other investigators have been disappointed, and many failures are chalked up against it.

Mercurochrome 220 was introduced by H. H. Young and associates as a genito-urinary antiseptic in 1919.⁽¹⁾ After various drugs had been tested, as to germicidal powers and toxicity, they recommended Mercurochrome 220 as a safe germicide of great power. Their findings were, briefly: that it was capable of ready penetration to the deeper layers of tissue; that it caused only slight irritation, if any; that it possessed a high germicidal activity; that it was highly soluble, and made a very stable solution; and its toxicity was slight.

Their experiments showed that a one per cent solution did not irritate the pelvis of the kidney of a rabbit when retained for five minutes, but stained the epithelium

and submucosa deeply. Intravenous administration of 10 mg. per kilo in dogs, and 5 mg. per kilo in rabbits, produced no harm. However, 10 mg. per kilo in rabbits killed them in twenty-four hours. There was a transient albuminuria with no casts with the smaller dosage. There was no increased retention of urea, but a decreased phenol-sulphonphthalein output. One per cent solution in the eye caused no irritation of the conjunctiva.

By the use of urine as a diluent, they showed B. Coli killed in one minute by a 1-800 dilution of the drug. Staph. Aureus was killed in one minute by a 1-1000 dilution. In 1-5000 dilution, B. Coli was killed in one hour. Staph. Aureus was killed in one hour by a 1-10,000 dilution. A slightly acid medium was found best suited to its action.

Swartz and Davis⁽²⁾ showed the drug Mercurochrome was forty times as effective against gonococci as against B. Coli, *in vitro*, and further showed that solutions of the drug lose their potency on standing. This loss amounted to twenty-five per cent in thirty days, and showed the necessity for the use of fresh solutions.

In blood serum, Mercurochrome kills bacteria in one minute, in a dilution of 1-600. Bile and urine can be rendered bacteriostatic, if not germicidal.⁽³⁾

The success of local applications of the drug, and its low toxicity, led men to try it intravenously in blood stream infections and for treatment of local infections, removed from the surface of the body. Piper,⁽⁴⁾ Colston and Hill,⁽⁵⁾⁽⁶⁾ showed that intravenous administration of Mercurochrome produced remarkable results in patients suffering from blood stream infections. Tests on rabbits showed the serum to have an increased bacterio-static action following such an intravenous treatment. The serum was most active in fifteen to forty-five minutes after injection. The urine, following injection, was found to have an increased bacterio-static action, which

*Read before the East Feliciana Parish Medical Society.

was greatest one to five hours after administration.

The literature on every hand gives reports of cases treated with Mercurochrome intravenously with remarkable recoveries.

However, all the claims cannot be accepted at their face value. Careful study of reports shows us that there has been no positive blood culture in very many of these cases, and that their previous and subsequent courses make it very hard for us to accept the authors' claims. As is well known, many septicemias are transient. There is no septicemia in typhoid fever with a positive Widal reaction. The presence of furuncles over the body is a sign of cure being established naturally in other septicemias.

Our personal observation of cases has been limited to those in Charity Hospital, New Orleans, during the year 1925. To our knowledge, on only two cases, were positive blood cultures reported, both hemolytic streptococci. One of these cases died within twenty-four hours following an intravenous injection, despite a subsequent negative blood culture. The other patient lived with a persistent positive culture several days. At last information, she was still alive. Practically all of the other cases terminated fatally.

The literature cites numerous cases in which this mode of therapy has failed, and the patients have died. These failures are attributed, by more ardent supporters of the use of Mercurochrome, to the lateness of administration; that the patient was "dead" before the drug was used. At the same time, cautious men point to these cases and tell us that too much can not be expected and care must be used.

How does the drug act? Does it act as a germicide, or is its effect the same as some foreign protein injected into the blood stream? As demonstrated by Young,⁽³⁾ the uniform low concentration killing power of Mercurochrome is 1-600 in serum, in one

minute. In urine, which is a better medium due to its slight acidity, it kills *B. Coli* in one hour in a 1-5000 dilution, and *S. Aureus* in 1-10,000. Redewill and Potter,⁽⁷⁾ as quoted above, state that the bacterio-static activity of the serum, after injection of the drug, is greatest in fifteen to forty-five minutes. This shows the effectiveness of the drug to be confined to the lower dilutions. Since there is two to three-thousand cubic centimeters of blood in the human body, simple arithmetic will show that thirty c.c. of a one per cent solution, the average dose, will give about a one to ten-thousand dilution. Hill and Colston,⁽⁵⁾ showed that the effectiveness of the drug is not increased by massive doses. They found that the bacterio-static action of urine is not increased when the dosage of Mercurochrome is pushed almost to lethal amounts. Hirshfelder, Malengren, and Creary also showed that intravenous injection of Mercurochrome did not cause adematous fluids to become bacterio-static.

Sir Almoth Wright⁽⁷⁾ has shown that leucocytes furnish certain bacteriocidal substances immediately when living or dead bacteria are injected into the blood-stream. Since these substances are effective against all bacteria, they are termed "polytrophic." He has shown that some drugs, such as arsphenamin, do the same thing, and it is suggested that this is true of all antiseptic drugs in the blood stream.

What are the dangers of using Mercurochrome intravenously? They are the same as with any intravenous medications. First, accidents of technique are possible. The drug is twenty-six per cent mercury in the form of hydroxymercury-di-brom-flourescein. This form is of low toxicity, but contains a considerable amount of mercury. Mercurochrome is excreted from the body by way of the bowels, kidneys, and accessory G. U. organs.⁽⁷⁾ Lee⁽¹⁰⁾ has proven that about forty-five per cent of mercury is thrown off through the bowels, and, fifty-five per cent through the kidneys. Redewill

and Potter(7) claim that secretions of the seminal vesicles and prostate possess strongly bacterio-cidal powers after Mercurochrome intravenously, and attribute this to excretion of the drug through these organs. Idiosyncrasies to mercury must be guarded against. There is possibly an accumulative effect followed by diarrhea, vomiting, and salivation. Excessive doses caused purgation, and the stools are stained with the dye.

There may be toxic nephritis, of "cloudy swelling" type, accompanied by albuminuria following an intravenous injection of Mercurochrome. Its use in the presence of acute nephritis, without disaster, has been reported, but is of course a gamble. The use of opium at the same time is contraindicated, except extreme care be used.

Corper(9) has shown that intra-cutaneous injection of solutions of over five tenth's per cent are accompanied by definite pathologic changes leading to ulceration.

At the same time, it is to be noted that those cases showing moderate or severe reaction give the best clinical results. Chills, sweats, rise in temperature, vomiting, diarrhea, and etc., characterize the reaction and seem to be indicative of beneficial prognosis.

To summarize:

Many marvelous cures are attributed to the use of Mercurochrome 220 intravenously in the presence of septicemias. practically all types, and in many local infections, removed from the surface of the body.

The drug cannot be concentrated in the blood stream in germicidal strength.

It is necessary to use fresh solutions.

It must be given while the patient has a margin of natural resistance and is most effective after moderate reactions.

The conclusion must be that we can not assume Mercurochrome 220, used intravenously, to be a panacea in septicemia. Its

action is most likely that of an agent to produce a systemic reaction, emphasizing the natural defenses of the body. Though its use is not without danger, its low toxicity recommends its use in extreme cases, and affords a not wholly explained chance of benefit in those cases with a certain margin of "fight" still present.

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STUDIES IN CLINICAL MANIFESTATIONS OF BILIARY TOXEMIA*

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NEW ORLEANS.

Biliary toxemia, a familiar medical phrase, known to the average individual as "biliousness" and listed on the medical exchange as a comparatively benign malady, deserves a little study and consideration. We all seem to know the symptoms of biliousness, but who knows what is the nature and the formula of that poison which produces the symptoms? Is it a chemical substance or a bacterial product? How does it act? There is no answer as yet in the medical literature to the above questions.

The liver, the largest, most important, most abused, most neglected and the least understood organ in the body is probably the primary seat of the disturbance. In recent years, this organ received a great deal of medical attention and extensive research work has been carried on to de-

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termine its normal and abnormal functions. Bile, the product of that organ, is being studied and analyzed on quite an extensive scale; we realize more and more our shortcomings and those of our medical ancestors in that particular field.

The term "biliousness" is as old as the hills; I am not dealing, in this paper, with that group of symptoms in the nature of a digestive disturbance which can be traced to biliousness and relieved by a dose of calomel. My aim is to interest the rank and file of our profession to trace certain clinical manifestations of obscure origin which all of us observe daily in our routine work to a possible disturbance of liver function. This will possibly bring us nearer to the solution of the entire problem of biliary toxemia.

The clinical manifestations which are to pass before us in a critical review are: Migraine, certain forms of chronic diarrhea, heartburn, halitosis, toxemia of pregnancy and chronic urticaria. The above phenomena have been recognized in every period of medical history, have formed a fruitful source of discussion among the profession of every age, and in spite of that, we can still use the phrase of the psalmist, "I have been young and now I am old, yet have I not seen the right solution to the above problems."

Admitting for the sake of argument that Widal and his co-workers are correct in their statement that the liver possesses a proteopexic function, and that certain food products before they assume a new and proper chemical formula when they gain entrance into the portal circulation, become unwelcome guests and produce a crisis, and that Rosenthal's method of studying liver absorption and elimination and other methods can be accepted, a sound working basis for the phenomena under our consideration can probably be established.

The term "biliousness", according to W. S. Fenwick, embraces two forms. The ir-

regular recurrence of certain gastric phenomena is commonly designated as a bilious attack, while the more complex form of dyspepsia, with evidence of a deficient excretion of bile, is referred to as chronic biliousness. Let us endeavor first to familiarize ourselves with the symptoms of chronic biliousness, as they are the ones of interest here. Fenwick describes them as follows: Giddiness, nausea, palpitation, flatulence, a sensation of bodily fatigue, a feeling of oppression in the head, a greasy sallowness of the skin, lack of appetite, eyelids are dark and heavy, the conjunctivae are yellowish, the hands are clammy, and in some cases, there are acidity, constipation and spots before the eyes; in other cases, there are a dull headache, lethargy, drowsiness, and impaired powers of mental concentration, or persistent vertigo. The urine is scanty and dark in color, the pulse slow and the temperature subnormal. In advanced cases, slight icterus is a permanent feature and the urine is never free from bile.

John B. Deaver, writing several years ago on "The more remote consequences of infectious bile," says that infection of the biliary tract leads to many varied lesions, with either easily recognized or obscure symptoms.

It is important, vitally so, in fact, for us to bear in mind that practically most of the symptoms described by Fenwick in chronic biliousness are the constant companions of those who suffer from migraine, heartburn, fetor oris, urticaria, certain forms of chronic diarrhea and the vomiting of pregnancy. Again, the above clinical manifestations are slow in their onset and once well established, are difficult of permanent eradication. These facts when properly analyzed will point to the liver as being at least "particeps criminis." Being a large organ—the largest in the body, the liver can withstand considerable abuse. Failure on part of the liver, set by nature as a screen to catch, withdraw and neu-

tralize certain irritant substances brought to it by the portal circulation; failure also to destroy certain toxins produced during digestion, the circulating life fluid with its unwelcome contents reacts unfavorably upon the walls of bloodvessels and all tissues. The thousands upon thousands of liver cells are not all put out of action or rendered impotent. Years may pass unmarked; as time goes on, it protests from time to time; such a temporary protest is called a bilious attack. Finally the liver cells go on a strike producing chronic, at times serious changes in the human machine. Bearing in mind such simple facts and realizing that in recent years we have learned to a certain degree to determine liver function, I have undertaken to observe and study liver function in certain groups of cases. The first group is that of migraine and its variations. Up to this writing, thirteen such cases have been studied, as represented in the tabulation in group 1.

Migrainous attacks, as we all know, may be precipitated by a great many different factors, which means that the actual underlying cause is wholly unknown, in spite of the fact that it is one of the oldest affections known in medical literature. Galen describes it in the following words: "How constantly do we see the head attacked with pain when yellow bile is contained in the stomach; the pain forthwith ceasing when the bile has been vomited." Whatever the etiological factor might be to produce the explosion, the vibrations of it very likely go through the liver, or may originate there. The evidence of liver function disturbance in this group is quite visible. The results of treatment along the lines of liver detoxication is quite striking in some of these cases. Isn't it possible that those chronic cases which stubbornly resisted previous forms of treatment and yielded promptly to liver detoxication methods, have had their origin in a poorly functioning liver?

ILLUSTRATIVE CASES.

Case 1. G. L. S., male, age 34, R. R. Yard-

master for past 25 years. Has suffered from migrainous attacks. The onset is sudden, very intense headache develops, culminating in nausea, followed by vomiting of bile, then he is relieved. Intervals well. Subject to constipation. Of late, attacks come on twice a week; he has weakened greatly and can hardly continue his work. The attacks are irregular in onset. It may strike him suddenly during working hours, or sometimes it wakes him up from sleep. Past history negative. Physical examination negative. Gastric analysis: Fasting stomach contained a quantity of bile. Test for free HCL negative; very little mucus; no food residue. Test breakfast: Quantity normal, free HCL 48, TA 75, chym. good. Urine: Indican, three plus, bile pigment one plus. Widal hemoclasia positive. Duodenal intubation: Infected bile obtained. Elimination of phenoltetrachlor in 20 minutes. Treatment along lines of liver detoxication, namely: Proper diet, regulation of bowels, non-surgical biliary drainage, and a few drugs to relieve the constipation and act as a stimulant to the liver. The results in this case were surprisingly good. The migrainous attacks have ceased entirely. It is over a year since his last attack, he has gained in weight and feels well in every respect. He is still following the dietary and hygienic rules.

Case 2. J. M. R., female, 38, housewife. Suffered from migrainous attacks since early childhood. At first it would come once or twice a year. At present once or twice a week. The attack is sudden and relief comes after vomiting of bile occurs. Past history: Appendectomy 20 years ago; tubal pregnancy 10 years ago. Eyes examined and corrected by proper lenses. Physical examination negative. Gastric lavage: Bile present. T. B.—Quantity normal, free HCL 50, TA 67. Urine negative. Widal hemoclasia strongly positive. Blood Wassermann negative. Phenol-tetrachlor elimination, 20 minutes. Treatment was started along the lines of clearing up biliary toxemia with excellent results. No attack past four months.

Analyzing carefully the cases presented in above table, we notice that cases with a definite background of migraine present strong and clear evidence of a biliary toxemia with a deficiency in liver function and are decidedly improved by proper treatment. Some cases with a very chronic cholecystitis, require surgical intervention, and are relieved by cholecystectomy, as pointed out by Waltman (*Med. Cl. N. A.*, Jan., 1925, p. 1332). Other cases of headache, lacking the clear cut migrainous picture

LIVER FUNCTION DETERMINATION IN FOLLOWING GROUPS OF CASES WITH CLINICAL MANIFESTATIONS OF BILIARY TOXEMIA.

Group I.—Migrain And Its Variations.

No.	Duration of Illness	Proteopexic Function	Absorption and Elimination	Biliary Pigment in Urine	Results of Treatment	Remarks
1	25 years	+	+	+	Good	No attacks 1 year.
2	18 "		+	+	Good	No attacks 4 months.
3	1 year	+ - +	—	—	Not Imp.	Neurosis.
4	12 years	+	+	Trace	"	Pelvic Disease.
5	3 "	—	—	—	Fair	Menopause.
6	4 "	—	—	—	Good	Entamebic dysentery, error of refraction corrected.
7	12 "	—	—	—	Not Relieved	Artificial Menopause.
8	10 "	—	—	—	Relieved	Wass. 4 plus anti-luetid treatment.
9	5 "	+	+	Trace	Relieved	No attacks 6 mos.
10	7 "	—	—	—	Not Relieved	Pulm. T. B. Pelvic Disease
11	12 "	+	+	Trace	Relieved	No attacks 8 mos.
12	3 "	+	+	—		Under treatment.
13	9 "	—	—	—	Not Relieved	Artificial Menopause.

Group II.—Heartburn.

1	2 years	+	+	Trace	Improved	Cholecystectomy.
2	1 year	+ +	+	"	Improved	Medical treatment
3	4 "	+ +	?	Trace	Not Imp.	Appendectomy advised.
4	2 years	+	—	—	Not Imp.	" "
5	2 "	—	+	—	?	Left city.
6	7 "	—	—	—	Not Imp.	Very chronic type
7	5 "	+ +	+	Trace	Not Imp.	Asthma.
8	1½ "	—	—	—	Not Imp.	Duodenal ulcer.
9	2 "	+	—	—	Improved	Prolonged D.D. and G.L.
10	3 "	—	?	—	Improved	Prolonged D.D. and G.L.

Group III.—Chronic Diarrhea.

1	15 years	+	+	+	Marked Imp'ment	Cholecystectomy.
2	6 "	+	—	Trace	Improved	Prolonged D. D. and G. L.
3	9 "	+	+	Trace	Improved	Prolonged D. D. and G. L.

Group IV.—Halitosis.

1	4 mos	+	+	Trace	Improved	Cholecystectomy.
2	10 "	+	+	"	Not Imp.	Cholecystectomy advised refused.
3	2 years	+	+	"	Improved	Medical treatment
4	1 year	+	+	"	"	"

Group V.—Vomiting of Pregnancy.

1	6 mos.	+	Not Tested	Trace		
2	3½ "	+	Not Tested	"		

Group VI.—Chronic Urticaria.

1	10 years	+		Not Tested	Improved	Medical
2	3 "	+ +		Trace	"	"
3	10 "	?		"	"	"

In determining liver function, Bromsulphalein was used according to Rosenthal method.

and minus definite evidence of biliary toxemia, do not show deficiency in liver function, and are not relieved by treatment along the lines of liver detoxication.

CHRONIC DIARRHEA.

This disturbance is quite often a puzzling problem, even in the hands of the skillful practitioner of medicine. It is a type of diarrhea which cannot be put in any frame of the known classifications of diarrhea. The patient usually presents a picture of a chronic toxemia associated with abdominal cramps; the stools are usually mushy or liquid, dark greyish or greenish in color with an abundance of mucus and undigested food particles. Microscopically, no parasites are demonstrable; blood cells are usually present; not enough fat globules to suspect a pancreatic disturbance, but the myriads of bacteria present a lively microscopic picture. Drugs, diet and irrigation are of no avail. Examination of the biliary tract reveals a possible source of infection. Surgical intervention is the best mode of treatment.

ILLUSTRATIVE CASE.

S. R. P., age 38, teacher. Past 10 or 12 years suffered from abdominal cramps and loose bowels; the cramps are very severe at times. Shortly after a meal, the bowels would move, after which the abdominal cramps would subside. Tenesmus is present at times; from 8 to 10 movements in 24 hours; no blood in the stools but undigested food and mucus. During the entire period of illness, she hardly remembers a day of relief; nauseated quite often and occasionally develops headache accompanied by vomiting. The case has resisted every form of previous treatment. Past history: Typhoid at age of 13, influenza in 1918, appendectomy a year ago without relief. Physical examination: Slight emaciation, no glandular adenopathy, teeth numerous fillings, tonsils small. Heart and lungs negative, abdomen relaxed, liver and spleen not palpable. Skin: Anemic, sallow and mauvy. Urine, bile pigment and gastric analysis: Marked subacidity, bile present. Stools: Repeated examinations for parasites or ova negatives; greyish brown color; putty like consistency, blood and pus negative, mucus excess, food particles present, occasional fat globule. Blood examination: Hgb. 70%, R. B. C. 4,630,000, W. C. 5000. Color index, 76. Differen-

tial N 73, LL 2, SL 22, E 3; malaria plasmodia negative. Widal hemoclasia positive. Proctoscopic examination: No ulceration. Phenoltetrachlor elimination in 19 minutes. Duodenal intubation: Infected bile obtained. In view of these findings, cholecystectomy was advised, and performed a year ago. Gall bladder was found very badly diseased. Since operation patient has made a wonderful recovery, has gained considerably in weight, her bowels are regular, stools well formed. She is on full diet, abdominal cramps have disappeared and she enjoys generally, good health.

This case and a few others convince me that infected bile is unquestionably often a cause of diarrhea which is not commonly recognized.

HEARTBURN.

In a previous paper on this subject (N. O. Med. & Surg. Jr. Vol. 76, No. 9, March, 1924), I have come to the following conclusions: (1) That heartburn does not primarily depend upon acidity, (2) that a toxic agent, biliary or otherwise, is the primary causative factor, (3) that the toxic agent through the blood stream produces a hyperesthesia, (4) that biliary toxic hyperesthesia is a better term than pyrosis or cardialgia. I have continued my studies and observations since and in a review of 50 cases with definite evidences of biliary disturbance, toxic hyperesthesia commonly called heartburn, was a prominent symptom along with other symptoms of biliary toxemia. This, in my opinion, is such a common phenomenon in biliary disease that it should be included in the long list of symptoms enumerated by Fenwick. The accompanying table of liver function determination in a group of 10 selected cases will demonstrate the correctness of my view point

HALITOSIS.

This subject has been described by me recently in a paper published in the April number of the N. O. Med. & Surg. Jr., 1925. I did not have time as yet to study the liver function in many of those cases but the few I have studied together with the clinical observations fully justifies me to reiterate my im-

pressions, (1) That in a large number of our gastro-intestinal cases with halitosis, oral sepsis is not the primary factor; (2) that halitosis is a warning signal, a reminder of a disturbed protective liver function and consequently it should receive our most careful attention.

TOXEMIA OF PREGNANCY.

This subject is receiving recently a great deal of attention in medical literature. The origin of the toxemia is a matter of speculation. J. A. Killian (*Proc. N. Y. Path. Soc.*, Jan. to May, 1921), divides these cases into three groups, (1) Nephritic, (2) Hepatic or true eclampsia, (3) Mixed, impairment of renal function resulting from the hepatic toxemia. On the other hand, De Wesselow (*Jr. Obst. & Gyn. of Brit. Emp.* XXIX, No. 1, 1922), considers that there is no evidence of the existence of an hepatic as distinct from a nephritic toxemia of pregnancy. Both schools though agree that the liver does participate in the toxemia. I trust that enough interest will be manifested by the profession of our state to study liver function in these cases. The three cases of vomiting of pregnancy studied by me show definite liver function disturbance.

URTICARIA.

This common affliction may often resist treatment for months or years. The etiology is usually given in textbooks as follows: "It is usually produced through some alimentary disorder, the result of mechanical irritation of the stomach and bowels, or a toxemia." The three cases studied by me all show definite disturbances of liver function. It will probably be of great interest to mention here a case of pemphigus of the mouth, nose and left eye, which came under the observation of one of our prominent local oculists several years ago. The result of this affliction was disastrous to the patient's vision. Gastro-intestinal disturbances were present from time to time, culminating in deep jaundice with definite evidences of common duct obstruction, at

which time I was called in consultation. The patient is now under my treatment and improving rapidly. The question in my mind in this case is the possible relationship between the biliary toxemia and the pemphigus affecting this part of the body which is very rare.

A summary of the observations made, which are not conclusive but merely suggestive, will probably encourage energetic students of medicine to delve more deeply into the secrets of the liver and bring to light new explanations of phenomena of disease heretofore not well understood. The questions as to the nature of the formula of the toxin in biliary toxemia and how it acts cannot be answered satisfactorily as yet. We can only attempt to prove that chemistry and bacteriology very likely form a partnership, as it were, to undermine the efficiency of the most perfect machine in human nature, the human machine. We know that certain foods and drinks are not tolerated well by the liver, consequently irritation results; this favors stagnation of bile; stagnation begets bacteria, the presence of which spells inflammation. Perfect chemistry is then impossible in a damaged crucible, hence the vicious cycle resulting from the combination of bacteriology and chemistry. What then is the remedy to break up such a combination? The existence of a possible biliary toxemia should be recognized early; even in the transient type, though listed on the medical exchange as benign, steps should be taken to prevent a re-occurrence of a biliary stasis. The golden rules which have been stressed by leaders in medical science should be arranged in a sort of ten medical commandments and broadcasted by radio to the public. What are those golden rules?

(1) Endeavor to eradicate any possible source of trouble, wherever and whatever it might be, infection, faulty mode of living, error in diet, sedentary life, overwork, worry and anything which tends to produce

a short in the battery of the human machine.

(2) The more death blows to germ life and faulty chemistry that have gone into the biliary apparatus, the more life will come out of it.

(3) The more it is made a cemetery for germlife, the more it becomes a nursery of health.

(4) The greater the care and attention given for the biliary apparatus to recuperate, the more all the tissues in the human body will flourish.

(5) Endeavor to keep the bile in a liquefied state.

(6) Endeavor to improve the drainage of bile.

(7) Correct constipation and prevent intestinal stasis.

(8) Prevent, if possible, the absorption of toxic biliary products by taking proper measures early.

(9) Do not make eating and drinking the prime object in life.

(10) Adopt the old Roman saying, "Homo sum, humani, nihil a me alienum puto," "I am a man and nothing that relates to a man is a matter of indifference to me."

All of these can be accomplished in the following manner: Diet, small and frequent meals; avoid fried foods, excess of fats, sweets and highly seasoned articles; drink plenty of pure water; drink alkalized fluids, such as vichy, etc.; avoid alcoholics; the bulk of diet should be vegetables and fruit; plenty of exercise. Therapeutic measures for relief of symptoms and to assist in liver detoxication, such as drugs, gastric lavage, non-surgical biliary drainage and thermic agents. As the primary aim is to get rid of a toxemia, the treatment must be continued for a long time in order to obtain permanent results. The patient must be impressed with the importance of intelligent co-operation.

DISCUSSION.

Dr. J. A. Storck (New Orleans): The term "biliary toxemia," as used by Doctor Levin, should be clearly defined.

Before drawing any conclusions that bile, or primary liver pathology, is responsible for certain symptoms, we must be reasonably sure that many, or most of the symptoms and even the liver involvement itself, is not due to some other common cause. Among the possible causes may be mentioned: Intestinal putrefaction (not the result of lack of bile); lues, and bacterial toxins, elaborated in foci of infection—as appendix, tonsils, teeth, and so forth. Unless we feel sure of the absence of some such factor, then treatment directed at the liver and gall tract is hardly justifiable or rational, because this therapy is being aimed at an effect instead of at the cause. Therefore, before incriminating the liver, other possible causes should first be removed, and if the symptoms still persist, and can be corrected, only by liver treatment, then we may be justified in considering the liver the primary cause. Likewise, in cholecystitis, the toxic signs are very likely due to some factor other than bile itself, because sometime in non-infectious block, jaundice may be the only pronounced symptom, suggesting that unaltered bile alone is not very toxic. In some of the migraine-like cases cited, either intestinal hygiene, anti-luetic treatment, or correction of errors of refraction was carried out simultaneously with the liver and gall tract treatment.

Notwithstanding the constancy of liver pathology in eclampsia, the high blood pressure in eclampsia as compared to the low blood pressure in icterus, casts doubts on a biliary toxemia as the cause of eclampsia.

If alteration in liver function is responsible for certain manifestations, amelioration of symptoms should be accompanied by restoration of function, as indicated by liver tests repeated after improvement occurs.

It is to be hoped that such added sources of information as visualization of the gall bladder by the Graham method, still further development of tests for the various liver functions, and blood chemistry studies, will furnish more accurate information concerning the liver and bile.

The icterus index, perfected by Neulengracht, furnishes an indication of the degree of choleemia resulting from altered liver function, which other tests fail to give.

Dr. D. N. Silverman (New Orleans): The question of systematic symptoms from the relationship of the liver and biliary tract, remains quite a problem. In following Doctor Storck's line of thought, that is, treating the intestinal tract whenever there are evidences of putrefactive toxemia, I believe that it is in those very cases of systemic toxemia from intestinal disturbances that we should investigate other conditions such as the

liver and gall bladder. It is surprising in such cases to find that gall bladder infection is the source of the secondary trouble and the consequent toxic symptoms. Much work has been done and symptoms relieved by measures directed to the intestinal tract. Especially do I want to mention the excellent experimental work of Bass and others.

Of course we have methods of examining the liver under different conditions, but these tests do not necessarily apply themselves to the condition of the general system, that is, to the symptoms. We see grave liver disturbances with very deficient functions according to our tests, but we do not see in these particular cases as great systemic disturbance as in some of our ordinary biliary infections.

The relationship of the intestinal tract to the gall bladder is very forcibly brought out at times. We see complications of certain types with clear cut evidence of gall bladder disease. The underlying feature that we think may be the gall bladder disease, treated perhaps surgically, and with drainage the gall bladder and intestinal tract clears up and then we will have just the opposite state, instead of a putrefractive condition we will have a diarrhea of the active type. It is not always easy to say which came first or which last in these conditions.

I mentioned yesterday something relative to the visualization of the gall bladder and I wish to say a few words along that line now. I believe that, provided the liver function is good and the state of the liver also fair, that the condition, especially as regards toxic symptoms, will not be so grave in face of the fact that in these particular cases we may have considerable involvement of the gall bladder. We are using visualization to observe potency of the cystic duct, the size, location, function, and the emptying time of the gall bladder. Some of these gall bladders that are obstructed, with evident stasis, and some that do not have obstruction but are large and do not empty normally, still do not produce the systemic symptoms which have been so clearly brought out by Doctor Levin.

Dr. P. B. Salatich (New Orleans): I do not know of anything we know less about than the liver and gall bladder. It is rather amusing to hear or read a symposium on gall bladder and hear the different opinions. Doctor Levin tells you that in biliary headache if a man has bile in his stomach and vomits, the headache is immediately relieved. According to some of the late ideas, instead of doing a cholecys-enterostomy, a good many men are doing cholecys-gastrostomy. Instead of having some of the bile in the stomach

you have all of the bile in the stomach, and this is certainly not healthy. If it is bile that causes the trouble why put the gall bladder directly into the stomach? Then again some men tell you that if you do a gastroenterostomy for ulcer of the stomach and duodenum your patient will not be relieved unless there is a possibility of regurgitation of the bile back into the stomach.

There is nothing that causes more pain, especially in the shoulder, than trouble in the liver. That is brought out especially in cancer of the liver. You take a patient with long continued trouble in the liver and gall bladder, that patient coming to you with marked pains in the shoulder, you have to be extremely careful to make a differential diagnosis to tell whether the patient is not developing malignancy in that liver.

Your patient comes to you and has all the typical symptoms of gall bladder trouble—terrible pains and the symptoms that go with it. You operate on that patient and take out the gall bladder. The pathological report comes back some little trouble but not much pathology of the gall bladder. The patient is relieved of some pain, but very often he is not relieved of his symptoms and the surgeon is up against it. Of course a lot of these patients make themselves sick. I have a case right now, a woman whose gall bladder I took out a month ago and told her to be very careful about her diet. She was very careful. A few days ago I had to give her a hypodermic and a lot of hot water to make her vomit, and what do you think she vomited? Great big hunks of meat and red beans. The day before she had eaten cucumbers. In many of these cases the patients have been deprived for a long time of eating a good many things, and when they find their gall bladder is out, they just begin to eat anything. Many of them are never cured for that reason and the surgeon and medical men can do nothing more for them. Too many cases that the surgeon operates on are not relieved because they will not follow the diet plan that you lay out for them.

Dr. Sidney K. Simon (New Orleans): Doctor Levin has covered rather a wide range in his paper and it would only be possible to discuss one or two features.

Two of the principal functions of the liver are the detoxicating function and the liberation of bile function. Of these functions I think the liberation of bile is the least important. Bile in itself is not a toxic substance. Those of us who are gastroenterologists know how important the detoxicating function is, that is, taking the toxic substances from the intestinal tract and convert-

ing them into innocuous chemical material for circulation into the blood stream.

We have been making a serious effort in recent years to test liver functions and find some reliable means of knowing the functional capacity of the liver. These tests have hinged around the use of certain dye substances and considerable light has been thrown by the workers in this field, in determining what capacity the liver has for eliminating this dye from the blood stream. That gives us a measure of capacity of the liver cells as a whole, but it does not give us any inkling into the individual functional capacity of the liver cells. It is an opening wedge, as it were, but until we have some means of determining the individual function of the liver cells we will still be at a loss to understand all the very intricate chemical processes that go on within the liver.

The detoxicating function of the liver, as I said before, is something that we should like to know more about. We know that the liver loses its capacity under many pathological conditions to take poisons out of the portal circulation, and if these poisons are not taken out they get into the blood stream and produce toxic effects in general. These toxic substances arise in the intestinal tract, and one of the means of attacking that problem is to prevent the elaboration of these intestinal toxemias. The other means is to stimulate the liver in such fashion as to force it to eliminate the toxin. The old time method of giving calomel and soda, which even today we follow, and in which I am a great believer—that old time method to my mind is really scientific. It not only unloads the toxin from the intestinal tract, but it stimulates the liver function towards the detoxication, so that toxins may not be absorbed.

Dr. S. J. Couvillon (Moreauville): Dr. Levin has elucidated a subject which is quite common in general rural practice. I want to thank him for his paper; also, I desire to substantiate the statement of Dr. Simon, that, while many biliary toxemias emanate from the liver proper, yet the bulk of such toxemias lodges in the intestinal tract. I have had quite a large experience as a physician in the rural districts with biliary toxemias, where we have a good deal of malaria, typhoid, and conditions where dietary instructions are not well carried out. When medicinal measures have failed, I have had very favorable results from the use of the Jutte tube in relieving biliary stasis with toxemia, not only the voluminous substances I would get through the tube, but alike if not more, from the copious evacuations of the bowel following.

One case of interest which I would like to mention and that was biliary toxemia complicating pregnancy. I was called to see the woman, seven

months pregnant, with a profound toxemia. The symptoms presenting were nausea and vomiting, pronounced jaundice, almost pulseless, practically moribund. She had been treated by other physicians and had been given plenty cholagogues and alkaline diuretics, but the condition grew worse every day. I had a Jutte tube with me and as a last resort I ventured to use it, introducing a strong magnesium sulphate solution through, and to my astonishment she stood the ordeal very well for three hours, and from that very day after having discharged through the tube and by the intestinal tract later all kinds of bilious substances, her pulse improved and with a repetition of the treatment five days later, I am happy to say that the toxemia of this poor woman was so relieved that at term she gave birth to a healthy child.

Dr. A. L. Levin (closing): I wish to thank Dr. Storck and the other gentlemen for the discussion of my paper.

Dr. Storck laid a good deal of stress on eliminating the primary focus of infection as a most important factor in the eradication of disease, particularly of the gastro-intestinal tract. No doubt he is right; I agree with him on that point; in the summary of my paper I laid particular emphasis on this fact, but I wish to discuss this point from another angle. Personally I believe that this has often been overestimated and overdone by physicians in general. Dr. Bel, in his able discussion yesterday with regard to the increase of cardiac disease, laid a great deal of stress also on the removal of infected tonsils and infected teeth as a main cause of heart disease. The point which I wish to bring out is a fact which we all know—that we are removing more tonsils and extracting more teeth at the present age than in any previous age in human history, and are doing appendectomies by the wholesale, and in spite of it, we have more heart failures in our present generation than ever before as recorded by statisticians of medical science. There must be another factor besides infection which largely influences the increase in cardiac disease and cardiac failures. In my opinion the faulty mode of life in our modern generation is unquestionably another very large factor. Modern life tends to weaken gradually the heart muscle and rob us of a great deal of nervous energy. We can look upon biliary toxemia in the same light. The faulty mode of our dietary regime unquestionably overburdens the liver. Its chemical processes are weakened and altered and if we could have correct statistics on diseases of the liver we would probably find a great increase.

Several gentlemen on the floor in discussing my paper spoke of intestinal toxemia and various

sources of infection. I believe that intestinal toxemia produces disease largely through the absorption of infection from the intestinal tract traveling to the liver, and there is where the real seat of trouble originates. Let us go back to our physiology and remember that whatever is absorbed by the intestines must go through the portal circulation which enters the liver. If the liver can act as a filter we are protected, otherwise it passes out without being properly filtered out or altered chemically and the result is biliary toxemia, not so much intestinal.

Dr. Salatich spoke of the presence of bile in the stomach without causing any disturbance. Personally I cannot agree with him. We do occasionally find normal bile in the stomach without any disturbance, but whenever we find in the stomach pathological bile we certainly have a condition which must be corrected sooner or later. I have never seen pathological bile in the stomach without causing trouble.

With regard to the operative technique which Dr. Salatich mentioned. This is sometimes done, but only when nothing else can be done, as we know that nature did not intend for bile to flow into the stomach, but into the intestinal tract, and bile in the stomach is certainly an unwelcome guest.

I wish to thank you gentlemen for your discussion and advise that you should carefully read the summary of my paper, follow it up closely in your private work, come back at our next meeting and tell me whether my observations are correct or not.

QUININE AS A PREVENTIVE OF MALARIA: A REVIEW OF SOME RECENT LITERATURE.*

M. A. BARBER,

U. S. Public Health Service,

GREENWOOD, MISS.

Quinine prophylaxis, in the strict sense of the term, means the use of the drug in the prevention of malaria infection—as a destroyer of sporozoites at the moment of their entrance into the body. We still have to do with a possible action of quinine, taken habitually and in small doses, on an infection already acquired, such as early cure or the prevention or amelioration of a

clinical attack; so we will make use of a more general expression, “quinine as a preventive,” and include in it not only quinine prophylaxis but any action of quinine taken primarily for preventive purposes.

We will use the term “recent literature” in a rather liberal sense, and consider papers which appeared as far back as the time of the World War—an event which added greatly to our experience in malaria if not so materially to our knowledge of it.

It would seem difficult to find a subject in medical literature on which there are so many contradictory opinions, even among authors of wide experience, as that of “quinine prophylaxis”, and the differences of opinion are by no means wholly due to looseness in definition of terms.

Legendre,⁽¹⁾ in an address before the Société de Pathologie Exotique, summarized a large number of reports from men of different nations and experience which seemed to demonstrate conclusively the inefficiency of quinine in preventing malaria. In the discussion which followed this address, practically every speaker took the opposite view and held for the retention of a measure which, in their opinion, has been of great value.

Treadgold⁽²⁾ made a summary of the opinions on preventive quinine of some 200 original articles published between 1880 and 1918. Of these, 34 writers gave statistics with controls. Twenty-six of the 34 favored “prophylactic quinine” and 8 opposed it. But an analysis of the results of these 34 writers with respect to the localities in which they worked gave ground for an interesting generalization. Where only natives of malarious countries were treated, 100% of the writers favored preventive quinine; but where the more susceptible immigrants were dealt with, only 27% favored it. As Treadgold puts it, “The benefit derived from the use of prophylactic quinine varies directly as the resistance of the individual taking it,” that is, the greater the resistance the better the statistics.

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

Instances might be multiplied to illustrate the diversity of opinion on the subject of preventive quinine in the vast literature on malaria which has accumulated since the war. The methods as well as the results of the workers exhibit an infinite variety. One is left with the impression that everything they did succeeded, and everything failed.

Under war conditions, both in armies and navies, the results of preventive quinine were, as a rule, rather disappointing, and many explanations are given for its failure. It has been alleged that the types of parasites found in southern Europe and Asia Minor are relatively resistant to quinine treatment; that quinine habitually given tends to produce quinine-resistant strains of parasite; that continued cinchonization of the patient may reduce his power of reacting favorably to the drug in case of a clinical attack. The opinion was rather general that lowered mental and physical condition of the soldiers rendered them less amenable to both preventive and curative treatment.

Great differences of opinion prevailed as to the proper dosage, and intervals between doses of preventive quinine. An obvious source of variations in the results of many experiments was the fact that not all members of a given unit received the drug, or, having it issued to them, did not swallow it.

Certain well-controlled experiments are on record. We will consider these, and ascertain whether we can obtain any light on the source of confusion in the literature or on the actual effect of preventive quinine.

Yorke and Macfie,⁽³⁾ in their work on the treatment of general paralysis by inoculation with malaria parasites, gave some patients prophylactic treatment, sometimes 5 to 10 grains daily, for as long as five days before as well as on the day of inoculation by means of infected Anophones. The patients regularly became infected unless treatment was continued at least ten days after the bite of the mosquito. They con-

clude from their observations "that quinine has little, if any, action on sporozoites, and that the mechanism by which development of infection is prevented is similar to that by which a cure is effected."

Somewhat similar results have been obtained by the brothers Sargent working with *Plasmodium relictum* in canaries. Birds became infected in spite of prophylactic quinine and harbored the disease in a latent form, as was proved by positive results on inoculating their blood into healthy birds. When quinine was discontinued the treated birds would sometimes develop active symptoms. The authors believed that their results supported the view that preventive quinine is of service, since treated birds either failed to show active symptoms or had the disease in a mild form, while controls showed a mortality of 30%. But in their experiments, as in those of Yorke and Macfie on man, quinine could not be depended on to prevent infection, and its effect was that of treatment of an infection acquired in spite of the use of drug.

A few of the better controlled field experiments may be briefly described:

Hanschell⁽⁴⁾ had in medical charge 29 men engaged in military work in a malarious region of East Africa. All were given with their evening meal 5 grains of quinine and were seen to swallow it. Before darkness fell all the men were gotten under mosquito nets. Nine, who had nets broad enough to protect them adequately, escaped infection during two seasons. Eighteen, who had narrow nets, all got malaria in spite of the prophylaxis. All were easily cured by the administration, presumably in larger doses, of the same brand of quinine as that used in the prophylaxis.

Seidelin⁽⁵⁾ employed a "week end" preventive quinine in the Belgian Congo. One gram of quinine on two successive days of a week (in some cases on two days with a "free" day between) was given with the idea of providing a dose strong enough to kill young schizonts. Frequent blood exam-

inations were made. In a group of 90 persons, inhabitants of a certain town and under more exact control, 65 showed parasites in the blood; but of this number only 15 exhibited clinical symptoms during the year (July, 1923-June, 1924). Thus the treatment here did not seem very effective in the prevention of infection, but in a large percentage of cases rendered it latent.

Other illustrations of well-controlled experiments might be given. Navy records, both of this country and of others, have furnished cases of sailors briefly exposed in a malarious district who contracted malaria in spite of prophylactic quinine, in some cases in doses of 15 grains per day.

From the evidence before us one deduction seems clearly justified: Preventive quinine, however faithfully administered, can not be depended on to prevent infection. One could not maintain that sporozoites are never destroyed by quinine on their entrance into the body, but it seems established that they often, if not always, escape such destruction. The action of preventive quinine, then, is largely on incipient infection, and our prevention merges into cure, such cure as can be expected from the small doses commonly given in preventive treatment. In our treatment we anticipate the disease. Communities in which malaria is endemic afford the further complication that one has to do with relapses as well as with incipient infections.

We have next to consider the evidence as to the possible value of this "preventive" cure.

The work on artificial infection with malaria in the treatment of general paralysis, now being carried on by many workers and already reaching into hundreds of cases, has clearly shown how easily new infections can be cured by quinine, and has emphasized again the value of early treatment. Yorke and Macfie record cures following the use of even five grain doses, provided such treatment is continued daily for at least ten days after infection. Again,

we must give due weight to the testimony that the continued use of "prophylactic" quinine may lighten the course of a clinical attack. Further, it is quite certain that such quinine may mask an infection, may bring about a condition of "infection without illness."

The advisability of thus maintaining a condition of latent infection is questioned by some authors. Wenyon,⁽⁶⁾ from military experience in Macedonia, states that daily quinine tended for a time to prevent relapse in already infected men. In one case a large body of men took a 24 days' course of 30 grains per day plus an iron and arsenic tonic. The immediate effect was a fall in the malaria admission rate, but the rate mounted again, and, before the course was finished the figures were higher still, and the latter condition of the soldier was worse than his first. Later attacks were the more difficult to treat on account of the previous dosage with quinine.

Kliger⁽⁷⁾ concluded that quinine (0.6 gm. daily) used in the treatment of populations in Palestine, merely prevented appearance of symptoms, and that as soon as it was discontinued, clinical attacks occurred. He questions the value of such an anti-malaria measure except under very special conditions.

Rawnsley⁽⁸⁾ states that his quinized soldiers, although not reporting for illness, began to exhibit large spleen, anemia and cachexia.

Treadgold basing his opinion on experience with the allied armies in Macedonia, believes that quinine taken daily over periods of several months tends to increase the severity and chronicity of malaria attacks.

Stitt⁽⁹⁾ holds that preventive quinine renders the patient less amenable to the curative action of the drug in case of an attack and makes him more liable to relapse.

On the other hand, we find authors who

hold that the suppression of a clinical attack may be an advantage, although the latent infection remains uncured.

In a measure, the explanation of the contradictory nature of the evidence in the matter of latency may be found in the varying physical condition of the patients and in the varying length of time over which the preventive treatment had to be extended. There is a growing belief, not at present universal, that the chief action of quinine is not direct as a parasiticide on the malarial organism, but indirect—through its effect on the system, releasing or stimulating the natural resistance of the body. Persons who have suffered much from hardships, poor nourishment or the effects of other disease might react poorly to preventive as well as to curative measures. Quinine lacks its natural ally and may be unable to cure or even hold down a latent infection. Again, a timely change of season, climate or conditions of living may intervene to reinforce the bodily resistance and eventually overcome the latent infection. On the other hand, should the patient remain exposed to mosquitoes in a malarious district his latent infection might be complicated by a new infection with a different species of parasite. Preventive treatment has apparently succeeded in regions where malaria is sparse, while the same dosage has failed where the disease is plentiful.

The conditions under which preventive treatment is carried out certainly have much to do with the result, or apparent result; and we see why a "prophylaxis" in a native people relatively immune to malaria or in a settled population in a temperate region may justly or unjustly get a good deal of credit, while the same procedure among troops or pioneers in a highly malarious region may totally fail.

I do not attempt in this short paper to consider in detail every phase of a problem so complex as that of preventive quinine. The differences in species of malaria para-

site; the effect of repeated infections; dosage of quinine and intervals between doses; possible adverse effect of long-continued cinchonization; difficulties of administration, especially in communities; climate; expense, etc., have been considered by the authors with varying opinion. I will emphasize only certain important and universal principles which may best harmonize many conflicting findings. These I summarize briefly:

1. Quinine is preventive chiefly, if not wholly, through its action on an infection already acquired. Such action may be exhibited, favorably through curing incipient infections, and, with less claim to advantage, through masking an infection and rendering it latent.
2. The better the resistant power of patient or population through acquired immunity, or through favorable conditions of life, individual or climatic, the more credit preventive quinine is likely to win.
3. Preventive quinine finds its most useful employment, possibly its only useful employment, when faithfully administered to individuals or groups of person for limited periods of time and only during exceptional exposure to infection.

An interesting corollary grows out of this abundant literature on quinine prevention of malaria. The authors are, in almost every case, men who have had wide practical experience with malaria and who speak from first-hand knowledge of the subject—they viewed the field from the saddle, not from the desk; yet we find this great divergence of opinion among them on a matter which, to a tyro, might seem easy of solution. We are made to realize more fully that in working with malaria we are dealing with a disease highly variable both in the individual and in the community; we must have controls and a most careful analysis of our findings if we are to draw any valid conclusions from our observations. A report to the effect that a patient or a community was treated and got better is likely to add little to our knowledge of the cure of malaria unless we can justly eval-

uate the different factors concerned in our research. This statement has particular force in considering the results of any preventive measure in a country like this where malaria, like the price of cotton, has its ups and downs; and we have to be especially careful in evaluating our favorable results in those happy communities where malaria is on the decline whether treated or not.

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DISCUSSION.

Dr. C. P. Coogle: There is no one present who enjoyed Doctor Barber's paper more than I did. I have had the pleasure of reading this paper before the meeting and must say that it is a very good review of the recent writings of our best scientists on this subject. Special mention has been made of the many contradictory opinions on the use of quinine as an agent to prevent clinical attacks of malaria. There seems to be no difference of opinion, however between the National Malaria Committee, The International Health Board and the United States Public Health Service, relative to suggesting to the public to take quinine to prevent malaria. They have agreed on a scale of dosage and call it the Standard Quinine Treatment. The State Boards of Health of all the southern states are spending money to spread propaganda among their people. It must be of interest to all of us to know whether or not the Standard Quinine Treatment is based on a scientific study of this subject.

Just what effect quinine has on the malaria parasites, or how it acts, I don't know. It is my opinion the real phenomena of its action has not been discovered as yet. Until recently, the most of us field workers were led to believe that quinine was the only drug that actually killed the malaria parasites in the human, now we are asked to believe that quinine does not kill a single parasite, but acts in some unknown way as stimulating certain antibodies or hormones, or something like that. The public does not understand this and

neither do I, certainly quinine acts in some way, this is apparent from the preponderance of evidence based on testimonials of millions of people who have taken various and sundry drugs to keep off malaria. It would seem that the laity has more confidence in quinine than the physician and quinine seems to be more trusted by the physicians than by the scientist.

Doctor Barber has wisely agreed with all the writers in his summary: Quinine is a good drug to prescribe but it is no good at all when put to a test by scientists.

Doctor Barber quotes Treadgold as saying: "The benefit derived from the use of prophylactic quinine varies directly as the resistance of the individual taking it," that is, the greater the resistance the better the statistics." Of course, we would expect the resistance powers of all well nourished persons to help keep off disease attack.

My experiences have been that the benefits derived as a preventive of clinical attacks of malaria varies directly as the numbers increase in bottles of chill tonic or packages of quinine the individual takes. That is, the more chill tonic or quinine or Standard Quinine Treatment a rural population takes, the less the malarial attacks, and certainly the fewer working days lost from the field.

The foremost question in my mind is: Are chill tonics and quinine and the Standard Quinine Treatment oversold to the people or do they really get results?

Dr. C. M. Shipp (Bay St. Louis, Miss.): I have enjoyed Doctor Barber's paper very much, having had the pleasure of reading it beforehand. I will not be so bold as to put my head in a loop for a man who has had such splendid training as Doctor Barber, but when it comes to making a statement as a general practitioner, that is a different thing. When you put your head up towards the firing line of science you had better look out. These men follow cases with the microscope and it is difficult to say when a case of malaria is really cured.

I was struck with the statement made by Yorke and McFie, in regard to the transmission of malaria where cases had been treated by giving prophylactic quinine 10 grains a day beginning five days prior to the infection, and 10 grains even on the day the case was inoculated with the sporozoites. Why is there so much confusion on this matter? There are some very perplexing problems. We find a man who on the 13th will have a chill, on the 15th another, on the 17th another, and then perhaps another—every other day—and then it will subside. The next time he

has attacks they may be on the even days instead of the odd. Why? We do not know. Sometimes we find a patient who will have a chill one day at 12 and the next day it will be two and a half hours later, and then perhaps two and a half hours earlier. Why? We do not know.

The Doctor referred to the work that the British have done, and they have done a remarkable amount of work since the war. We have gotten from them some valuable things relative to the action of quinine. We know where it is absorbed and about the time. We know it stays only a short time in the blood stream and in about 20 to 30 minutes it is excreted in the original form. We do not know whether it is the toxic action of the drug or physiological action.

I have seen people take prophylactic quinine for five months. Some were infected during that time, but the infection did not always remain. Some of the people were infected throughout the experiment, and we have just as many cases of malaria after they had taken the prophylactic quinine as before. Certainly I do not think we will get very far with prophylactic quinine. The progress we will make in cures will be with the early simple infections by the malaria plasmodia.

Dr. M. A. Barber (closing): It must be emphasized that our subject has to do with preventive quinine, not with quinine as a cure—everybody will concede that quinine is an excellent thing in the treatment of malaria and the more cheaply and abundantly it is at hand the better.

As regards the question of the "practical" and "impractical" in science. The most impractical thing in the world is work conducted without proper controls or accurate records. The matter of "prophylactic" quinine offers a good illustration of the fact that years of observation by "practical" people may leave a subject in a very hazy condition.

A PRACTICAL PROGRAM FOR A PART-TIME COUNTY HEALTH OFFICER.*

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There are so many different things, so many different viewpoints, from so many

different angles, to be considered in planning to build a practical program for a part-time county health officer, that one hardly knows where to begin. It would be easy enough if there were ideal conditions in the county—and in all the counties. These like conditions would make possible a stereotyped program applicable to all communities.

But we are far from such conditions, even different portions of one's own county are widely unlike, much less adjoining counties or widely separated portions of our state. These together with climatic and seasonal changes make the program both varied and difficult. Furthermore we have various peoples to consider, therefore various kinds of County Officials to deal with in consummating this program.

When these features have been sufficiently studied one can begin to formulate his program in the rough—to be many times revised.

First, it must be founded along the most common-sense lines, systematic and constructive, to the end that you may follow on to reach the specific goal. May I here preface this division by saying that the County Health Officer himself should be chosen advisedly, that these ideals may have birth. For he should be a man of high ideals, of convictions and with an altruistic spirit,—one who has a vision of bettering mankind and improving the race, that future generations may show the proof of his dreams.

In further shaping this program the people must be studied, their most imminent needs considered. Tact must be used in acquiring this information. The Health Officer must gain the confidence of his people in his sincerity of purpose as well as in his ability to cope with Public Health questions. Then the formidable Board of Supervisors must be given no mean bit of attention, individually and collectively. Their ear and hearty co-operation must be acquired to the end that the salary sufficient

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to warrant the time and expenditure of effort on the part of the C. H. Officer to carry out a program worthy of the name, may be realized. It is just as necessary that he devote sufficient time to effectual work as it is to plan, and to do this he must be remunerated at least for a goodly portion of his time. Once you have the confidence of your Board of Supervisors you will usually find them to be very fair fellows—men who will go as far as the finances of the county will warrant. With all these things met and overcome the program for the work can be very intelligently planned.

The program must of necessity be graded, to be educational, even in the best of counties—counties where the greatest intelligence is found among its citizens; and it is in these counties that the ideal program can be used, the conditions can be improved, so much the more then should the program be graded in the poorer and less intelligent communities.

It must be systematic to the end that it may be followed. To obtain the best results it should embrace at least three years of arduous work, beginning with the very rudiments of Public Health, and progress with the plan as your people show advancement. It must begin with basic principles of good health, improving sanitary conditions, thereby creating a better environment, hence its educational value. Here you can attain the end results by a system of lectures to the young people, chiefly in the public schools, first the "a, b, c's" of health, keeping fit, care of the mouth, teeth and person, the proper diet, foods that will build the body and mind of the growing child, screening, etc., as preventive measures against seasonal and infectious diseases. I find that they accept instruction without question much more readily than do the grown-ups. It is in this way and among the young people that you can build up the enthusiasm requisite to carry on the propaganda that bears fruit in years to come. In order that you may get the best

results from this graded, educational program, these lectures should at first be very simple or primary in character, later becoming academic, and as conditions improve the real cap-sheaf work can be put on in permanent improvements done in the way of better sanitary conditions in public buildings, drainage, etc.

Next, the proper amount of community co-operation will materially assist in perfecting the plan by giving its assent to prophylactic measures against contagious and infectious diseases, by general vaccinations and inoculations. These things are not accepted wholeheartedly by the public everywhere, therefore they must be educated to this measure. This can be materially aided by the employment of the proper Public Health Nurse; and by the way, this is a large and promising field for graduate nurses. She should be chosen wisely or the plan will be an utter failure. She can render invaluable assistance in the followup work which should be prosecuted vigorously.

This latter feature will largely depend upon the financial condition in your county, the personality of the nurse, and the thoroughness of the program. It requires so much time, labor and perseverance on the part of the County Health Officer to get and hold the minds and attention of the people on public health work. It is so difficult to draw their attention away from their other problems in life so engrossing their every attention, that the part-time health officer can not devote to his work the time necessary to accomplish the ends planned for in his program, hence the necessity of a nurse for intelligent and effective work.

This now leads us to the climax of the field of a *good* part-time County Health Officer, namely, the planning, prosecuting and putting into final consummation a work that leads to the point where the "pupa-County Health Officer" emerges into the full-fledged whole-time County Health

Officer. Thereby he realizes the dreams of every true, zealous and altruistic Health Officer in planning his program as a part-time worker, in such a way that he may educate his county officials and his citizenry to the point where they can fully appreciate the true worth of the guardians of Public Health, in order that his office may be dignified to the extent that it be made a whole-time and efficient one.

To summarize, I would say that a practical program for a Part-Time County Health Officer should embrace the following:

First—The proper man for the place in Public Health work.

Second—A correct visualizing of the needs of the county.

Third—Getting the confidence and respect of his people and Board of Supervisors to the end that the salary be sufficient.

Fourth—It must be educational—graded and enthusiastic to suit conditions of intelligence and result from former work done in the county.

Fifth—It must be followed up and carried on to a point where he ceases to be a part-time officer, and automatically creates conditions where he becomes a full-time and efficient County Health Officer.

DISCUSSION.

Dr. F. C. Spalding (West Point): I do not know that I can add anything to what Doctor Frizell has said, as he has covered the matter very thoroughly, but as he stated in the beginning, it depends a good deal upon the conditions of the county in which you live and also on the financial condition of your county. What would apply to a Delta county will not apply to a hilly county, but I think the first thing we should try to do is to educate the people and get them to the point where they will insist that the Board of Supervisors appropriate sufficient funds. One thing about the supervisors. You go to them and they will listen to you and you think they are for you, but when it comes to a vote they will turn you down. We have been attempting this through our schools, teaching the older children and telling them to tell their parents; then we work through the

ladies' organization like the Parent-Teacher Association, and we think we can accomplish much in that way. We had a Red Cross nurse a few years who went through our county and did a great work, and I think if we had not had a short crop that year we could have had a County Unit. Another thing was that it was election year and the Board was afraid to make an appropriation for fear they would not be re-elected. But the main thing is to educate the people as to what should be done and let them demand it.

Dr. W. E. Sharp (Pascagoula): Mr. President, I feel impelled, not because I can tell you anything that you do not already know, but because of the fact that I have gone through the various stages of development as described in this very splendid paper, to make a few brief remarks. Our experiences some times makes us feel like *going back* as James Whitcomb Riley says in a poem:

"I'm got the measles and the mumps and a new straw hat,
And I'm come *back* to where my beau lives at."

I started where many full time men have to start. One of the necessary prerequisites for "Public Health Work" for "Part time man" is to make up his mind that he is going to sacrifice from the beginning and possibly for a long time after—not only time but money, because it will often cost you more money to function as a HEALTH officer in a way satisfactory to yourself, than the meager salary so often paid for a "part-time health officer."

I had this experience myself. I was drawing a salary of \$25.00 a month, and when I counted up, I was spending almost double what I was getting as salary in expense—to say nothing of the loss of time from my private practice. *I did this cheerfully because I liked it.*

Getting back to fundamental principles, I found one of the greatest problems was *educating* the people and heart-to-heart talks with the officers (*Board of Supervisors*). They hold the purse strings and they hold them pretty tight some times.

But the way we got it over, was to go into the schools, and teach the children and advise, and if they wanted to become strong, healthy, robust men and women, certain things ought to be done. Finally, we got their interest aroused, and through them, their parents. This having been accomplished, the rest was easy.

We now have a full time Health Department. Our Board of Supervisors are squarely behind it as are all the church, civic organizations of the county, and the towns.

But gentlemen, it is a question of Education, Patience and Sacrifice.

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DR. ALDO CASTELLANI

It is with great pleasure that THE JOURNAL welcomes to our midst Prof. Castellani who comes to organize and head the School of Tropical Medicine at Tulane. Occupying as he does such status, that most authorities rate him as the leading spirit in the field of tropical medicine in the world today, Tulane is indeed to be congratulated upon having prevailed upon him to accept a chair in its School, and it is hoped that he may decide to settle down permanently among us.

Professor Castellani graduated in medicine, with the highest honors, from the University of Florence, Italy, in 1899. He then went to Bonn, Germany, to study

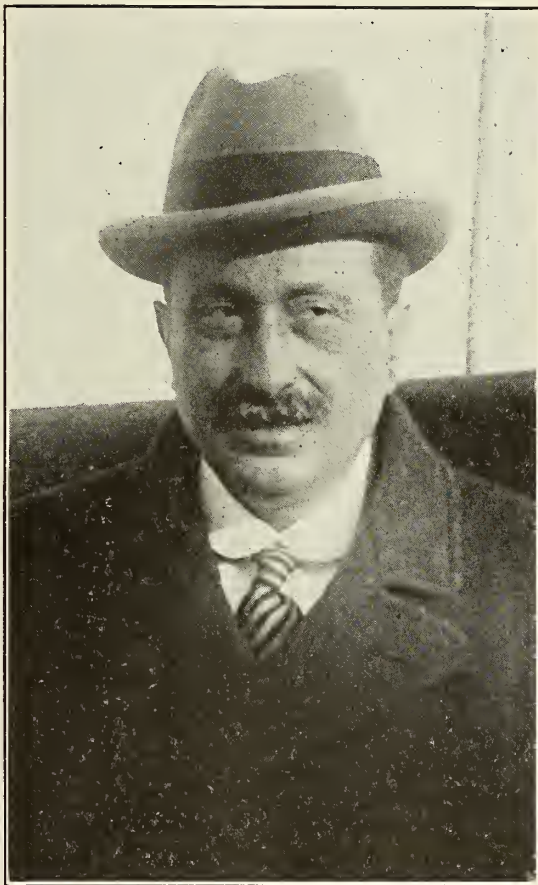
under Professor Kruse; later going to the Lister Institute, London. While still a student in Florence he devised the "dilution method" of growing bacillus from blood. During his stay in Bonn he devised the "absorption method" for the determination of closely allied bacilli and for the diagnosis of "mixed infections."

In 1902, while at the London School of Tropical Medicine, he was selected by the British Foreign Office, at the recommendation of Sir Patrick Manson and Sir Ronald Ross, to go to Uganda to investigate sleeping sickness. There he found a *trypanosome* in the cerebrospinal fluid of sleeping sickness patients and connected it with the etiology of the malady. His researches were confirmed and greatly elaborated by Sir David Bruce and Dr. David Nabarro.

In 1903 he was appointed professor of pathology, and a little later professor of tropical medicine and lecturer on dermatology, at the Ceylon Medical School. He was also director of the Bacteriological Institute and Clinic for Tropical Diseases, and physician to the Seaman's Ward, General Hospital, Colombo. He remained in Ceylon and held these appointments until 1915. During that period of time he carried out several investigations, found the micro-organism of yaws, at that time the most important disease of Ceylon; described several new diseases and their causative organism (as broncho-spirochaetosis, new forms of bronchomycosis endemic funiculitis, copra itch, etc.); prepared and used the mixed vaccines (TAB; TABC) which later on, with slight modifications, were adopted by all the Allied Armies.

In 1915 he accepted the professorship of Tropical Medicine at the Royal University of Naples, but after a very short time joined the Italian Navy Medical Service, was lent to the British in the Balkans, and in 1917 was placed on the Interallied Sanitary Commission with headquarters in Paris.

In 1918 Sir Patrick Manson asked him to join the staff of the London School of Tropical Medicine and he then resigned his N a p l e s professorship and settled down in London. Later he accepted the directorship of Tropical Medicine in the Ross Institute. For services rendered during the World War, etc., he received the C. M. G. from the British Government, the Legion of Honor (Officer) from the French Government, the Italian Military Cross and the Crown Italy (Grand Cross) from the Italian Government, also various decorations from Serbia and Poland. Since the War he has continued to do some research work in addition to teaching and doing consulting practice. For instance, he found a mycological method for the detection of various sugars and other



DR. ALDO CASTELLANI

carbon compounds; has found some new fungi, a new treatment for dermal leishmaniasis, etc. In all, his contributions to medical literature number some four hundred, and his Manual of Tropical Medicine, which he wrote jointly with Dr. Albert Chalmers, has reached the 3rd edition and the 4th edition is now in preparation.

This, very briefly told, gives one some idea of the life work, so far, of the new head of the department of Tropical Medicine of Tulane. Again we welcome him to Tulane and to New Orleans.

He obtained his F. R. C. P. (London) in 1921; his M. R. C. P. in 1916.

He was born in Florence (Italy) September 8th, 1876; married Miss Josephine Ambler Stead in 1906.

MARCUS FEINGOLD.

The profession suffered a distinct loss in the recent demise of our beloved colleague Dr. Marcus Feingold. His international reputation as an ophthalmologist brought glory both to Tulane and to New Orleans. His character, made noticeable chiefly by those cardinal traits modesty and simplicity, his insatiable love of his work, his charity to all worthy of it, his

scholarly efforts in the realms of research—these are but some of his attributes.

Dr. Feingold was born in Botoshani, Rumania, in 1871. He received his preliminary education in the Austrian gymnasium and in 1896 was granted his doctoral degree, *cum laude*, from the University of Vienna. In 1897 he came to New Orleans and within a year founded a special clinic at Touro Infirmary. He became professor of ophthalmology at Tulane in 1906.

A devoted pupil of Fuchs, often appraised the greatest of all ophthalmologists, it was but fitting that Dr. Feingold should act as his host during the visit of Prof. Fuchs to the United States in 1920.

He was a fellow of the American College of Surgeons, member American Academy of Ophthalmology and Oto-Laryngology, Chairman of Medical Staff at Touro Infirmary; was the delegate of this country to the International Congress recently held in London, and also delegate to the late German Ophthalmological Congress in Munich. He served for many years as Senior Ophthalmologist to Charity Hospital and did much in upbuilding this field at an institution which has ever done so much for the poor of our State.

Dr. Feingold was a most prodigious reader and early had mastered French, Spanish, Italian and English as well as his own German. His

library is accredited as being one of the finest anywhere and it is most fitting that it should have been the owner's wish that his books should go to Tulane.

In 1904 he was married to Miss Bertha Lowenberg, who, with a daughter Rose Evelyn, and a brother Meyer W. Feingold of New York City, survive him.

Broad in all his beliefs, liberal in all his teachings, and never trespassing

upon the feelings of others, he had a sympathetic understanding of men.

He died December 26, 1925.



DR. MARCUS FEINGOLD

"GIVE 'EM A SQUARE DEAL."

Under the above caption, the Jackson Daily News of December 17, 1925, ran an editorial in which they spoke of the opposition of the Mississippi State Medical Association, and the Mississippi State Board of Health to a bill to be offered in the approaching session of the Legislature, creating a State Board of Chiropractic Examiners.

Of course, Brother Sullens is speaking of giving the chiropractors a square deal.

Do not infer that he is thinking of the "dear peepul." It is a strange thing that during a political campaign so many editorial writers and so many politicians want to tell you what they are going to do for the "dear peepul", but when the time comes to get down to actual work, there is usually some special interest to be looked out for. We feel certain that it is nothing more than a mistaken idea of what chiropractic really is that leads our lay-contemporary to arrive at the conclusion that there is any-

thing worth while to chiropractic. Furthermore, we feel certain that he honestly believes that "chiropractors can and do cure certain ills to which human flesh is heir, and its followers are entitled to follow their profession without molestation from the disciples of any other school of medicine."

In the first place, at this point, let us inform Brother Sullens that in modern scientific medicine there is no such thing as different schools of practice. This idea that different schools of medicine existed was originated in modern times by the homeopaths, who not only coined their own name, but coined the word "allopath," as well. No physician today worthy of the name wants any other label but that of physician. Being a thorough seeker after knowledge, he is ready and willing to accept and make use of any discovery regardless of its source. But, in each instance, the medical profession insists on the right to investigate the worth of any discovery or method of healing before it be adopted. Almost everyone is familiar with the accusations that were made against the medical profession when they failed to see any merit in "Friedman's Turtle Serum", several years ago. More recently, many lay-writers, as well as charlatans, saw fit to fight the medical profession because the doctors found that Dr. Abrams' electronic reactions did not do what he claimed for them.

Now, let us consider the question of the claims to cure. We do not question the honesty of our lay-brothers, neither do we question the honesty of the rank and file of the chiropractors when they say that they have cured patients. But the test of a cure is the time that a man stays "cured." After a patient leaves the chiropractor's office with the statement that he feels better, how many of these "healers" interest themselves enough to check up on their results later on?

No one would think of denying the people of Mississippi the right to choose any method of treatment they wish, but, on the other hand, the State Board of Health is charged with the task of protecting the health of the people of Mississippi and it is its function to see, so far as may be possible, that epidemics of diphtheria, small-pox, scarlet fever, are not allowed to gain a foothold in any place because valuable time was wasted in rubbing someone's spine when the patient should have been prevented from mingling with other people and should have had serum, or other treatment, administered to cut short the disease.

Many a patient who has tuberculosis, if given appropriate treatment at an early date, would be restored to health and a life of productive activity if seen in time. But when such a patient falls into the hands of a "healer," who has not more knowledge of the anatomy of the human frame than the patient himself has, then the sufferer is quite likely to find himself in a stage that necessitates spending the rest of his life as an invalid.

As a rule, it is a well-known fact that there is seldom anyone to fight for the interests of the people at large. "Everybody's business is nobody's business", and that probably explains why thirty-two out of the forty-eight states of the Union have passed the bills that the chiropractors ask for. Let us remind Brother Sullens that a large majority of the people may sometimes be mistaken. Everyone thought that the world was flat before Columbus made his well-known trip across the Atlantic.

Now, Doctor, get into the game and help things—not by having your Society pass resolutions, but by writing an individual letter to your senator and representative at Jackson TODAY!

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of January there was held a joint meeting of the Old and New Boards of Directors and the Annual Installation Meeting. The Scientific Meeting scheduled for January 25th, was called off by the President as it conflicted with the Sectional Meeting of the American College of Surgeons held on the 25th and 26th of January.

The Committee on Revision of By-Laws has drawn up a new set of By-Laws for the Society which will be acted upon by the Board.

Dr. Harry L. Zengel was elected to active membership in the Society.

Dr. Marcus Feingold died during the month of December.

The Annual Meeting held January 11th, 1926, was called to order by Dr. Urban Maes, the Retiring President, with the Secretary, Dr. Lucien LeDoux, at the desk.

The Annual Report of the Secretary, Dr. Lucien LeDoux, was read, accepted and referred to the proper committee.

The Annual Report of the Treasurer, Dr. John A. Lanford, was read and referred to the proper committee.

The Annual Report of the Librarian, Dr. Daniel N. Silverman, was accepted and referred to the proper committee.

The Annual Reports of the Scientific Essays, Judiciary, State Medicine and Legislation, Auditing, Condolence and Publication Committees were read and accepted.

Dr. Urban Maes, Retiring President, made his final report to the Society. Dr. Maes then turned the gavel over to Dr. Maurice J. Gelpi, the new President.

As is the custom every year the Society presented a bouquet of flowers to the new President's wife, but as Mrs. Gelpi was ill Dr. Gelpi was given the flowers for Mrs. Gelpi in the name of the Society.

Dr. Gelpi read his Inaugural Address which was very well received.

Dr. Gelpi then introduced the Annual Orator, Dr. John H. Musser. His address was on "Co-operation in Medicine."

Then followed the Installation of the following Officers:

- Dr. J. Birney Guthrie, First Vice-President.
- Dr. Marcy J. Lyons, Second Vice-President.
- Dr. E. J. Richard, Third Vice-President.
- Dr. H. Theodore Simon, Secretary.
- Dr. John A. Lanford, Treasurer.
- Dr. Daniel N. Silverman, Librarian.

Additional members of the Board: Dr. Jules E. Dupuy, Dr. Urban Maes and Dr. L. Maurice Provosty. All of the new Officers said a few words in appreciation of their election.

Dr. E. M. Ellis, President of the Louisiana State Medical Society, who was in the City for the evening made an informal address before the Society.

Dr. Gelpi announced the following Chairmen of the Standing Committees:

Dr. Chas. Chassignac, Chairman, Judiciary Committee.

Dr. Emmett L. Irwin, Chairman, Scientific Essays Committee.

Dr. Foster M. Johns, Chairman, Auditing Committee.

Dr. A. E. Fossier, Chairman, Hospital Abuse Committee.

Dr. Homer Dupuy, Chairman, State Medicine and Legislation Committee.

Dr. A. C. King, Chairman, Condolence Committee.

The Chair then introduced Dr. Aldo Castellani, the newly appointed member of Tulane University as head of the Department of Tropical Medicine. Dr. Castellani said a few words to the members in appreciation of what had been done for him since he came to New Orleans and how glad he was to be here.

Dr. Gelpi then announced that after the meeting there would be refreshments and dancing in the green room.

Report of Treasurer for December.

Actual Book Balance: 11/30/25	\$220.04
Receipts during December:	871.44

Total Receipts	\$1,091.48
Expenditures:	607.33

Actual Book Balance: 12/31/25	484.15
Outstanding Checks:	5.00

BANK BALANCE: 12/31/25	489.15

Report of Librarian for December.

Two bibliographies have been prepared during December on subjects as follows:

Intraligamentous Pregnancy (for Dr. Walter E. Levy).

Spinal Anesthesia and Analgesia (1921-25) (for Dr. P. Graffagnino).

Forty-nine volumes have been added to the Library, thirty-three of these were journals re-

ceived by binding, 15 were from the New Orleans Medical and Surgical Journal and one was by gift. In addition to these, Dr. Maurice J. Gelpi very kindly donated to the Library, 63 volumes, among which are about 12 volumes of bound journals.

Among the accessions of the month, a list of the volumes of recent date is as follows:

New Books—Dec. 1925.

Brodhead—Approaching Motherhood. 1925.
 Graham—Empyema thoracis. 1925.
 Duke—Allergy, asthma, hay fever, etc. 1925.
 Turner—Personal and community health. 1925.
 Sansum—Normal diet. 1925.
 Hannum ed.—Eyesight conservation survey. 1925.

Copher—Methods in surgery. 1925.
 Codman—Bone sarcoma. 1925.
 Beaumont—Recent advances in medicine. n.d.
 Boyd—Preventive medicine. 1925.
 Pottenger—Symptoms of visceral disease. 1925.
 Hirst—Manual of gynecology. 1925.
 Dorland ed.—American illus. medical dictionary. 1925.
 Jordan—General bacteriology. 1925.
 Ballenger—Diseases of the nose, throat and ear. 1925.
 Southern Surgical Association Transactions. 1925.

H. THEODORE SIMON, SECRETARY.

THE BERIBERI QUESTION.

An expert on health conditions in the Far East, Dr. van Driel, protests against proposed legislation against polished rice. It would raise the price of rice and rouse the antagonism of rice-growing countries and rice-eating people. The

efforts should be directed to teaching and making available the use of other foods with the rice.

Dr. Frank A. Walke, of Shreveport, was recently elected President of the American Railway Surgeons' Association.

TRANSACTIONS OF LOUISIANA STATE MEDICAL SOCIETY

H. Theodore Simon, M. D., Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY BULLETIN.

The fact may not be known to all members of our State Society that we have just completed in numerical strength, one of our most successful years, having enrolled the largest membership in 1925 the State Society has ever enjoyed. While we had looked forward to having more members in 1925, yet a total enrollment of 1234 showed a substantial increase over 1924. From the rolls of the State Board of Medical Examiners, we find that there are some 1800 physicians residing and registered in Louisiana, most of whom are eligible for membership in the Louisiana State Medical Society. We have therefore yet to include in our membership, some 550 physicians in Louisiana.

While we have been able to accomplish much for the members of the State Society, there are a great many other projects which if they could be satisfactorily developed would result in great benefit to each member. To accomplish some of these, we need the whole support and aid from all the physicians of Louisiana. With the development of our organization, there is an increase of responsibility. The physician owes it to himself and to his profession to join forces with our organization, and thus become a part of whatever progress is made by organized medicine.

The officers of the Louisiana State Medical Society have and will give their fullest support and energy toward bringing the State Medical Society to its fullest usefulness, and help to fulfill their function.

In co-operation with the Scientific Essay Committee, an unusual program is being prepared for its members and those in attendance at the Monroe Meeting. The Committee of Arrangement of the Ouachita Parish Medical Society, represented by some of the most influential and important men of our profession, have entered into the problem of arranging for the most successful and largest attended meeting of the Society. The proximity of our meeting dates to that of the American Medical Association in Dallas, and the close railroad connections between these centers, offers added opportunities for those wishing to avail

themselves of same. These activities are all being developed in order that the members of our profession may be afforded all the opportunities for scientific advancement. We hope those who are enjoying same will see that their fellow practitioners who are not yet members of the State Society will be urged and requested to join either before or at the time of the Monroe Meeting. The total enrollment of physicians in the State Medical Society could easily be accomplished by each individual member of the State Society using his influence upon those physicians in their localities who are not now enjoying the benefits of same.

The following are Chairmen of the Scientific Sections for the approaching meeting of the Louisiana State Medical Society in Monroe, April 15th, 16th and 17th:

Medicine and Therapeutics—Dr. J. B. Vaughan, Monroe.

Pediatrics—Dr. Louis I. Tyler, Baton Rouge.

Nervous Diseases—Dr. H. R. Unsworth, New Orleans.

Bacteriology and Pathology—Dr. A. A. Herold, Shreveport.

Public Health and Sanitation—Dr. W. H. Seemann, New Orleans.

General Surgery—Dr. Lucian Landry, New Orleans.

Gynecology and Obstetrics—Dr. T. B. Sellers, New Orleans.

Eye, Ear, Nose and Throat—Dr. W. R. Buffington, New Orleans.

Urology—Dr. M. H. Foster, Alexandria.

Radiology—Dr. G. C. McKinney, Lake Charles.

Those desirous of reading papers, should communicate with the various chairmen as promptly as possible. The program for each Section must be in the hands of the Secretary-Treasurer not later than February 15th.

The following is the personnel of the various committees having charge of the arrangements for the Monroe meeting:

Committee of Arrangement:: Dr. T. E. Wright, Chairman; Dr. J. Q. Graves; Dr. R. W. O'Donnell.

Advisory Committee: Dr. F. C. Bennett, Chairman; Dr. P. L. Perot; Dr. C. P. Gray.

Finance Committee: Dr. J. B. Vaughan, Chairman; Dr. J. Q. Graves; Dr. Geo. W. Wright.

Entertainment Committee: Dr. D. I. Hirsch, Chairman; Dr. J. B. Vaughan; Dr. T. E. Wright.

Committee on Exhibits: Dr. R. W. O'Donnell, Chairman; Dr. C. H. Mosely; Dr. R. W. Faulk; Dr. B. M. McKoin.

Committee on Hotels: Dr. A. G. McHenry, Chairman; Dr. DeWitt Milam; Dr. I. J. Wolf; Dr. C. U. Johnston.

Committee on Publicity: Dr. J. E. Walsworth, Chairman; Dr. A. L. Peters; Dr. G. M. Snellings; Dr. J. H. Panky.

AN INVITATION.

To the Members of the Louisiana State Medical Society:

As President of the Ouachita Medical Society, I wish to call your attention at this time to the meeting of our State Society in Monroe, April 15, 16 and 17, and to extend to every member of our State Society a most cordial invitation to come to Monroe and partake freely of our hospitality. I am reminding you of the meeting at this time with the hope that every one who possibly can, will arrange so as to be with us in April. We want you.

Our various committees are actively at work and a program for your entertainment, both scientifically and socially, is being arranged at this time. The March and April numbers of this Journal will contain some important facts about Monroe and its surroundings. This information will be interesting and you may well look forward for same. From this Journal you will also get full information about the "Monroe Meeting" which we intend to make the largest and most enjoyable ever held outside the city of New Orleans.

Monroe, Her doctors, Her people and Ouachita Parish look forward to April and await the opportunity of entertaining you.

Yours very truly,

Signed: C. P. GRAY,
Pres. Ouachita Parish Medical Society.

SPECIAL ATTENTION.

Dues for the Louisiana State Medical Society for 1926 should be paid in advance. Those members in unorganized parishes should send their \$4.00 direct to the Secretary-Treasurer of the Louisiana State Medical Society, 1551 Canal Street. Medical Defense begins from the time the dues are received by the Secretary-Treasurer. Your prompt attention and co-operation is requested.

P. T. TALBOT, Secretary-Treasurer.

The Avoyelles Parish Medical Society met Wednesday night, December 9th, in regular session at Bunkie, La., and elected officers for 1926.

The Avoyelles Parish Medical Society is one of the oldest medical societies in the state, with a membership of 21, out of 23 registered physicians and surgeons, in Avoyelles Parish.

There were present as guests: Dr. J. E. Dousson, of New Orleans, State Registrar of the Bureau of Vital Statistics of the Louisiana State Board of Health, who spoke by invitation on Vital Statistics. Drs. J. T. Cappell, and M. H. Foster, of Alexandria, La., and J. W. Watson, of Baton Rouge, La., were also present.

A paper on Intravenous Medication was read by Dr. R. G. Ducote, of Bordelonville, La., and discussed by Dr. G. R. Fox, of Moreauville, La., also by the physicians attending the meeting, proving to be a very interesting and instructive subject.

The retiring President, Dr. Leonard Chate-lair, of Bunkie, entertained all physicians attending the meeting at a luncheon at the New York Cafe of Bunkie, which was heartily enjoyed.

Before adjourning to meet in Marksville next February, as the guests of Dr. Walter F. Couvillon, the following officers were each elected by acclamation to serve for the ensuing year:

Dr. G. Randolph Fox, Moreauville, President; Dr. B. J. Lemoine, Cottonport, Vice-President; Dr. K. A. Roy, Mansura, Secretary-Treasurer; Dr. R. G. Ducote, Bordelonville, Delegate to the Louisiana State Medical Society; Dr. E. Stanley Matthews, Bunkie, Alternate Delegate.

EAST BATON ROUGE PARISH MEDICAL SOCIETY.

The regular monthly meeting of the East Baton Rouge Medical Society was held at the Alvis Hotel, December 9th, at 8 o'clock in the evening. A very good attendance was present. After the regular order of business a very interesting and instructive scientific session was enjoyed by those present.

Dr. L. Stirling showed a case of Popliteal Aneurism which he had operated upon using the Matas technique with very satisfactory results.

Dr. Edw. K. Hirsch showed a series of Pyelograms demonstrating various pathological conditions of kidneys and ureters, one case in which a nephrectomy had been done with very satisfactory results to the patient.

Dr. R. C. Kempt related a case of Pernicious Anemia with a large number of Estivo-autumnal organisms present in the blood, along with a positive Widal. This case failed to respond to any of the recognized forms of treatment, but made a complete recovery under the administration of Neo-arsphenamin.

Dr. W. R. Eidson reported the removal of a hairpin from vagina of a two year old child, which had been accidentally introduced by the child during the act of self-abuse.

Under the head of new business the subject of establishing a free Venereal Clinic to be maintained by local funds was discussed and the consensus of opinion of those present was that since the Federal Government and Louisiana State Board of Health found it impractical, a local clinic would not prove satisfactory and the funds not sufficient.

Parking spaces for doctors cars was also discussed and various ideas suggested. It was finally decided to interview the chief of police to see whether or not some special concessions were possible.

The retiring president, Dr. E. O. Trahan, urged upon the members the importance of larger attendance at all the monthly meetings and the more frequent reading of papers, not only locally, but throughout the surrounding parish and district societies.

Dr. C. A. Weiss also stressed this point and urged the formation of flying squadrons to read papers before the members of all surrounding societies, and urged the members to put their discussions in writing so that same could be sent to *The Journal* for publication.

The following officers were elected to serve for the ensuing year:

President, Dr. Robt. B. Wallace; Vice-President, Dr. W. H. Pipes; Secretary-Treasurer, Dr. S. D. Porter; Delegates, Drs. Lester J. Williams and E. O. Trahan; Alternates, Drs. W. R. Edison and G. W. Sitman.

The Rapides Parish Medical Society voted, November 25, 1925, to make a part of its constitution and by-laws a resolution to the effect that any member found guilty of prescribing any form of opium illegally, or of selling, trading or giving away his national prohibition prescription book to any druggist or individual, shall be expelled from the society. The resolution also disapproved of writing prescriptions for liquor for any purpose except medical in the treatment or cure of disease.

THE ST. TAMMANY PARISH MEDICAL SOCIETY.

The St. Tammany Parish Medical Society held its annual banquet and installation of officers on Friday, January 8th, at the Southern Hotel.

The 1926 officials are: President, Dr. F. R. Singleton; Vice-President, Dr. C. R. Farmer; Secretary-Treasurer, Dr. H. D. Bulloch (re-elected); Delegate to the State Medical Society, Dr. J. F. Buquoi; Alternate, Dr. A. G. Maylie.

In addition to the above, the following were present: Drs. J. K. Griffith, N. M. Hebert, J. F. Polk, R. B. Paine, W. L. Stevenson, L. R. Young with Dr. L. L. Ricks, President of the Tangipahoa Parish Medical Society and Mr. D. C. Slocum, of Independence, as guests.

The water-covered highways leading into Covington prevented the attendance of a large number of guests.

Webster Parish Medical Society held its last quarterly of the year at 2 P. M. on Tuesday, December 15th in Minden. The election of officers for 1926 was held with the following result: President, Dr. J. B. Benton, Minden; Vice-President, Dr. J. D. Kilgore, Minden; Secretary-Treasurer, Dr. C. M. Baker, Minden. Dr. B. A. Norman, Sibley, was elected Delegate to State Convention, with Dr. W. McDade, Minden, as Alternate. Dr. E. B. Godfrey, in charge of Parish Health Unit, put in his application for membership, which was accepted and will be acted upon at next meeting.

Scientific Program. Dr. R. T. Lucas, Shreveport, read a paper on Intubation in Laryngeal Diphtheria. Dr. J. E. Heard, of Shreveport, read a paper on the Diagnosis and Treatment of Intestinal Obstruction. Dr. E. B. Godfrey read a paper on the work of a Well Balanced Health Unit. These papers were all thoroughly enjoyed and well discussed. After adjournment all members were urged to pay their dues for 1926, which are now due.

Dr. Amedee Granger attended the recent meeting of the Radiological Society of North America held in Cleveland, Ohio.

On December 16th, Dr. Granger by invitation, read a paper at a joint meeting of the Chicago Medical Society and the Chicago Roentgen Ray Society, his subject being "The Radiographic Examination of the Mastoids." The Radiological Society of North America will meet in New Orleans in 1926.

Dr. Aldo Castellani, recently appointed Professor of Tropical Medicine in the School of Medicine, Tulane University, arrived in New Orleans on January 3rd, and began his duties as head of the School of Tropical Medicine.

In the recent official list of the State Board of Medical Examiners of Louisiana, there are listed 1,896 registered physicians of the State, of which 616 are residents of the Parish of Orleans.

Under the auspices of Tulane University, Dr. William Thomas Councilman, Emeritus Professor of Pathology, Harvard Medical School, gave a talk on "Medicine in China," which was followed by an address by Dr. Aldo Castellani, recently appointed professor of Tropical Medicine, on "Some Tropical Diseases," on January 15th, at the Hutchinson Memorial.

DR. JONES MADE HOUSE OFFICER.

Dr. P. H. Jones, Jr., was recently appointed house medical officer at Charity Hospital, New Orleans. Dr. Jones is a graduate of Louisiana State University, class '16, and received his medical degree from Tulane in '20. He did research work in pathology at Oxford, from which institution he received his Ph. D. degree.

On December 30, 1925, the DeSoto Parish Medical Society held its regular meeting at Mansfield, under the presidency of Dr. H. W. Jarrell. After transaction of routine business, Dr. Herold, District Councilor, who was present by invitation, was called upon; he spoke a few words about the state society, urged a good attendance at the Monroe meeting, as well as the Fourth District Society meetings, after which he made a short scientific address. Election of officers for 1926 resulted in re-election of Dr. Jarrell as President and Dr. D. C. McCuller, of Mansfield, as Secretary; Dr. Tharp was selected as Vice-President; Dr. Jarrell was also made delegate to the State Society meeting. It was decided to meet quarterly in 1926. The Society then adjourned to a local restaurant, where luncheon was served.

Dr. Robert C. Campbell, a venerable physician of Shreveport, died recently. Dr. Campbell, a very learned man, who formerly enjoyed a large

practice, had practically retired for the past few years. He had also been prominent in the diplomatic service of the United States, having served many years ago as a consul-general. The Shreveport Medical Society membership was named as honorary pall-bearers at his funeral.

An innovation at the Shreveport Charity Hospital is "ward walks," once a week, by the entire medical and surgical staffs, respectively, all services being visited and the interesting cases, as well as those of doubtful diagnoses, being fully discussed by the entire membership, both resident and visiting.

The Clinical Congress of the American College of Surgeons for the state of Alabama-Florida-Georgia-Louisiana-Mississippi, met in New Orleans on January 25-26, 1926.

The program was as follows:

Hospital Conference:

Monday, January 25th.

James C. Willis, M. D., Shreveport, Presiding.

The American College of Surgeons and Its Relation to Hospitals:

Franklin H. Martin, M. D., Chicago, Director-General, American College of Surgeons.

Hospital Efficiency From the Standpoint of the Internist:

L. R. DeBuys, M. D., New Orleans, representing the American College of Physicians

Community Responsibility of a Modern Hospital:
Rev. C. B. Moulinier, S. J., Milwaukee, President Catholic Hospital Association.

Round Table Conference:

Conducted by W. T. Henderson, M. D., Mobile.
Extension of privileges to practice in the hospital.

(a) Should all doctors be entitled to hospital privileges without question on part of the authorities?

(b) If not, what is the proper procedure to adopt in extending privileges to doctors to practice in the hospital?

(c) What is the best means of preventing unnecessary incompetent surgery?

C. Jeff Miller, M. D., New Orleans.

Discussion opened by J. W. Barksdale, M. D., Jackson.

Consultations:

- (a) How can we stimulate more consultations?
- (b) What is the best method of requesting and recording consultations?
Gerry R. Holden, M. D., Jacksonville.

Discussion opened by J. M. Moseley, M. D., Shreveport, Superintendent Charity Hospital.

Organization of Ophthalmological and Oto-Laryngological Department in General Hospital.

Standardization of (a) equipment, (b) supplies, (c) procedure.

A. B. Harris, M. D., Birmingham.

Discussion opened by C. S. Lentz, M. D., Augusta, Superintendent, University Hospital.

Laboratory Service:

- (a) The best method of providing laboratory service in small hospitals?
- (b) What supervision should there be over the laboratory when there is no clinical pathologist available?
- (c) Should a laboratory be self supporting?
- (d) What system of charges is best to adopt?

George S. Graham, M. D., Birmingham.

Discussion opened by John D. Spelman, M. D., New Orleans, Superintendent Touro Infirmary.

Tuesday, January 26th.

Activities of the American College of Surgeons.

Franklin H. Martin, M. D., Chicago.

Election of Officers and Committees for ensuing year—Alabama, Florida, Georgia, Louisiana, and Mississippi.

This was followed by a "Round Table Conference."

The Louisiana State Board of Health at a special meeting recently adopted the Standard Milk Ordinance prepared by the United States Public Health Service and will sponsor with the hope every municipality will adopt the grading ordinance to insure a better and more wholesome grade of milk.

Dr. J. G. Martin submitted the November dairy report for Lake Charles to the State Board of Health. It shows 21 dairies producing milk

with a bacterial count (under Grade A) varying from 1,000 to 31,000 bacterial count per c. c. The highest bacterial count of the Grade B dairies was 83,000. This is a good record and it is hoped others will follow closely the standard set by Lake Charles City Health Department.

The New Milk Ordinance for the City of New Orleans, written by the Board, of which Dr. E. L. Leckert was executive officer, and later approved and promulgated by his successor, Dr. W. H. Robin, Superintendent, and associates, was approved by the State Board of Health on the 14th of December with the request the regulations be advanced as rapidly as possible to conform with the regulations now sponsored by the Board and the U. S. Public Health Service.

Attractive reprints or booklets have been prepared by the Metropolitan Life Insurance Company for distribution in communities contemplating the adopting of the new milk regulations.

The Journal has noted with pleasure the election of Dr. Frank H. Walke, Shreveport, La., as President of the American Railway Surgeons' Association and also Vice-President of the American College of Radiology and Physiotherapy. Doctor Walke has been a hard worker and deserves the honor. We congratulate him.

On December 14th the State Board of Health authorized the purchase of a motor truck with necessary equipment, including electrical generator and mechanical exhibits that some may be sent to places with good roads where the railroads do not serve. On the initial trip demonstrations of producing and handling milk with a striking device showing the man who was properly nourished in early life "rings the bell" every time while his associates not properly nourished fail, will be made. There will be clowns calling attention to mottoes that are instructive and helpful in keeping well. Other features, relating to maternity and infancy work will be a part of the exhibit. The exhibit will attract attention and we feel sure will be greatly appreciated by the Public Schools and others interested in educating children to live healthful lives.

PRIZE HEALTH PLAY.

A prize of \$100 will be awarded by the National Tuberculosis Association for the best health play written and presented by high school students, according to a recent announcement. Last year's prize play "Clean Up" has been printed by the Association, with words and music.

DIPHTHERIA CLINICS, BALTIMORE.

Baltimore has established 12 new diphtheria immunization clinics for the purpose of immunizing children before the age at which the disease is most fatal—from 2 to 5 years. The Municipal Journal reports that from 50 to 100 babies attend these clinics each week.

HARD-OF-HEARING CHILDREN, CHICAGO.

Fourteen thousand four hundred Chicago children have ear disease, and 1,000 are sufficiently deaf to need instruction in lip reading, if conditions found in 6 Chicago schools hold good in the city as a whole. Seven thousand five hundred and thirty-eight children were examined, and of this number 3.6 per cent were suffering from ear disease in some form.

AMERICAN BOARD OF OTOLARYNGOLOGY.

An examination will be held by the American Board of Otolaryngology in Dallas, Texas, on Monday, April 19, 1926, and in San Francisco, California on Tuesday, April 27, 1926.

Application should be made to the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

The United States Public Health Service has recently announced the release of strip film views illustrating lesions of syphilis and of skin diseases simulating syphilis. The preparation of these pictorial studies in such convenient and serviceable form was made possible through the courtesy of a number of eminent syphilologists and dermatologists whose private collections of photographs were used in making the strip film pictures. The views are taken from both acquired and congenital cases. They depict not only the usual genital and extra-genital lesions but a number of rare and unusual views are also shown.

According to the Surgeon General's announcement, the plan for using this new facility contemplates its distribution through the various State boards of health to medical societies, medical schools and hospitals. It is believed that the presentation of these views will prove an effective means of increasing the interest and assistance of physicians and others in the furtherance of the co-operative venereal disease control program. The Public Health Service is preparing a number of copies of each film so that each State Board of Health may be supplied. These films are not for sale, but are released to State boards of health for extended periods.

The Tenth Annual Congress on Internal Medicine will be held at Detroit and Ann Arbor, week of February 22-27, 1926.

The Congress is devoted to amphitheatre, bedside and clinical laboratory demonstrations as well as to symposia dealing with modern phases of internal medicine. Distinguished guests from abroad, Canada and the leading clinics of the United States will occupy prominent places on the program. Four days will be devoted to the work at Detroit, and one day the society will be the guest of the University of Michigan at the newly opened eleven hundred bed University Hospital.

All physicians who are interested in internal medicine and who are members in good standing of their local and national societies are cordially invited to attend the Congress.

Hotel headquarters will be at the Book-Cadillac in Detroit. Information regarding reduced railroad rates, program, hotel accommodations, etc., may be secured from the Secretary-General: C. G. Jennings, M. D., President, American Congress on Internal Medicine, Detroit, Mics. Frank Smithers, M. D., Sec'y Gen'l., 920 N. Michigan Avenue, Chicago, Ill.

IMPORTANCE OF HEALTH EXAMINATIONS.

The physicians place in the early detection of disorders and habits that eventually lead to serious degenerative conditions, such as heart disease, was discussed by Surgeon General Hugh S. Cumming, of the United States Public Health Service, before the annual meeting in December of the Seaboard Medical Association at Norfolk, Virginia. The subject of the Surgeon General's paper was "The Significance and Importance of Periodic Medical Examinations." This new health movement was characterized as significant from the standpoint of preventive medicine because it emphasizes the importance of the individual assuming a larger share of responsibility for his own health through utilizing the service of his physician for health promotion as well as for disease prevention.

RADIO HEALTHGRAM!

Directions: Use any wave length suited to your age. If you fade out, lose your breath easily, or sleep poorly, your wave length is wrong. You need to reset your health dial.

Good evening friends. I hope you are feeling fine and have lots of pep. If not, you need to tune in with some sound health rules, for the human body is like a radio set. We must be properly equipped and adjusted all the time; otherwise our apparatus works poorly and all we hear is static. Here are seven helpful rules to observe:

1. Keep your instrument properly set up. Stand upright. With your chin in, your chest out and up, and your stomach in.

2. Keep your battery working well. Take care of your heart. Don't let it get short-circuited by rheumatism or any other infection.

3. Don't shut yourself in an air-tight cabinet. Tune in with the oxygen outdoors. Keep your windows open.

4. Spread out your antennae. Swing your arms and legs in the air every day.

5. Keep your loud speaker clean. Use a tooth brush at least twice a day, and go at least once a year to your dentist.

6. Keep your tubes in order. Don't abuse your digestive tract or let it get clogged up. Eat wisely. Drink plenty of water.

7. Finally see that your instrument is given an all-over inspection often enough to prevent trouble. Have a Health Examination by your physician each year.

INFANT MORTALITY DECLINES IN THE UNITED STATES.

A definite decline in the infant mortality rate in all racial groups during the six-year period, 1916-1921, is reported by Dr. J. V. DePorte of Johns Hopkins University as a result of his analysis of birth and death statistics for different racial stocks in the United States.

Dr. DePorte states that the decline has been both absolute and relative, reducing the degree of variation between the rates of the diverse groups. He found the differences in the rates of infant mortality of the several groups due primarily to differences in mortality from diseases of the digestive and respiratory systems, which are theoretically, preventable. Less change, absolute or relative, was found in the rates of mortality of infants under one month. The difference between the various groups in these rates very probably have a biological basis, according to Dr. DePorte, and, in this sense, may be termed racial.

CLINIC ON WHEELS, LOS ANGELES.

A complete clinic on wheels is the latest addition to the equipment of the department of health of the Los Angeles Board of Education. The clinic is provided with complete sets of optometrists' and dentists fixtures, thus eliminating the expense of furnishing these sets for the separate schools. By use of the movable clinics, two

physicians and one nurse can look after the welfare of many children each day.

CHILDREN IN MOVING PICTURE STUDIOS.

Recent inquiries of the International Labor Office about the employment of children in motion pictures in various countries show the following facts: France has no special legislation regulating the employment of children in this industry, but provision of the general labor code apply; in Switzerland, the cinema industry does not exist; in Germany, an amendment to the child-labor law is proposed to cover the taking of public and private moving-picture films, and Berlin already has municipal regulations on this subject; in Great Britain there is no special legislation affecting children in such work and such employment is not common but certain provisions of the Education Act restrict the employment of children under 14 and give local authorities power to make by-laws prohibiting the employment of children in any specified occupation or regulating their employment generally; in the United States, the industry is concentrated chiefly in California and New York, where permits are required for the employment of children at this work.

CHILD LABOR IN CANADA.

Minimum age of 15 for permanent gainful employment during the school year is urged for Canadian children by the Canadian Council on Child Welfare. The council also urges prohibition of night work for minors under 18 and of employment in dangerous or unhealthful occupations of minors under 21, and an 8-hour day and 44-hour week for minors under 18.

TAX ON MEDICINAL ALCOHOL.

As part of its program of tax reduction, the House ways and means committee has agreed to recommend the repeal of the war tax on medicinal alcohol. The repeal of this tax has been urged for years by retail druggists, who insist that it is an unreasonable tax on their business. The committee has recommended that the present tax of \$1.10 per gallon be reduced to fifty-five cents per gallon, beginning Jan. 1, 1927, and that the remaining tax of fifty-five cents be eliminated, beginning Jan. 1, 1928. Fixing an advanced date for the reduction and final elimination of this tax will permit the drug trade to dispose of their present inventories of drugs. Many druggists have large quantities of drugs purchased under the tax of \$1.10 per gallon.

TRANSACTIONS OF MISSISSIPPI STATE MEDICAL ASSOCIATION

J. S. Ullman, M. D., Associate Editor.

Mrs. D. J. Williams, of Gulfport, formerly president of the Women's Auxiliary of the Mississippi State Medical Association, was elected president of the Southern Medical Auxiliary at the meeting in Dallas in November.

A recent social event in Gulfport was the reception tendered by the Women's Auxiliary to the Harrison-Stone Medical Association and the Woman's Club to Mrs. D. J. Williams, recently elected president of the Woman's Auxiliary of the Southern Medical Association.

At the regular meeting of the Harrison-Stone County Medical Society, held at the Woman's Club rooms, Gulfport, January 6, 1926, the following officers were enrolled:

Dr. D. G. Rafferty, Pass Christian, President.

Dr. Wallace P. Sheely, Gulfport, Vice-President, Harrison County.

Dr. S. C. Culpepper, Wiggins, Vice-President, Stone County.

Dr. D. J. Williams, Gulfport, Secretary and Treasurer.

Dr. E. H. Linfield, Gulfport, Censor.

Dr. R. A. Strong, Pass Christian, Delegate, Harrison County.

Dr. S. E. Dunlapp, Wiggins, Delegate, Stone County.

Following the installation, Dr. Thomas B. Sellers, of New Orleans, read a paper on "The Use of Insulin and Glucose in the Treatment of Vomiting in Pregnancy."

The many friends of Dr. H. M. Folks, of Biloxi, will be pleased to know that the doctor has recovered from his recent illness.

Resolutions commending the splendid work of Miss Inez Driskell, Red Cross nurse of the Adams County Chapter of the American Red Cross, were adopted at a special meeting of the Executive Board. Miss Driskell is leaving to accept a position as Public Health Nurse of Leflore County.

The Pike County Tuberculosis Association has selected Riverside lodge, ten miles east of McComb, as the site for the children's health camp to be held next summer for six or eight weeks. Children who are undernourished and underweight will attend the camp, and under the supervision of physicians and nurses every effort will be exerted to build them up. The State Board of Health is co-operating with the County Tuberculosis Association in the movement. This is the first county health camp to be organized in Mississippi.

At a recent meeting of the Warren County Medical Society the following officers were elected:
Willard H. Parsons, President.
Hugh C. Denson, Vice-President.
Sidney J. Harper, Secretary-Treasurer.

In the early morning of December 28th, the residence of Dr. W. H. Aikman, Health Officer of Natchez and Adams County, was almost completely destroyed by fire. The loss was partially covered by insurance.

At the meeting of the Homochitto Valley Medical Society on January 7th, a special Committee on Library Organization, with Dr. E. E. Benoist as chairman, reported good progress in the establishing of a medical library in Natchez, and it was decided to have the same centrally located so as to be easy of access.

There was a good attendance in spite of the weather being bad. Interesting clinical cases were presented by Drs. R. D. Sessions, Edwin B. Benoist, J. S. Ullman, and L. S. Gaudet.

At a meeting of the Jackson County Medical Society, the following officers were elected to serve for 1926:

Dr. E. T. Babindreer, Ocean Springs, President.

Dr. S. B. McIlwain, Pascagoula, Vice-President.

Dr. J. N. Rape (S. T. D.), Moss Point, Secretary-Treasurer.

The Committee on Legislation and Board of Censors was re-elected without any change.

Papers were read by Drs. Thompson and McArthur.

Dr. R. C. Cabot, of Harvard Medical School, in addressing the Honors Convocation at the University of Michigan, recently, in speaking of the difference between a true scholar and the ability to get high marks, among other things, said of the scholar:

"In the first place he must have a genuine, enthusiastic and unforced enjoyment of his task. He must have independence and a tendency to daring ventures. He must be marked by good sense and a sure instinct for what is insignificant. He must have a comprehensive mind capable of retaining the essential elements in what it has absorbed. And, finally, the true scholar must be cosmopolitan, he must be conscious of his kinship with other scholars in all parts of the world.

"Scholarship is a part but not all of a college education. The man who has been absorbing education has a tendency to impart it to others and then return for more. Scholarship is the making of plans and life the putting into effect of those plans. The greatest mistake that a man can make in life is to turn away from the path of his greater interest."

Dr. Cabot, in his final summing up, said that "the scholar looks before he leaps and, if he is the real thing, he leaps also."

It seems that it would be well for the physician to remember that he is a scholar after he leaves college.

The attention of the chairmen of the various scientific sections is called to the fact that the program must be made up by the Committee some time in February, if it is to appear in its proper form in *The Journal* before the meeting of the State Association. It therefore behooves the chairmen of the respective sections to see that the essayists give them the name of the subjects on which they are to speak or write at an early date.

Now that the various respiratory diseases are prevalent, it is to be wondered how many physicians are trying to teach their clientele how to avoid infection, and how many are continuing the old-time honored exhortations to "avoid getting the feet wet and keep out of draughts." It should be recalled that, while there is no objection to anyone making themselves comfortable by keeping dryshod, and warmly clothed, these precautions alone will not solve the problem of immunity and susceptibility to infection. It is well to remember, then, that if we quit fighting draughts and fight germs, we can do much to eliminate infectious respiratory diseases.

As the Legislature goes into session, it is well for the individual doctor to do his part in backing up the Mississippi State Medical Association Committee on Legislation by writing to their respective senators and legislators, endorsing the various bills that are being presented by our Committee.

No physician should feel content by merely giving a blanket endorsement and letting it go at that. There are other bills which need some opposition. Connecticut has shown within the past two or three years the folly of having more than one licensing board. It is to be hoped that the physician will point out to his legislator at Jackson the necessity of having only one Examining Board in Mississippi.

The chiropractor may claim that he has a different system, one that the medical man cannot understand. Failure to understand is not confined to physicians. No person of average intelligence who gives the matter unbiased thought could understand either. The main point is that, regardless of the system employed by the healer, it is still the same old human body, the same old anatomy and physiology, that must be considered.

THE DICK TEST—SCARLET FEVER.

The Dick test, which derives its name from its originators, Drs. George and Gladys Dick of Chicago, who are also the discoverers of the scarlet fever virus, consists simply in injecting very diluted toxin from staphylococcus cultures into the skin. The susceptible child will show a more or less marked area of reddening of the skin at the point of injection within twenty-four hours. Those who are naturally immune will present only a red spot, indicating the point where the skin was punctured. Moreover, this minute spot shows no areola and disappears in a very short time.

The positively reacting children may be immunized by injections of diluted toxin, as already mentioned. It will then be found that the Dick test will react negative; in other words, an active and lasting immunity has been established. It is thought that this artificial immunity will last throughout the life of the individual, but inasmuch as the procedure has only been in operation for a few years, our supposition must of necessity lack conclusive proof.

Treatment, aside from diet and symptomatic medication, consists in using an antitoxin similar to that employed in diphtheric infections. Excellent results have been obtained with the antitoxin

treatment and desperate cases have been saved by its use.

The anti-toxin is now on the market and can be obtained without any difficulty. Many lives will be saved by immunization and anti-toxin.

INTER-STATE POST GRADUATE FOREIGN CLINIC ASSEMBLIES, 1926.

The 1926 foreign clinic assemblies given under the direction of the Inter-State Post Graduate Assembly of North America will cover a territory including the chief clinic cities of Italy, Switzerland, Germany, Austria, Czecho-Slovakia, Holland and Belgium.

The physicians are going abroad as the result of invitations extended, through this Association, by the leading medical universities and institutions of the countries to be visited to the medical profession of North America.

The members of the party will sail from New York on April 28th, a few days after the meeting of the American Medical Association at Dallas, Texas, thus, giving the physicians of the party plenty of time to attend this meeting.

Dr. Carl Beck of Chicago, the general secretary for the foreign assemblies is now in Europe completing the clinic arrangements for the assemblies. The clinic cities to be visited are as follows: Paris, Rome, Florence, Padua, Milan, Berne, Zurich, Munich, Vienna, Prague, Berlin, Amsterdam, The Hague, Utrecht, Leyden and Brussels. There will be extension assemblies held in all other principal medical centers of Europe following the main assemblies.

The assemblies are open to members of the profession who are in good standing in their State or Provincial Society with no restriction to territory. This invitation is understood to be extended to the entire medical profession of North America.

Admittance to the clinics and privileges of the tour will be protected by the issuing of an admittance ticket or card. This rule will be strictly enforced in order to protect the Association in its membership requirements, which is, that a physician must be in good standing in his State or Provincial Society. We will not be responsible or admit physicians to privileges unless they are members of the group.

It is necessary in order to hold space for the

assemblies to send to the office of the Managing-Director, W. B. Peck, Freeport, Illinois, the sum of \$65.00 per person. If for any reason the applicant for space decides that he can not attend the assemblies, the money will be refunded immediately, if this demand is made as early as six weeks before sailing time. A booklet of information pertaining to the assemblies and prices for same may be secured free of charge by writing the Managing-Director's office.

The officers of the assemblies are: Dr. Charles H. May, Chief Executive and General Charman, Rochester, Minnesota. Dr. Carl Beck, General Secretary, Chicago, Illinois. Dr. William B. Peck, Managing-Director, Freeport, Illinois. Mr. Reeve Chipman, Manager of Transportation, Boston, Mass.

A second section of the assemblies for a limited number will be conducted during the summer months for those who are unable to take advantage of the April sailing. The members of the party will leave New York S. S. "Pittsburg" on June 19th, return sailing, August 13th from Antwerp S. S. "Zeeland."

The Children's Bureau of the U. S. Department of Labor will issue early in 1925 a set of six charts on posture standards for boys and girls, intended for the use of physicians, nurses, physical-education teachers, and clinics.

Each chart is approximately 24x34 inches. A limited number of the charts are available for free distribution; others may be secured from the Government Printing Office at 50 cents for the set of six or 25 cents for the set of three charts showing standards for girls or the test of three charts showing standards for boys.

SHOULD RETARDED CHILDREN LEAVE SCHOOL.

A large army of incompetents, incapable of making any progress in the industrial world, is the result when children are allowed to leave school on completion of the sixth grade, according to a recent study of a group of Chicago children who were retarded in school and left at the end of the sixth grade. Ninety-five per cent of the children, however were found to be capable of making progress in school far beyond the point at which they left.

BOOK REVIEWS

Intravenous Therapy, its Application in the Modern Practice of Medicine: By Walton Forest Dutton, M. D., Illus. Philadelphia, F. A. Davis Co. 1925.

It is the opinion of most of the thoughtful men in the profession today that the blood stream is a sacred ground where no profane foot may tread excepting it be for an end that cannot be accomplished otherwise. Certain it is that today there are many things given to patients by this route that could be otherwise administered. It may be that some are kept from using intravenous therapy, lest the emoluments of the situation find a way to influence judgment.

There can be no doubt but that intravenous therapy will ever have a distinct place of its own in medicine, with none to dispute; but let us seek to use it with judgment born of the necessities of the case, rather than to find a way to use it as a method of preference.

It is noteworthy that in all extensive chapters describing transfusion of blood, the author fails, except in a mention of two lines, to describe the procedure as a means of treatment of shock. One who has seen this work and its results during the late war as it was done in the hospitals of our army at the front, can but notice this omission. It is the reviewer's impression that the civilian surgeon in the average general hospital habitually overlooks this potent life-saving agent.

Transfusion of blood is a measure done casually or not at all. It is usually too late to secure a suitable donor when the emergency arrives. The maintenance, in conjunction with a hospital of a suitable group of potential donors will cost something, and involve considerable labor. The money expended thereon will not make a show, as in a building; but by this means lives can be saved that otherwise would be lost. If the profession does not appreciate this the laity cannot possibly bring themselves to provide money for such an institution.

The author attempts an alphabetically arranged list of diseases in which the therapy is discussed. In most of these conditions there is only a rare indication for intravenous procedures. It would have been better had these chapters been omitted. They are distinctly below the standard of the first half of the book which gives very admirably the general principles of intravenous technique. The illustrations of the steps of technique are clear and excellent.

J. BIRNEY GUTHRIE, M. D.

Preventive Medicine: By Mark F. Boyd, M. D., M. S., C. P. H. Second Edition Revised. Philadelphia and London. W. B. Saunders Co. 1925.

The second edition of Doctor Boyd's deservedly popular manual on preventive medicine maintains the high standard set by the earlier edition. New material has been incorporated and the scope of the book has been extended in several directions. While the work is brief nevertheless it contains the minimum of knowledge of the subject that should be possessed by the student or practitioner of medicine. It should be useful to one who, having a background, is preparing for an examination in sanitary science. The numerous references are most useful guides for one who desires to follow in detail any of the sub-divisions of the broad subject of preventive medicine.

FRANCIS M. MUNSON, M. D.

Approaching Motherhood: Questions and Answers, by George L. Brodhead, M. D. Paul B. Hoeber, New York. 1925.

The author has chosen an excellent way of bringing to the attention of the prospective mother, the importance of prenatal care. The old belief that pregnancy is a simple accident in life, which requires nothing but patient waiting for the final outcome, would be well erased from the minds of those reading *Approaching Motherhood*, so well written, in a simple language that could be understood by the average mind. Dr. Brodhead should be congratulated in having so well concentrated in this valuable brochure a subject which, though vast, embraces most important questions which should be known by all women. I am glad to emphasize that its simplicity in style and its inexpensiveness should make it possible of being procured by all expectant mothers.

ADOLPH JACOBS, M. D.

Allergy Asthma, Hay Fever, Urticaria and Allied Manifestations of Reaction. By William W. Duke, Ph. B., M. D. With Seventy-five Illustrations. St. Louis. The C. V. Mosby Co. 1925.

The profession has needed for some time a complete discussion and especially an exposition of the clinical manifestations of the phenomena known under the various titles of "anaphylaxis," "serum sickness," "allergy," "protein sensitization," "specific hyper-sensitiveness" and "atrophy." This is now available in Doctor Duke's new book. The volume is divided into two parts, the titles of which are self-explanatory. Part 1 is headed

"A Discussion of Experimental Anaphylaxis, Serum Sickness' Bacterial Allergy, and illnesses in Human Beings Traceable to Specific Hypersensitiveness to Material Agents," Part II "Reactions caused Specifically by Action of Physical Agents, such as Light, Heat, Cold, Mechanical Irritation, Freezing, and Burns, and in the Case of Heat Sensitiveness, Indirectly by the Effect of Mental or Physical Effort." The subject is interesting theoretically and of increasing importance practically to the profession and it is well that physicians be informed upon it. It is not only a common cause of illness, but is a rather frequent cause of severe illness and, in rare instances, even of sudden death. A knowledge of the recent advances in laboratory research and in clinical observations as presented in this book will be of genuine value to the medical practitioner.

FRANCIS M. MUNSON, M. D.

In the second edition of his manual Professor Hirst has brought it quite up to date. It has been reset, many illustrations added, and the text has been increased by some forty pages of new material. The most striking changes and additions are: The Rubin test for sterility, including also the Huhner test; cystoscopy and pyelography, which has been rewritten; the detailed technic for the preparation and use of radium in its various fields; diathermy in gonorrhoeal endocervicitis; and the chapter on endocrine glands. It is an eminently practical book; it tells the reader at least one thing to do for each condition with which he is confronted.

FRANCIS M. MUNSON, M. D.

The Old Time Country Doctor: By William Allen Pusey. Chicago, American Medical Association. 1925.

This reprint of an essay first appearing in the Journal of the American Medical Association, is a most interesting characterization of a type very seldom seen today, but gratefully remembered. The subject in this case is the author's father, and the locality, Kentucky, but the delineation applies equally well to the family physician of yesterday in the memory of each of us, known and loved by the entire community.

MARY LOUISE MARSHALL.

Empyema Thoracis: By Evarts A. Graham, A. B. M. D. Illustrated. St. Louis. The C. V. Mosby Co. 1925.

Professor Graham's monograph is not an attempt to cover the subject of empyema in an exhaustive manner. He correctly states that the principles and not the details are the most important and maintains that if the treatment of empyema is conducted in accordance with the principles discussed in the essay the mortality will be considerably less than that which existed before the recognition of those principles. The newer work done on the subject is discussed in an addendum so that this important topic is brought quite up to date.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

W. B. Saunders Company, Philadelphia and London: Lectures on Nutrition, 1924-1925". "Our Present Knowledge of Heredity, 1923-1924".

Osler's Modern Medicines: Edited by Thos McCrae, M. D., and E. H. Fink, M. D., Vol. 1. Philadelphia and New York. Lea & Febizer. 1925.

The first volume of Osler's—Third Edition—devoted to Bacterial Diseases, Non-bacterial Fungus Infections, and the Mycoses, has been received. It is regretted that the several volumes comprising this valuable work are being published at long intervals and cannot be reviewed collectively.

Volume I covers essentially the same field as Vol. I of the second edition, with the addition of recent knowledge pertaining to the diseases discussed and with the addition, also, of an introductory chapter by Sir William Osler on the "Evolution of Internal Medicine".

The chapter on infectious diseases of doubtful or unknown etiology, which includes small pox, yellow fever, typhus, etc., has been eliminated, to appear, no doubt, in a later volume.

The subject matter has been exhaustively presented and brought as nearly to date as a work of this character will permit.

To those who are familiar with the previous editions, it is needless to offer any further recommendations. To those who are unfamiliar with them, this volume is most heartily recommended.

J. HOLMES SMITH, JR.

A Manual of Gynecology: By John Cooke Hirst, M. D., F. A. C. S. Second Edition. Revised with 195 Illustration. Philadelphia and London. W. B. Saunders Co. 1925.

"Abdominal Operations", Volumes I and II, by Sir Berkeley Moynihan.

P. Blakiston's Son & Co., Philadelphia: "Slit-Lamp Microscopy of the Living Eye", by Dr. F. Ed. Koby. "Memoranda of Toxicology", by Max Trumper, B. S., A. M. "The Book of Prescriptions", by E. W. Lucas, C. B. E., and H. B. Stevens, O. B. E.

Paul B. Hoeber, Inc., New York: "Scoliosis", by Samuel Kleinberg, M. D., F. A. C. S.

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MILK INJECTIONS FOR PELVIC INFECTIONS IN WOMEN.*

GEORGE GELLHORN, M. D.,
St. Louis, Mo. •

The great majority of all diseases of the human race are caused by microbes; and in fact, our entire life is, in a sense, an unceasing struggle of our bodies against the inroad of germs. For thirty years or more our medical thoughts and actions have been governed by the idea of attacking disease by "specific" means, such as vaccines, etc., whereby a direct and selective effect was exerted upon the bacteria. This plan has worked exceedingly well in diphtheria and typhoid, in syphilis and many other ills; but in an even larger number of diseases the results of specific therapy have been either wholly disappointing or, to say the least, uncertain.

NONSPECIFIC PROTEIN THERAPY.

Fortunately, it was discovered more or less accidentally that various proteins, if injected subcutaneously, intramuscularly or intravenously, often exerted a decidedly beneficial effect in many infections even though there was in no case any relation whatever between these agents and the causative bacteria. These clinical observations which soon were supplemented and confirmed by laboratory investigations and

experimental studies, crystalized themselves into a definite form of treatment to which the term "non-specific protein therapy" was applied. Though this novel method has been in existence less than ten years, it has already established for itself a legitimate place in almost every branch of practical medicine; and medical literature contains numerous reports of successful treatment of pneumonia and typhoid, of eye and skin diseases, of arthritis and a host of other ailments.

One need not be particularly sceptical to inquire how it is possible that one remedy or one form of treatment can accomplish equally good results in so many different diseases.

To give an answer to such a question, we must go back to fundamental conceptions and realize that recovery from any disease takes place, in its last analysis, in the diseased cell itself. Here is the battle ground where the ultimate outcome of any infection is decided. If the attacking microbes are too strong, the affected cells will die quickly; and it will largely depend on the nature of these microbes whether or not the rest of the body will be in danger. If, on the other hand, the physico-chemical properties with which all living tissue is endowed and which constitute its natural means of defense, are sufficient to hold the invaders in check or to overcome them, restitution will take place; to be precise, some of the affected cells will succumb, but the surrounding cells form an impassable barrier against further progress of

*From the Department of Gynecology and Obstetrics, St. Louis University School of Medicine, and St. Mary's Hospital.

Read, by invitation, at a joint meeting of the New Orleans Gynecological and Obstetrical Society and the Orleans Parish Medical Society, New Orleans, November 23, 1925.

the infection. Thus does recovery from pneumonia, from typhoid, in fact, from any infectious disease take place.

What we physicians accomplish in our treatment of disease consists largely in aiding the diseased cells to rid themselves of their enemies, in removing unnecessary obstacles and handicaps, in preventing breakdowns in other parts of the complicated and delicate machinery of the organism—in one word, in *stimulating* the natural defensive apparatus of the body. From time immemorial we have tried to do all this, more or less unconsciously, by means of drugs and other medicines. I say “unconsciously”, because this aspect of medicinal treatment as a support of the weakening body cells is only of very modern origin.

More recently, however, the idea of stimulation has found a more deliberate expression in the growing employment of certain physico-chemical forms of treatment such as heliotherapy, hydrotherapy, and electrotherapy. Surely, the encapsulation of tuberculous foci in the lungs as the result of sunlight and air, the limitation of an abscess under moist compresses, the absorption of an exudate in an inflamed joint by means of diathermy can only be interpreted as examples of successful stimulation of affected body cells.

Of vastly greater stimulating effect than any of the procedures just mentioned, is the protein therapy. And further, this protein stimulation is not only more intensive but also more *extensive* and affects the *entire* body. From very recent researches it seems fairly probable that this “omni-cellular” effect is transmitted by way of the sympathetic nervous system. However, while the stimulating impetus is carried throughout the organism, the response to stimulation is not the same in all parts of the body. Healthy cells are least, diseased or weakened cells are most stimulated. This behavior is by no means paradoxical because we have learned from the

physiologists that abnormal cells as long as they are not damaged beyond repair, react to any form of stimulation much more promptly than do normal cells.

To those cells, then, which are engaged in warfare against bacteria, the new and powerful stimulation of a protein injection does what the whip does to the tired horse—it causes a last, determined effort.

EFFECT OF PROTEIN INJECTIONS ON THE BODY CELLS.

This final effort is represented by several important biological phenomena: The nucleus which was near dissolution, regains shape and size; the protoplasm recovers its phagocytic quality which was about exhausted; the intracellular and inter-cellular metabolism is increased, and with the acceleration of the chemical reactions within the cells, antibodies and ferments are poured out which weaken or neutralize the bacterial toxins; and, finally, there is a greater permeability of the vessel walls whereby inflammatory exudates are more readily absorbed. The whole process has aptly been described as “plasma activation.”

All this we know from histological and bio-chemical studies, but there are also outward and visible proofs of plasma activation.

The first effect of the protein injection manifests itself, within a few hours, in the form of the so-called general reaction. There is usually a chill followed by a rise in temperature which may reach as high as 105° F. In some cases there may be only drowsiness, increased perspiration, or slight nausea. After intravenous injections the general reaction is always more intense than after either intramuscular or subcutaneous injections. The fever subsides in from 12 to 24 hours and gives way to a feeling of intensified well being which is noticed by the patients in practically every instance and grows even more pronounced during the course of treatment. Appetite and sleep improve, and the depression of

general malaise disappears. The rise in temperature is regularly accompanied by an increase of leucocytes; 20,000 to 25,000 are by no means exceptional figures, at least after the first one or two injections. This hyperleucocytosis fades away within two or three days, to reappear, in milder forms, after each subsequent injection.

In addition to this obvious response of the whole organism, there is also a "focal" reaction at the site of the inflammation. In superficial infections we plainly see a transitory increase in swelling and redness, and by analogy we may assume that also foci hidden in the depth of the body become more swollen and reddened. This explains why in some cases of pyosalpinx, for instance, the first few injections are followed by increased, but transient tenderness—not at the site of the injection, but within the pelvic or abdominal cavity. On the whole, however, the "focal" reaction is insignificant, and both focal and general reactions, as a rule, diminish in intensity as the infection loses its hold.

Of course, plasma can only be activated if there is still a modicum of regenerative power left in the affected tissues. The duration of the infection, therefore, will have a bearing on the influence of protein stimulation; and practical experience has, in fact, demonstrated that favorable results are more likely to occur, the earlier in the course of the disease protein injections are administered.

MILK INJECTIONS.

The number of proteins which have been used for clinical and experimental purposes, is quite large. In actual practice only a few substances need be considered; of these milk has become most popular since 1916 when Robert Schmidt, of Prague, introduced it into medicine. He preferred it to other proteins because, as he said, it was available even in the remotest village and its producer, the organism of the cow, seemed to him as reliable as any pharmaceutical laboratory.

We have followed the original procedure of Schmidt for more than three years, and only recently modified it according to the suggestion of Graves, of Roanoke.

The technique is now, as follows: Ordinary household milk is rendered fat-free by centrifugation and boiled in test tubes in a water bath for 10 minutes in such a manner that the test tubes do not touch the bottom of the vessel. By first sterilizing the centrifuge tubes and test tubes the probability of imperfect sterilization of the milk is averted. The milk is then drawn through a long needle into a syringe both of which, of course, must be sterile. If the services of a laboratory are available, the fat-free milk may be rendered sterile by pasteurization for one hour at 80° C. on six successive days. Or else, pharmaceutical milk preparations which are marketed in sterile ampoules and under various trade names (aolan, etc.) may be used.

The milk is injected into the upper portions of the buttocks under the usual antiseptic precautions. *Local irritation denotes insufficient disinfection of the skin.* If the injection is made slowly and through a long, thin, and sharp needle, it is painless or practically so. Absorption is speedy and we have never observed an abscess in the thousands of injections we have made.

The initial dose is 5 cc., the standard dose 10 cc. which is reached with the second or third injection and then maintained throughout the course of treatment. In very feeble patients, the first dose may be as low as 3 cc. and is increased only cautiously.

The interval between injections is from 3 to 5 days, in indolent patients occasionally only 2 days. We are guided herein largely by the clinical aspect of the case and the leucocyte count. When the latter has receded sufficiently from its peak, new stimulation is in order. To prevent misunderstanding, the *first* injection is given no matter how high the original count was.

The "general" reaction sets in about six hours after injection. It used to be rather stormy in many instances, but since the employment of fat-free milk it has greatly abated, and chills and elevations of temperature are, as a rule, but slight, though hardly ever totally absent. In the course of treatment, the general reaction becomes progressively less pronounced and requires very careful clinical observation to be detected. Anaphylactic shock need not be feared. Only three cases of this kind have been reported in the literature of the world. It is possible that in these cases the fluid was injected unintentionally into a vein; and it is good practice to make sure that the needle has not punctured a vessel by first drawing up the piston.

"Focal" reactions have been very infrequent in my experience. When present, they disappear after the next few injections.

The treatment requires no hospitalization unless the condition of the patient demands it. In mild cases the injections are given at the office or in the clinic, but the patient is warned to expect a chill and to keep to her bed if necessary.

It may not be amiss to state here, that other tried measures of general or local cell stimulation are not discarded, and that very often the best results are achieved by a combination of these with protein therapy.

MILK INJECTIONS IN GYNECOLOGY.

Of the various infectious diseases of the female genitals, gonorrhœa, or to be more exact, gonorrhœa of the tubes, is the one which responds most readily to protein injections. This is all the more gratifying because the treatment of ascending gonorrhœa, on the whole, is very unsatisfactory. That in very exceptional cases, prolonged rest in bed combined with conservative antiphlogistic measures may bring about a cure, cannot well be doubted; but how infinitesimal this chance is, may be inferred from the immense number of operations which are performed daily or pyosalpinx or its sequellæ. Surgical treatment, again,

offers relief only under certain conditions. I cannot discuss the entire evolution of surgery in gonorrhœa of the appendages, because that would lead me too far afield. But this much must be said here that the removal of one or even both tubes has not solved the problem, and that only the complete extirpation of both uterus and adnexa, in the vast majority of cases, cures the patient. Unfortunately, this radical procedure unsexes her at the same time, and as most of these patients are young girls or women, the prices they have to pay for relief, seems staggeringly high.

It was, therefore, a source of greatest satisfaction to me when, by personal observation, I found the claims of foreign writers confirmed, that ascending gonorrhœa is often amenable to protein therapy. The usual sequence of events in such cases is almost from the start, a decided *subjective* improvement which, after two or three injections, results in complete surcease of pain. The occasional occurrence of a focal reaction with an initial increase of tenderness has already been mentioned. *Objective* improvement is hardly ever delayed until after the fourth injection. Except in cases of very long standing, tubal tumors diminish in size and often disappear completely. Exudates, even those of great dimensions, may vanish without a trace, though in some cases insignificant thickenings may remain. The earlier in the course of the disease the treatment is begun, the more rapid and complete success is likely to be. At times even tumors of long standing respond with surprising rapidity. I have seen stone-hard exudates which cemented the entire pelvis and obliterated all landmarks, melt away after half a dozen injections so that the thickened, but now indolent tubes could be mapped out. In one instance, the tubes which originally had the size of cucumbers, were found soft and patulous on laparotomy two months after treatment. This, to be sure, may happen after the ordinary treatment, but certainly not as quickly nor as often as after protein therapy; for I know of another case of the

same kind in the practice of a friend of mine. Combination with the older and tested means of treatment such as rest, heat externally and internally, glycerine tampons, etc., will serve to hasten results.

I wish I could submit statistics as to the frequency of cure; but after the first 30 cases separate records were no longer kept. By that time I had satisfied myself that tubal gonorrhoea could actually be cured with milk injections, and since then *all* patients with tubal involvement were subjected to this treatment. If not relieved, these women could still be operated upon; but it may be stated that in the hospitals under my control, operations for pyosalpinx have become as infrequent as they used to be numerous in former years. Instead, such patients are now injected in the clinic, and they are usually lost sight of, when they feel relieved and able to work again. This instability of clinical patients makes accurate statistics so impractical. It may be that some such patients drift into other hands and undergo operation later. In private patients, however, supervision is, as a rule, easier and more complete, and for these I can vouch for definite cure in a number of cases. Or, if there was no complete disappearance of the tubal tumors, there was at least a condition which, as far as well-being and ability to work was concerned, amounted to a cure. In one case there was, after six months, a return of tubal swelling and exudate which again yielded to milk injection, and since this patient has been protected from reinfection by her widowhood, the cure has now lasted for several years.

I am very far from claiming that every patient with ascending gonorrhoea can be cured, for I myself have observed a number of refractory cases, but I feel very strongly that protein therapy should be tried in every instance, as it, in no wise, compromises later operation.

Gonorrhoeal bartholinitis is, likewise, favorably influenced by milk injections. In several cases of this sort the swelling of

the gland which had not yet assumed extensive proportions, subsided promptly after two or three injections. In one instance, the inflammation recurred in pregnancy but could be kept in bounds by injecting small quantities around the periphery of the swelling. On the other hand, I have under my care at this moment a young woman with subacute gonorrhoea and an abundance of typical gonococci in both the urethral and cervical discharges, in whom milk injections could not forestall the appearance of a large bartholinian abscess which required incision and drainage.

Such failures merely indicate to my mind the limitations of the new treatment, a fact which should curb an injudicial over-enthusiasm. Even at this early stage of our knowledge it has become apparent, that not all parts of the genital tract are equally benefited by protein therapy. The ovaries, for instance, seem to be entirely unresponsive. Bladder and uterine body respond more readily, while the infection in Skene's ducts and the glands of the cervix, as a rule, remains uninfluenced. Only in two cases of frank gonorrhoea have I seen the infection of the cervix clear up completely after milk injections alone; in all other cases, additional local treatment was needed.

Of other, non-gonorrhoeal affections, genital and peritoneal tuberculosis is claimed by continental writers to yield to protein therapy. I have no personal experience on the subject and would attempt milk injections only after I had made sure that the lungs were clear lest the treatment would cause quiescent foci in that locality to flare up.

In one case of large pyometra following radium treatment for inoperable cancer of the cervix, and in another of lochiometra after cesarean section with excessive fever, I have seen results from milk injections so prompt and convincing that coincidence might well be excluded.

I have observed the complete disappearance of two large pelvic abscesses after five and eight milk injections, respectively. One case resulted from an attempted abortion with slippery elm tents; the other occurred after perforation during curettage. In both instances, there was hyperpyrexia and hyperleucocytosis, severe peritoneal reaction, and a fluctuating tumor which extended almost to the umbilicus above and bulged deeply into the posterior fornix below. I refrained, in these two cases, from the logical treatment, namely, incision and drainage, merely to test the then new method of protein therapy, and I was immensely gratified by the signal success achieved. Of course, this does not mean that the surgical emptying of an abscess is now obsolete.

As a general proposition, however, it may be stated that in all gynecological diseases of bacterial origin a trial with milk injections might well precede any surgical treatment. Even if no cure results, there can be no harm from it; on the contrary, the general condition of the patient is bound to be benefited.

MILK INJECTIONS IN OBSTETRICS.

This applies, with equal force, to the use of protein therapy in the realm of obstetrics. Is it necessary to point out how peculiarly helpless we are in the treatment of the various forms of puerperal infections? There we have no reliable specific therapy at our disposal, and our only hope lies in the natural power of resistance of the organism, in the ability of the infected cells to defend themselves. How often this natural resistance fails is expressed in the thousands of women who die every year from childbed fever; how often it is insufficient, becomes manifest in the vastly greater number of women whose life-long ills were caused by a puerperal infection. It is not to be expected that this mortality and morbidity can ever be wiped out by any remedial agent, but it may be hoped that their percentage can be reduced if by

proper cell stimulation at the right time, the weakened organism receives support which may help to turn the tide of battle. The logical conclusion, therefore, is to begin the protein therapy as early as possible and, if feasible, to commence injections in any and every puerpera as soon as fever occurs. It is needless to say that many a feverish patient might be treated unnecessarily for we know very well that a rise of temperature often occurs without tangible cause and subsides spontaneously after a short while. The new blood sedimentation test, may, perhaps, forewarn us in time, but on the whole we are unable to foretell future developments in a case of fever after childbirth; and so long as this uncertainty exists, a little extra caution is surely not out of place and far from being meddlesome. Several writers have even gone so far as to inject proteins prophylactically in all cases where a febrile puerperium might be expected from the nature of the confinement. Personally, I have every reason to value the effect of milk injections in all puerperal infections, mild or severe; and an occasional disappointment has not been able to shake my conviction. One only needs steer a middle course between the two extremes of boundless enthusiasm and sceptical nihilism to realize that complete exhaustion of the infected organism prevents response to any stimulation, and that dead or dying cells are incapable of any restitution.

Neither should one restrict the treatment of puerperal infection necessarily to this one new form of plasma activation, but other means of stimulation such as sunlight, fresh air, alcohol, strengthening food, etc., should also be employed.

Of other febrile complications in the puerperium, I have seen very prompt relief by milk injections in several cases of pyelitis. In three cases of mammary abscess milk injections were made after incision and drainage, and I had the distinct impression that the extensive cavities cleared and filled up much more quickly than usual.

CONTRAINDICATIONS.

No remedy and no treatment is applicable in every patient. Protein therapy is strictly contraindicated in cardiac decompensation, diabetes, and alcoholism, perhaps also in pregnancy though sufficient evidence is not yet available. In quiescent pulmonary tuberculosis I would hesitate to use protein injections lest the pathologic process be made to flare up. Petersen, of Chicago, whose name cannot be omitted in any discussion on protein therapy, enjoins great caution where there is a history of hypersensitiveness on the part of the patient (serum sickness, asthma, urticaria, angioneurotic edema) or of epilepsy or other grave nervous instability. Most important, however, are the state of the disease and the condition of the patient. It cannot be said too often that in an advanced stage of an infection protein stimulation is unable to revive hopelessly damaged cells, and that, if applied in an utterly exhausted patient, it may even hasten the end.

Lack of personal experience prevents me from expressing an opinion on proteins other than milk, but various writers have reported encouraging results with whole blood, different kinds of sera and vaccines, casein, etc.

OUTLOOK.

The foregoing remarks have barely been more than a preliminary report. There is work for all of us to do in developing the latent possibilities of this new mode of attack on disease. Milk has seemed highly satisfactory; but there is no gainsaying that another protein substance might not be better in this or that type of infection. Nor is it at all unlikely that one substance might be found to be more efficacious in the beginning of the treatment and another later on. The dosage is still rather arbitrary and influenced by that curious subservience to the magic of numbers (5 cc., 10 c.c.) to which we habitually pay so much

attention; a greater refinement in determining the dose might well be expected in the future. Mistakes in the proper selection of cases for protein therapy will undoubtedly grow less frequent with increasing experience. One will be careful not to subject any and every case to this treatment, merely because little harm can come from it; and, even more important, one will be cautious not to bring discredit upon a valuable procedure by resorting to it in terminal stages of a severe infection or in patients who already are past the chance of recovery.

The conquest of disease by plasma activation opens up a veritable new land that we may explore with the optimism of hope and enthusiasm. Failures there are and will always be; but have failures ever deterred a true explorer?

SUMMARY.

1. Nonspecific therapy of inflammatory diseases consists of the subcutaneous, intravenous or intramuscular injection of protein substances which are in no wise related to the causative bacteria.

2. Protein substances, thus introduced "parenterally", have the faculty of activating the protoplasm of all cells in the body and, particularly, of those cells which are engaged in warfare against the invading microbes.

3. This plasma activation serves to mobilize the natural defensive powers of the organism and to overcome the infection.

4. Of the various protein substances recommended, milk is most easily available and at the same time highly efficacious.

5. The method of sterilization, the mode of administration, and the proper dosage are described in detail in the foregoing.

6. In the field of gynecology, gonorrhoeal infection of the tubes and Bartholin's glands is most often amenable to protein therapy; in other locations of the infection the therapeutic result is less conspicuous.

7. Non-gonorrhoeal inflammations of the genital tract are also often cured by this treatment.

8. In the realm of obstetrics, puerperal infections, even of severe degree, frequently yield to nonspecific therapy with surprising rapidity.

9. In spite of its wide applicability, there are definite contraindications to protein therapy.

10. The new method is still in its earlier stages and capable of further development.

DISCUSSION.

Dr. H. W. Kostmayer (New Orleans): I listened with a great deal of interest to Dr. Gellhorn's paper which, he says, opens up a small field of study—but it strikes me he has opened up quite a large and interesting field of thought, and I shall endeavor to try and work out this method in the future.

Gonorrhoea of the female tubes has always struck me as a particularly hopeless situation. In fact, I can recall so few instances in my experience where gonorrhoea of the female tract has resulted in anything but loss of tubes, at least, that it pleases me beyond expression to know that there is something that we can hope to have relieve this situation. The loss of the tubes themselves is bad enough but it frequently follows that not only the tubes are sacrificed but complete unsexing of the individual is necessary.

And so, as I have stated, I am going into this method with a great deal of enthusiasm. The results as reported by Dr. Gellhorn are striking—so striking with a new method that in time we can expect great improvement in our technique, as well as in results.

Dr. W. A. Reed (New Orleans): I have been using milk for about two years in the treatment of gonorrhoea, not only in the female, but in the male. The preparations I have used have been of the proprietary preparations put on the market under the names of "Lactigen," "Aolan," etc., and I believe I am correct in stating that my results seem to have been good, and maybe better, than with the use of vaccines.

One thing which I have found in the use of milk has been the frequent immediate relief from pain in cases of epididymitis especially in cases one sees in the office, and suffering intensely. Almost immediate relief frequently results if given intra-

dermally. The dose is small, 2 c. c. being the average dose given intradermally, in two or three weeks. I have seen patients come into the office in excruciating pain and hardly able to walk, and after this treatment able to walk out comfortably. The relief is sometimes permanent, and at other times they are relieved for 8 or 10 hours, after which they receive another injection of milk.

The intra-muscular use of it: I have not had enough cases to say whether better results are effected than from vaccines. The milk injections intradermally have given good results and I shall continue to use it as long as it is effective.

Dr. C. Jeff Miller (New Orleans): I should like to ask Dr. Gellhorn whether he has found the milk injections of more value in the acute or the chronic cases. Also in cases which were subsequently operated upon, was the pelvic pathology found different in any way from cases which had not been treated by this measure?

I should also like to know what ingredient of the milk he considers causes the reaction and the favorable changes in the patient's condition. There has been considerable discussion on this point, because milk is such a complex solution that no conclusion has been reached as to what really is the potent agent. Does the casein cause the favorable result, or is it the dead bacteria?

Dr. A. Mattes (New Orleans): I can reinforce the statement made by Dr. Reed relative to the value of milk injection in gonorrhoea in the male. I have found this treatment effective in fulminating acute infections of the prostate and in polyarthritides, and gonorrhoeal rheumatism, as well as epididymitis. It has proven of value, in addition to the use of other measures commonly employed.

Dr. E. L. King (New Orleans): I would like to ask Dr. Gellhorn about the use of milk injection in the care of blood stream infections in puerperal cases, e. g., streptococcal infection with no local lesions.

Dr. Ludo von Meysenbug (New Orleans): I would like to ask Dr. Gellhorn if he has noted whether or not these patients were sensitized to milk, so that they could not drink it later on?

Dr. George Gellhorn (St. Louis), closing: Dr. Reed has used milk and vaccines in male and female gonorrhoea with about equal success. I have no personal experience with men, but I have found, together with practically all gynecological authors, that the results of vaccines in gonorrhoea of women and children are disappointing.

Dr. Jeff Miller wanted to know if acute or chronic infections are best influenced by milk.

Theoretically, one should wait for the probable outcome of the fight between the cells and the microbes. Perhaps, there might be no need for help. But in gonorrhoea the outcome is all too certain: the gonococci will win out in every case. There is, therefore, no reason to wait until the acute stage has passed. In fact, I believe this to be the best course in all severe infections, all theory to the contrary notwithstanding. The clinical observation can not be argued away that, the earlier treatment is begun, the better are the results.

I do not know which particular constituent of milk is the decisive, stimulating factor. It has been claimed that casein performs this particular service. The great disadvantage of casein, to my mind, is that it has to be injected intravenously, that reactions after each injection are very severe, and that instances of serious anaphylactic shock have been observed. Whole milk, on the other hand, may be somewhat of a shotgun mixture, containing, as it does, a number of substances, but it seems to work well and apparently even better than some of the pharmaceutical products. I have never believed that the intensity of the general reaction had any relation to the final result, and, in fact, since we have been using fat-free milk, we have gotten away from high temperatures and severe chills and, yet, our results are as good as before.

Dr. Hilliard Miller mentioned adhesions. These are not influenced by protein therapy. You may be able to prevent them by instituting treatment at any early stage, but after they are once formed, milk injections, I think, will not remedy them. This is the reason why I had to operate on the two cases which I mentioned in my paper. In one of these cases, the entire pelvis was "cemented" by a massive exudate within which no landmarks and no organs could be outlined. Of course, such an exudate can only be the sequel of diseased tubes. After two months of protein and absorbent treatment, the pelvis was entirely clean but the uterus was still in fixed retroflexion, and operation proved the softness and patency of the tubes.

Let me, however, emphasize again the fact that there are also failures, and stress the point that protein therapy is not a panacea.

Dr. King mentioned blood stream infection. Some twenty years ago it was suggested to inject weak formalin solutions intravenously, and more recently mercurochrome and other antiseptic substances have been recommended. I believe that the conception of thus killing bacteria in the

circulating blood, is fundamentally wrong. If the antiseptic used is strong enough to kill the bacteria, it will also kill the patient. To my mind, the success of mercurochrome, in its last analysis, is nothing but cell stimulation, and you should be able to accomplish the same result with milk injections or blood transfusions, or some other protein substance which is less poisonous than any antiseptic solution.

I have not yet observed conception following milk injections for pelvic infections, but I believe that a few cases have been reported in Germany.

Dr. von Meysenbug brought up the interesting question of possible aversion to milk by mouth after parenteral milk injections. The thought was new to me and I do not think that I have seen it mentioned anywhere; but I shall certainly pay attention to this point.

In closing, let me say how much I have enjoyed the privilege of being with you, and how much I appreciate the kind words of your President, the generous discussion, and your hospitable reception.

THE CONSERVATIVE TREATMENT OF PUERPERAL INFECTION.*

C. JEFF MILLER, M. D.,

NEW ORLEANS.

I realize that in bringing before you tonight the question of puerperal infection I am presenting a hackneyed theme, but I make no apology for my choice of subject; at one time or another we all of us, surgeons, medical men and pathologists, as well as obstetricians, have run foul of it, and also I know of no condition whose pathology is more hazy and concerning whose treatment such differences of opinion exist.

In view of the fact that it is generally claimed, at least by the individual practitioner, that the principles of aseptic and antiseptic midwifery are rigidly applied today, it would seem that the mortality and morbidity resulting from abortions and full term labors would be materially re-

*Read before the Orleans Parish Medical Society, November 23rd, 1925.

duced, but a review of statistics will at once reveal that this is very far from being the case. We have improved our results along many lines, and of course we no longer see epidemics of childbed fever or other gross manifestations of indifference to the cardinal principles of asepsis, but the puerperal woman still furnishes a most distressing morbidity and mortality.

The tragic feature of this situation is that it is almost entirely preventable. In the face of the occasional case, delivered by a skilled accoucheur, in a well equipped institution, according to the most approved methods and with every possible precaution, which still develops infection and even terminates fatally, I would not dare to affirm that every case of puerperal sepsis could be avoided. On the other hand, I need not point out to you that prophylactic measures give the best results and that the most successful treatment for puerperal infection, so to speak, is its prevention, which in the ordinary case can easily be achieved by a strict asepsis and careful technique. To name only a few simple precautions which will aid in keeping down the number of infections following delivery, I would list these: strict attention to existing intercurrent diseases or pre-existing infections of the genital tract, notably chronic leukorrhœas, as well as foci of infection elsewhere in the body; avoiding traumatism of the tissues by rough manipulations; the substitution of rectal or external examinations for internal ones; preservation of the membranes intact as long as possible; the employment of forceps, version and other operative measures only on the strictest indications; no douching during labor; normal, physiological separation of the placenta, with manual extraction done only in the presence of active hemorrhage; immediate repair of lacerations. If these points are borne in mind the number of infections, as I have said, will certainly be materially reduced. It is not my intention, however, to dwell on this phase of the subject, important though it be; what I wish to consider is the treat-

ment of puerperal infection when it does occur, as it unfortunately will until the medical millenium arrives.

The etiology and pathology of puerperal sepsis are not within the province of this paper, but a few facts may well be emphasized upon which the rationale of our treatment is largely based. The new conception of puerperal infection, in the first place, is that it is a true wound infection, which is primarily a local process, and which differs from infections elsewhere in the body only in the predominance of certain types of bacteria and in the fact that larger areas are likely to be involved because the extensive vascular system and the numerous lymph channels of the pelvis take up and disseminate the process.

Blood stream infection is always at some stage a local process, extension of which may take place by simple continuity of tissue, by the lymphatics, or by the veins, with results which vary all the way from a simple involvement of the uterine mucosa to a true blood stream infection. The clinical manifestations are frequently the same for widely different types of infection, but as a general rule we may say that the less virulent organisms are inclined to produce purely local lesions, while in the more serious forms there is usually no local lesion to be established by any diagnostic method, a fact which should at once create the suspicion that grave pathology must be dealt with. I might say, too, in this connection, that the old classification of sapremia has fallen into rather general disuse, for the reason that many of the bacteria formerly classed as saprophytic have been shown capable of living in the tissues and of causing blood stream infections.

Last of all, and I cannot emphasize this point too strongly, any infection of the genital tract, no matter what its type, is potentially a general systemic infection, and injudicious management is perhaps the most frequent cause of bringing about this untoward result.

A word as to our standards of classification. You are all familiar with the type of physician who avers that he has never had a case of puerperal infection. What his criterion is I do not know, but in my own service, as in that of any well organized clinic, any case which presents a temperature of over 100.5 for more than 24 hours is considered puerperal infection until it is proved otherwise. This may seem an unnecessarily arbitrary rule, but unless it is strictly observed a high percentage of morbidity will be the inevitable result, and extension of the infection on the service is a grave possibility. Intercurrent disease will prove responsible for possibly 30 per cent of the mild temperature elevations. In other instances the patients will recover spontaneously, with no demonstrable lesion at the time, but I have found many times in both my private and hospital work that these are the women who eventually present themselves with a history of sub-involution, chronic salpingitis, secondary sterility, or similar allied conditions, most of which, I firmly believe, are directly traceable to mild puerperal infections which were unrecognized at the time of their occurrence.

Bearing these principles in mind, then, what should be the treatment of the definitely infected case? It should be primarily a policy of non-interference. The surgeon with a zeal for the knife, the obstetrician with a passion for meddling, should not undertake to handle puerperal sepsis. I do not hesitate to say, given the two alternatives, that more women have died because of active local treatment than because of no treatment at all, for in the last analysis the woman who recovers from a blood stream infection does so by producing her own immunity against it. Our entire treatment, therefore, should be based on the idea of helping the patient to produce this immunity.

We believe in routine pelvic examinations at intervals of 2 to 3 days, but we are extremely chary about invading the

uterine cavity. In fact, if the uterus is well contracted and the cervix closed, we never invade it, even for the collection of secretions for cultures, which, by the way, are of more value from a prognostic than from a clinical standpoint. If the uterus is soft and boggy, the os patulous, with portions of placenta and membranes extruding, or if free bleeding exists, some interference is necessary, but even here excessive caution is the rule. The debris is gently removed with the gloved finger or occasionally the sponge forceps, or else a firm vaginal pack is inserted and supplemented by pituitrin repeated as indicated, for I have found this drug a very valuable agent in such conditions. Often the cavity may be emptied by this method in the course of a few hours.

Free drainage is in practically every case secured by such means, with the addition of Fowler's position. We never use rubber tubes, we never pack the uterus itself with gauze, and we never under any circumstances use the curette on our service. If you will recollect what microscopic study of infected uteri reveals you will see at once the folly of such measures. There is first a layer of necrotic material, then a zone of leukocytic infiltration, and underneath these the normal structures. Now instrumental curettage or other active measures of a like nature will remove the debris undoubtedly, but will also remove the protective barriers which nature has set up, and to my mind they are always both ill-advised and positively dangerous. In fact, DeLee says that curettage of the uterus in puerperal infection is like raking over a ground which you have previously sown with seed.

Intrauterine irrigations of any sort are prohibited for the same reason. Unless they are given synchronously with the first appearance of the infection, which is manifestly impossible, they are useless in view of the rapidity with which bacteria travel, and it has been definitely proven also that such methods frequently cause a bacteremia in the blood stream, which unfortu-

nately is not always a temporary affair. It is evident, therefore, that if they are given for local conditions they may cause an extension of the infection and do positive harm, while if they are given for systemic infections they are obviously useless. Pure alcohol injections by the Carossa method, antiseptic solutions and the like have the added danger inherent to their composition, and so far as I know they are not advised by any authority of note today.

Blood cultures should be taken at the beginning of the temperature elevation and at its height, and repeated frequently, since a single culture, unless positive, proves nothing. They are valuable from a prognostic standpoint, but in my hands the results have been disappointing, since positive cultures are so seldom obtained, even in the face of unmistakable clinical evidence of an overwhelming septicemia.

Surgery in the treatment of these infections should be limited by very strict indications. Pus collections in the pelvis are evacuated either through the vagina or at Poupert's ligament, according to their location. Exudates are seldom disturbed, though an occasional puncture in the selected case may hasten resolution. If tubal or ovarian abscesses develop, surgery must be done ultimately, but temporizing measures should be adopted until the acute symptoms subside, as laparotomy, in view of the virulent nature of many of these bacteria, is a serious and dangerous procedure. Hysterectomy is no longer advocated, and I personally have seen few cases in which I considered it justified. If the infection is a local affair, the mutilating operation is as a usual thing entirely unnecessary; if it has become systemic, local surgery is useless, and the shock of operation and the consequent blood loss often taxes the patient's reserve strength to the limit.

Sera and vaccines have been largely disappointing. The anti-streptococcic serum, when it was first introduced, was hailed as a panacea, but it has proved useless except

in the occasional case, probably because of the many different strains present. It must be said for it, however, that it apparently does no harm, and for this reason its use is justifiable if other measures have failed. Practically every attempt to destroy bacteria in the blood stream by chemicals has also ended in disappointment, for the reason that a solution strong enough to destroy the bacteria usually does irretrievable damage to the tissues and organs also. This is true of them all, mercury preparations, salvarsan, formaldehyde, colloid silver salts, and the latest to be tried, gentian violet and mercurochrome. I have had little experience with injections of sterile milk, but I believe they are of value in the early stages of systemic disease, though less useful in the chronic types. Dr. E. L. King, my associate in the service at Charity Hospital, has been an ardent advocate of blood transfusions for some years, and I have seen good results in selected cases, in small, repeated doses, but here again we have not found the universal remedy we are in search of.

So much, then, for special measures, most of which, you will note, have been discarded as failures. Our main reliance is on general treatment. In the first place, all of these patients belong in hospitals. The primary treatment is absolute rest, with Fowler's position, as I have said, to facilitate drainage. Opiates and sedatives are given sparingly as indicated, and ice caps are used over the abdomen for pain. High temperature is reduced by ice caps, cold sponges, possibly cold rectal irrigations, and only very occasionally by antipyretics. Nourishment is given at frequent intervals, and in severe cases the fluid balance is maintained by saline and glucose drips, hypodermoclysis, and infusions, sometimes of the continuous type. The patient is kept in the fresh air and sunshine as much as possible, and our endeavor, as you see, is always to build up her resistance and preserve her strength.

I have outlined to you, necessarily with brevity, the treatment for puerperal infection which I have found to be most effective in my private work, where, of course, such cases are very few, and also in my service at Charity Hospital, where we naturally encounter this condition in its gravest forms. That the method has real merit is proved by a review from that service of a recent 3 year period, where we achieved a net mortality of only 2.6 per cent. DeLee, to give only one other instance, quotes an even smaller mortality, 9 deaths in some 2,500 infections of various types. These results have never been equalled by the advocates of active, radical measures, and in view of them I have no hesitancy in urging upon you without qualification the conservative policy of non-interference in puerperal sepsis.

THE DOCTOR'S RESPONSIBILITY TO MOTHERHOOD.*

R. M. ADAMS, M. D.,

TUPELO, MISS.

Woman is Heaven's last best gift to man—and motherhood, the crowning glory of woman, is her loftiest achievement.

Child bearing is the world's greatest industry, but it is evident that too many become discouraged with the first product. One child sterility is a misfortune to any home and a calamity to any nation.

Napoleon once said, "What France needs most is mothers." Child-bearing is the supreme need of France today. Before the war her birth rate was far below her death rate and she was confronted with the necessity of giving a bonus to all families with more than two children.

The maternal tendency of modern American homes is not any too encouraging. Fifty years ago the average number of chil-

dren in New England families was six, now it is barely two. In the language of Napoleon, what America needs most is mothers. Another condition that stalks abroad in the land (and not in the night, as did the ghost of Macbeth and Sherlock Holmes) but in the noon day splendor of preventive medicine, is the terrible foetal and maternal mortality and morbidity that attend motherhood, and all because they have not their birth right prenatal care and efficient supervision in the function of motherhood, 90% of which should be normal. Childhood, the world's greatest asset, must be conserved. Dr. Hirst claims that 25% of all foetal life is lost before birth. Dr. Cook observes that 25,000 infants perish within the first four weeks of extra-uterine life. Another eminent authority states that 75,000 children die annually in the United States from lack of proper supervision in birth. An appalling mortality!

Mississippi lost 3,000 children under one year of age in 1924, and 400 mothers from the effects of pregnancy and labor. A functioning full-time health service in all of her 82 counties, with a maternity and infant hygiene program would have saved 2,000 of those children and a majority of the mothers. This is our reasonable service and a goal that we should reach in full measure. The doctor has a great opportunity for service in banishing the melancholy statistical record revealed by those who have studied the situation of present day childhood.

Mothers fare even worse than babies in this human wreckage. In 1918, 2,300 women died in the ordeal of child-bearing. DeLee stated recently that 25,000 mothers die annually in the United States during childbirth; 6,000 from infection, 5,000 from eclampsia, 4,000 from hemorrhage. It is perhaps safe now to approximate from the direct and indirect effects of pregnancy and labor a gruesome mortality total of 40,000 mothers. The number wounded, no one can estimate. For the immense amount of

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invalidism resulting from child-birth is unmeasurable; but we know that thousands of our women flock to our hospitals every year for the repair of injuries and the treatment of diseases contracted in pregnancy and labor.

The morbidity incurred in the functioning of present day motherhood is perhaps not less than five times the mortality; this means approximately 200,000 life long invalids in the United States annually. The bulk of gynecological surgery is the result of poor obstetrics. Fifty per cent of all mothers bear marks of injury sustained in the battle of child-bearing. These injuries jeopardize the joys of motherhood, they cripple the efficiency of the home-keeper, they weaken the hands that rock the cradle and that rule the nation. This mortality and morbidity is second to tuberculosis in women of this age.

May we visualize our field of service in this conservation of life! Concentrate if you will this human wreckage into one locality 125,000 lives lost and 200,000 invalids the result of a scourge that the medical profession could control, would we not bestir ourselves to correct and prevent such a calamity and hasten to salvage this waste of life with an altruistic enthusiasm characteristic of our profession? A full-time health service, with a maternal and infant hygiene program, and efficient obstetrical supervision in labor would prevent 85% of this appalling wreckage.

The universal opinion of those who have studied the situation is, that a large percentage of the deaths and life long misery incident to child bearing is preventable. Why is it not prevented? Because the public is not properly informed, because the laity does not appreciate the necessity of pre-natal care and child welfare activities, because the legislators and supervisors, who make appropriations for the promotion of health activities have not the encouragement from their constituency adequately to sustain health work, and our standards of

obstetric instruction and obstetric practice are too low.

Our schools, our hospitals, the public, our medical associations, and the doctors themselves, do not give the high art of obstetrics the proper consideration and esteem. As a result the child-bearing woman has not the proper pre-natal care and training, and in the ordeal of motherhood many of them are left to the young, the inexperienced, the incompetent doctor, and most of them to the ignorant mid-wife.

Sixty per cent of all births are conducted by midwives, most of them ignorant negro women. We have more than 4,000 of them in Mississippi. We would like to get rid of them but that is impossible. Midwives have been in the world since the time of Moses, and they are here to stay, for many years to come. Their improvement in service has not been commensurate with their increase in number; nor with their length of history. Miriam no doubt had a better morbidity and mortality record than her modern sister, the midwife of today. So for the sake of suffering motherhood, and that we may conserve childhood, the greatest asset of civilization, we must help them. We must educate them, we must regulate them, we must supervise them; and as difficult as it may seem, this is perhaps more easily done than the regulation and teaching of the uniformed doctor. Who is responsible? Who must take the initiative? Here as in every accomplishment of preventive medicine in the past, the doctor has a wonderful opportunity for altruistic service.

Nowhere can the doctor accomplish so much in the prevention of diseases and accidents and likewise reduce the staggering data of mortality and morbidity, as in the skillful practice of obstetrics.

Where shall this work begin? With the doctor himself. He must visualize, he must equip himself for efficiency, commensurate with the scope of obstetric practice, he must demand the same high ideals attained in

surgery and other branches of medical art. He must have a broader conception of his profession, he must appreciate more his opportunity in this field of service, and he must recognize more forcibly its corresponding responsibility. Efficiency will give obstetrics the dignity it deserves and place it on an elevated plane. Then more people will employ the doctor instead of the ignorant and incompetent midwife, and she will spontaneously disappear. The public will appreciate and value obstetric service and legislators will take care of preventive agencies. Pre-natal care will be properly sustained and all these welfare agencies will reduce the horrible mortality and invalidism incident to child-bearing.

Statistics show that neither mortality nor morbidity that attend motherhood have been reduced within the past decade. The committee on maternal welfare of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, headed by Dr. Fred L. Adair, of Minneapolis, is taking steps to enlist nation-wide education to reduce maternal mortality. It is humiliation for them to face the fact that the United States is third highest in the death rate from sepsis and eclampsia.

The International Year Book of Child Care and Protection, recently published, gives emphasis to the fact that the United States has a higher rate of maternal mortality than any other of the principal countries of the world; and that pregnancy causes more death among women from fifteen to forty years of age than any other disease except tuberculosis. The capacity of the human race for blundering in carrying out rules in preventive medicine and the stupidity of the public are great problems that confront the medical teacher and welfare worker of today. We must concentrate our best efforts in pre-natal care and teach practical methods in obstetrics than can be used in the home and in the huts, where most children are born.

We shall note a few of them: Labor is a normal function in 90% of all cases. Therefore the annual mortality of 40,000 brave mothers in the United States, and the morbidity of perhaps 200,000 from infections and injuries caused by needless vaginal examinations, instrumentations, etc., can be prevented and must be prevented. The birth canal of 90% of all women should not be touched by the doctor. The way to prevent infection of a patient during labor is to never enter the pelvic region for any reason, except the most direct indication for interference. Vaginal examinations under the best technique are not safe. Every time we introduce anything into the birth canal, we subject the woman to a chance of infection.

Recently in Hopkins Clinic they ran a series of cases, preparing every other woman, and letting every other woman go unprepared. They were astonished to find that in the series of women who had no preparation, there was less infection than in the series of those who were prepared by the usual technique. The answer to that probably is, that the preparation carries infected material from the vulva into the vagina. No one will dispute that the vulvar region is always contaminated with colon bacilli, the chief ones we have to fear, from the patient's own skin. The doctor should refrain from touching this unclean organ in the 90% of cases, and the male accoucheur is perhaps more prone to this fault than the midwife. Aseptic preparation and gloved hands will not always prevent carrying infection into the birth canal. It is an exceedingly difficult matter to get a culture from the cervix or uterus without carrying up contamination from below. If a diagnosis can not be made by palpating the abdomen, an examination per rectum may give the desired information. Again, may I say, if we are to prevent infections, we must refrain from needless vaginal examinations and needless instrumentation.

Eclampsia: "The Disease of Theories." One authority summarizing, tabulates 15 theories of pregnancy predisposing eclampsia. I haven't the time here nor the inclination to discuss these theories or the treatment of eclampsia, except to plea for conservative surgical interference, and only when indications are positive. Knipe and Donnelly of Edinburgh, who studied a series of cases over a period of five years, found that the mortality was 50% less in the cases treated with medicine than those cases treated by radical surgical procedure. Edgar states that eclampsia in all cases is preventable. We should encourage every preventive agency in pre-natal care, pregnancy hygiene, examination of the urine regularly, taking blood pressure often, treatment for pyorrhea, diseased tonsils removed, clearing up of all focal infections, and careful dieting. Eclampsia should not occur once in a thousand cases with intelligent pre-natal care. Dr. Speidel in 27,000 cases of labor with prenatal care, reports not a single case of eclampsia in his hospital in two years. Dr. Litzenburg gives a similar report and adds, "The only objection I have to pre-natal care, is that it destroys our eclampsia clinics." Save the 5,000 mothers who die annually in the United States from eclampsia.

Our most eminent authorities agree that something must be done to stem the tide of obstetric operating, now so prevalent with its resultant maternal and foetal mortality. The expert, the well equipped accoucheur and the skilled surgeon may extend the indications for radical interference, but at present the general practitioner conducts the largest number of births in the homes and in the huts of the land. Non-interference with the natural process of labor, and watchful expectancy finds the best results. The lines should be very closely drawn on the indications for cesarian section, forceps delivery, podalic version, bag dilators, pituitrin and other therapeutic agents to hasten labor. Hypophysical extract is the most universally used therapy of force to expe-

dite labor and is likewise the most dangerous. Untold damage to babies and many gruesome tragedies to mothers have followed in the wake of its popularity. No well informed accoucheur will forego the danger of pituitrin to force labor. The modern doctor must be progressive without being too radical. The spectacular in surgery, the impatience and hurry of this strenuous age, endanger the lives of mothers and babies, menace the great science of obstetrics, and it is liable to become a lost art. Doctors, let us give nature a chance in the greatest of all functions, Motherhood. "Nature has done her part, let us do ours."

While obstetrics is the most difficult and the most arduous of medical practice, it is the most satisfying, and the ideal of service may there be obtained in the conservation of health, the salvage of human life, and in the enhancement of the joy of the one who gave us our being, and in the agonies of death, brought us into the world. *Our Mothers!*

DISCUSSION.

Dr. Joseph E. Green (Richton): I think sometimes if we had more discussion of these papers we would get more ideas to carry back home. One thing is true, and that is that the majority of our women are delivered by midwives. The Doctor hopes the day will come when we will have no midwives, but I do not look for it. The majority of our people are negroes and we do not want to wait on them and therefore they have to have midwives. They are necessary evils and the thing we must do is to educate them. If the doctor is going to wait on these women we must have fewer babies and more doctors. The trouble is the doctors over the state are not getting rich, they are just barely making a living. The only thing I can see to do is to educate these people. You can lead a mule to water but you cannot make him drink, but if you do not get the mule up there the first week, try again. We have been working for months to get a health nurse, and if we do not get her this year we will try it again next year. That is the idea. Let us think of this problem as it is. I do not consider the midwife a nuisance, or if she is a nuisance she is a necessary nuisance. The poor folks cannot pay the

\$25, but if we would educate the midwife we will do a good work.

As to this thing of staying entirely away from the pelvis, I do not do it—I doubt if the Doctor does it himself. It is not after delivery that our patients are neglected as much as before—A routine ten day's urinalysis during last sixty days of expectancy will save hundreds of mothers' and babies' lives.

Dr. R. C. Smith (Drew): I appreciate Doctor Adams' paper very much. I heard him give a similar paper at Memphis last year and I am glad indeed to note that he left out part of what he had in that paper, and that was the great emphasis that he put on the training of midwives and what he was accomplishing with that. Just a word of protest as to the training of these midwives. I have been practicing more than 23 years and the most of my time has been on plantations, about six of the largest in the Mississippi Delta. I was the registrar there for several years. I had only one midwife in all that time that was capable of making out birth reports. If Doctor Adams and Doctor Green are capable of taking these women and training them in asepsis and in any of the physiological processes of labor, they are more capable than I. I believe you make a mistake when you try to train them for it cannot be done. If you look over the attendance at this Association you will notice that most of us are past forty years of age; where are the young doctors? There are not many and there is no encouragement for a man to be a doctor today in Mississippi, especially if our health officers are going to attempt to train these damnable women to do obstetrics.

Dr. W. H. Scudder (Mayersville): I had the honor of organizing the first negro midwife organization in the state and right now the State Board of Health has sent a nurse to my country to train the midwives. We have only four doctors in the country and we must train the midwife to do this work; we cannot do it ourselves. In the first place, if we do it we have to do it free of charge; these negroes cannot pay for it. I have seen remarkable improvement since I have taken up this work. There is an old saying that you cannot teach an old dog new tricks, but that is not true of the midwives. They are all old, you cannot get a young woman to be a midwife. These nurses will be there two months helping us to train these midwives.

Dr. H. R. Hays (Jackson): I feel I would be an ingrate if I did not express my appreciation of this splendid paper. However, the Doctor did not bring out what I had hoped he would. So

many cases of syphilis go bad when the mother attempts to give birth to a child. So many times we see women who have carried an infection along pretty well, but when they give birth to a dead fetus, or to a child that is infected and dies early, then the mother breaks down and goes to pieces. I would urge, especially in negro practice, that a Wassermann be given all pregnant women and if the woman is found to be infected treat her. You will then give the child a better chance for life, and if you can treat the mother during her pregnancy and she delivers a living child, the child will not have syphilis. It seems to me this should have been mentioned as one of the doctor's responsibilities toward motherhood.

Regarding the training of negro widwives, as you all know I have practiced in the Delta for the first ten years of my career, and I rarely saw a case of normal labor. The midwives when they got into trouble would call on me to deliver the case, but that was about the only case of obstetrics I attended. We very often express ourselves when we are not fully aware of the program that is being carried on. When this program of training midwives first came out I expressed myself that I did not think it could be done, but I find in those places where they have followed up the training of midwives that the doctors tell me these negroes are calling the doctors while they can do something for the patient, they do not allow the woman to exhaust herself with needless effort before they call the doctor.

Certainly we must have these midwives and if that is the case then we had better have them trained when to call the doctor and also trained to keep their hands out of the birth canal.

Dr. W. H. Frizell (Brookhaven): This is an excellent paper of Doctor Adams. As to training the negro midwives, the best training we can give them is NOT to. In my County of Lincoln, with the assistance of Doctor Underwood's department, we made Wassermanns of 42 of these midwives and in that number we got three 3 plus Wassermann and one 4 plus. We weeded these out, but one of the four has taken the treatment.

The thing we try to teach the midwives is to be clean, to use lysol and to be as clean as possible in every way, and then let the patient alone and not make examinations. But there is one thing—when you call your midwives in, just look and see how much silk tape they use. You will find they rarely use any. They buy it and keep it,—they will not use it, unless you keep your eye on them. But we mainly teach midwives not to do things instead of to do things.

Dr. R. M. Adams (closing): I just want to say that we do not encourage an increase in the number of midwives, and we feel that we do owe it to humanity to forbid their making vaginal examinations and giving decoctions as they formerly did, and in this training we forbid that. And not only that, but we instruct them to keep an eye upon each other and to report any violations, and if they do violate take their permit away from them and they value that very highly. I noticed that we have a decrease in the number rather than an increase following this rigid enforcement of the regulations, and if we can keep that up we surely will reduce the mortality. Eight years ago we sometimes would have a dozen or more puerperal infections coming from negro midwifery, but I recall this past year that we rarely ever had more than two a month and many months we had no reports of puerperal infection at all. So if nothing else has been accomplished, we certainly have reduced the morbidity and certainly we have induced these negro midwives to clean themselves up. When we go to help them now we find them in a clean uniform, with their kits in good condition and with no decoctions sitting around the fireside. So far as I was able to ascertain, they do not make vaginal examinations. So if we have accomplished no more than that, I think we have rendered a great service to these negro women who are really an economic proposition, because they do our drudgery for us and they are better able to do this service if we can keep them well.

As to the venereal examinations and the Wassermann, of course that would have to be included in the pre-natal health work. I certainly thank you gentlemen for your discussions.

INDICATIONS FOR INTRA-SPINAL TREATMENT OF SYPHILIS.*

C. S. HOLBROOK, M. D.

NEW ORLEANS.

For many years the belief was held that the central nervous system was not involved by syphilis until many years after the primary lesion. Thanks to modern laboratory facilities, we now know that in most cases of cerebro-spinal syphilis the infection takes place within the first few months after the disease is contracted.

Routine examinations of the spinal fluid in persons suffering from syphilis in the primary and secondary stages have shown abnormalities in the fluid in over one third of the cases. Not all of these cases develop typical syphilitic infection of the nervous system, but a fair number do. In the service of my associate, Dr. R. M. Van Wart, and myself we have recently seen several cases where the central nervous system was the location of very extensive pathology while the genital chancre was still present.

It has long been my opinion that the physician is not doing his duty to his patients when he treats them for syphilis and does not examine the spinal fluid to determine whether the central nervous system is affected by this disease or not. In the majority of instances it is not difficult, by active treatment, to cause the lesions of primary and secondary syphilis to disappear, and the Wassermann reaction in the blood to change from a positive to a negative reaction. When treatment is persisted in for some months or years the Wassermann reaction remains negative, and the absence of symptoms may lead one to the erroneous belief that the disease has been cured. One should feel deeply chagrined to see a patient thus treated develop, in after years, the unmistakable symptoms of locomotor ataxia or general paralysis. This happens all too frequently. The prevention of such unfortunate occurrences is the duty of those who treat the early cases of syphilis. At least one spinal fluid examination should be made on every patient suffering from this disease. In those that show evidences of infection of the central nervous system, treatment will have to be carried out more vigorously and over a longer period of time and the effect will have to be checked up by numerous spinal fluid examinations. There is practically no danger in tapping the spine and very few patients will decline to have this done, when the reasons for it are properly stated. Should a

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patient decline, the physician has the solace of having allowed the patient to decide and will not feel to blame, if in after years there is some lesion to the brain which might have been prevented.

After determining that the central nervous system is involved in the syphilitic infection, the next question that arises is how shall the infection be treated. Courses of mercury rubs with courses of intravenous injections of some of the well tried arsenobenzol preparations should be given. Some of the infections of the central nervous system will respond to this medication, but there are numerous cases in which this type of treatment is of no avail. The abnormal spinal fluid findings do not lessen, but may grow more marked and the symptoms persist or grow worse, in spite of this kind of treatment.

It is an often demonstrated observation that locomotor ataxia is very little, if at all, improved by the usual treatment with mercury and arsenobenzol. The lightning pains and crises that torment the tabetics are the severest suffering that one has to witness. Under the old methods, little could be offered these sufferers.

The parenchymatous syphilis of the brain, or general paralysis, has not been influenced to any great extent by treatment with mercury and salvarsan intravenously. The futility of this type of treatment is so fully conceded that many hospitals for mental diseases have given up this form of therapeutics all together. Recently, several methods of treating paresis have come into prominence, noticeably the malarial treatment sponsored by Wagner-Jauregg and the treatment with tryparsamid, with which Lorenz and his fellow workers have had very promising results. It will require observation over years before it will be possible to determine the value of these or any other treatment in paresis. The intraspinal injections of salvarsanized serum have been used for some years in the treatment of

paretics, and while results are not satisfactory they are better than those obtained by the intravenous injection of mercury and arsenobenzol.

During the past four years I have been using the intra-spinal treatment according to the method of Fordyce of New York. This differs from the original Swift-Ellis mainly in that the serum is not diluted with saline before it is introduced into the subarachnoid space. The treatment consists of giving an intravenous injection of neosalvarsan or allied drug, in the ordinary dosage. After a period varying from 15 to 50 minutes, 50 c. c. of blood is withdrawn under strict asepsis from a vein. This blood is kept in the ice box from 18 to 24 hours. It is then centrifugalized for 10 minutes and the serum is pipetted into a sterile container. This serum is again centrifugalized at a high speed for 15 minutes. The amount of serum to be injected, varying from 10 to 25 c. c., is then pipetted off and placed in a sterile container to be inactivated at 56 degrees C. for 30 minutes. The serum, cooled to body temperature, is injected into the subarachnoid space in the lumbar region of the spine. Injections are made every two weeks, until 4 to 6 treatments are given, and then after a period of 4 to 12 weeks, another series of intra-spinal injections is given. The amount of treatment is determined by the clinical improvement and by laboratory findings. Other forms of antisiphilitic medication are given during the courses of treatment, or in the intervals in which intra-spinal injections are not given.

The indications for intra-spinal treatment of syphilis are as follows:

(1) Cerebro-spinal syphilis in which there is not a satisfactory clinical improvement under the influence of arsenobenzol and mercury.

(2) Cerebro-spinal syphilis in which the spinal fluid remains positive, though the symptoms may disappear.

(3) In locomotor ataxia, besides arresting the process this treatment relieves the lightening pains and crises.

(4) In optic atrophy due to cerebro-spinal syphilis.

(5) The early stages of paresis.

Over 500 intra-spinal injections have been given by me during the past four years. There have been no fatalities and no cases have been made worse, but on the contrary results have been better than could have been obtained by any other method. The following case histories are given to show the effects of intra-spinal treatment.

Case 1. C. H., white male, married, 44 years of age. The original infection, chancre, contracted in 1899. Patient first examined by one of us, (R. M. Van Wart) in May 1916. At that time he was suffering from sensory disturbance in his feet and hands, lancinating pains, Argyll-Robinson pupil.

Patient was given 191 doses of salvarsan between 1916 and 1920. During this period he rubbed mercury almost continuously. After this intensive treatment the spinal fluid showed 56 cells, a strongly positive Wassermann, and the colloidal gold reduction was of the tabetic type.

In 1920, he was given 3 intra-spinal treatments, by Dr. Fordyce of New York, and after a period of two months he was given three more intra-spinal treatments. At this time the cells had dropped to normal, the Wassermann on the spinal fluid was 3 plus.

In May 1921, I administered three intra-spinal treatments. In July of the same year, three more, and in October, another three intraspinal treatments. In May 1922, two treatments were given, and in 1923, three intraspinal treatments were given.

July 1924, two intra-spinal treatments given, making a total of 22 intra-spinal treatments. Because of the damaged kidneys, this patient could not always take salvarsan, so serum from another patient was used in about one half of these treatments.

Since 1922 the spinal fluid has been persistently negative. The pains previous to intra-spinal treatments were so severe that they materially interfered with his making a livelihood. Since the treatment has been instituted these pains

have passed off for periods of six months, and the pains that have been present were very mild. Sexual power disappeared before intra-spinal treatment was given; this has returned to normal. Numbness of the feet has almost entirely disappeared. The last intra-spinal treatment was in July 1924. The spinal fluid has been examined on two occasions since then, the last two weeks ago, and both of these examinations were entirely negative.

From the clinical and laboratory point of view, the treatment of this patient has been very satisfactory.

Heroic treatment intravenously and with mercury did not stop the progress of the disease. Intra-spinal treatment relieved all symptoms and caused the fluid to return to normal.

Case II. A. A. L., White, Male, married, aged 51, referred by Dr. E. A. Ficklen. Patient first seen July 24th, 1922. Diagnosis—Locomotor ataxia. Date of original infection—unknown. He stated that five years before coming under observation, he experienced sharp pains all over his body. He suffered from urgency and tenesmus of the bladder. During the past 3 years he had experienced excruciating tabetic pains, these lancinating pains in his legs and other parts of his body, being most terrific. His suffering was so great that during the past three years he took enormous doses of aspirin, averaging 35-five grain tablets a day; occasionally taking 150-five grain tablets, or 750 grains of aspirin in one day. He purchased these tablets by the thousands and carried them loose in his pocket. He would eat a handful at a time. The only disagreeable symptom that he experienced from these enormous doses was a heaviness, or mental dullness. There was no nausea, vomiting, or dizziness.

The spinal fluid showed 7 to 8 cells, increase in globulins, Wassermann was negative. Argyll-Robinson pupils were present and the knee jerks were absent. There was a strongly positive Wassermann in the blood.

August 9, 1922, patient was admitted for his first intra-spinal treatment. He was given .6 grams of neo-salvarsan. In 40 minutes 50 c. c. of blood were withdrawn and 18 c. c. of serum injected into the subarachnoid space in the lumber region. There was a slight reaction following this treatment. The second night following the treatment the patient declared that, "this was the first peaceful night for months." He was in the hospital 2 days. The blood at this time was positive, the cells were 7 to 8, globulin was increased. Wassermann in the spinal fluid was negative, slight reduction in the colloidal gold.

August 22, second treatment, as above, 20 c.c. of serum was injected. The spinal fluid showed cells 1 to 2, globulin negative, Wassermann negative. Colloidal gold reduction 112332110. There were some pains in the legs at the time of this treatment, but these were comparatively mild.

September 5.—Third treatment as above, 22 c.c. of serum was injected. Very moderate reaction.

The spinal fluid cells not increased globulin slightly increased, Wassermann negative, colloidal gold reduction 1111100000.

September 19.—Fourth treatment as above, 20 c.c. of serum was injected. Very moderate reaction.

The spinal fluid cells 4 to 5 globulin negative, Wassermann negative.

October 3.—Fifth treatment as above, 15 c.c. of serum was injected. Mild reaction.

Cells not increased, globulin plus, Wassermann negative, colloidal gold 1111100000.

October 17.—Sixth treatment as above, 18 c.c. of serum was injected.

Spinal fluid showed 6 to 7 cells, globulin slightly increased, Wassermann negative, colloidal gold 1111110000.

After the second treatment the lancinating pains were almost entirely relieved, and by the time that treatment was concluded he was feeling better than he had for years. He returned to his work as a chemist, and reports since 1922 have shown that he has gotten along in a most satisfactory manner. He has not suffered from lancinating pains, and at no time since the beginning of the intra-spinal treatment has he taken aspirin. There was no habit contracted by this drug; it was taken only to relieve his suffering.

During the last year he has not reported, as advised, for re-examination, but his continued absence indicates that he has not had any suffering or pain.

Case III. J. B. White male, single, aged 39. May 5, 1923—Referred by Dr. J. B. Elliott. Diagnosis—Cerebro-spinal syphilis.

Original infection, chancre 23 years previous. Following his initial lesion he had 3 years of mixed treatment, and in addition to this he went to Hot Springs, Arkansas, for several consecutive years.

The year previous to our seeing him he had 12 intravenous injections of neo-salvarsan; 6 hypodermic injections of mercury, and he rubbed mer-

cury every other night. Sodium iodide was also administered.

When we first saw him he complained of pains in his head, malaria and general bodily pains. There was a moderate degree of depression. He found it almost impossible to do his work.

In spite of the 12 months of intensive treatment, the spinal fluid showed 250 cells, globulin positive, Wassermann positive, blood Wassermann positive.

June 6, 1923—1st intra-spinal treatment. .4 grams neo-salvarsan; in 50 minutes 50 c.c. of blood was withdrawn, 15 c.c. of serum injected into the subarachnoid space in the lumbar region. There was moderate pain, which required codein for relief.

Spinal fluid, cells 31, globulin positive, Wassermann positive, colloidal gold 1111000000.

June 30—2nd-treatment, as above. 18 c.c. of serum was injected. Moderate reaction.

July 3—3rd treatment. He reported much improvement since his last treatment. Treatment as above. 20 c.c. of serum was injected. There was moderately severe pain in his head and limbs after this treatment. Aspirin and codein, given for relief.

Blood Wassermann negative, spinal fluid, cells 6 to 7, globulin plus, Wassermann 4 plus, colloidal gold 1234421000.

July 17—4th treatment as above. 17 c.c. of serum was injected. Fairly severe reaction. Codein and morphine sulphate, grain $\frac{1}{4}$, given.

Spinal fluid, cells 1 to 2, globulin * * *, Wassermann * * * colloidal gold 11122210000.

July 31—5th treatment. He reported that he had been doing very well indeed. He was given treatment as above. 18 c.c. of serum was injected.

Spinal fluid, cells 33, Wassermann 3 plus, globulin negative, colloidal gold 0012332100, blood Wassermann negative.

Aug. 15, 1923—6th treatment. "Feeling fine." Treatment as above, 16 c.c. of serum was injected. Moderate reaction.

He was given a rest from treatment until September 13th, when he returned for examination again. He had suffered from pains in his joints. This turned out to be due to a mild arthritis.

The spinal fluid showed 2 to 3 cells, globulin negative, Wassermann negative, colloidal gold 1122211000.

Sept. 25, 1923—7th. treatment as above. 18 c. c. of serum was injected. Moderate reaction.

Blood Wassermann negative, spinal fluid, cells not increase, Wassermann negative, colloidal gold 0011100000.

Oct. 15—8th treatment. "Quite well except for arthritis." Treatment as above, 18 c. c. of serum injected. Moderate reaction.

Spinal fluid, cells 40, globulin negative, Wassermann negative, colloidal gold 0023331000.

Nov. 6—9th-treatment as above, 15 c. c. of serum injected.

Spinal fluid showed 117 cells, globulin, Wassermann plus, colloidal gold 0112333220.

Nov. 22, 1923,—10th treatment. Patient experienced 3 attacks in which he felt as though he might become unconscious.

Treatment as above. 20 c. c. of serum injected.

Spinal fluid 1 to 2 cells, globulin negative, Wassermann negative, colloidal gold 1223110000.

Dec. 20—11th-treatment as above, 18 c. c. of serum injected.

Spinal fluid cells 1 to 2, globulin negative, Wassermann weakly positive, colloidal gold 0000000000.

At this period he was given a rest of two months, during which time he took 5 rubs of mercury per week, and an injection of neo-salvarsan each week.

He worked without any difficulty during this period.

Feb. 20th—Spinal fluid examination, cells 3 to 4, globulin negative, Wassermann negative, colloidal gold 001221000.

March 27—12th treatment. He had been feeling quite well, working.

Treatment as above, 22 c. c. of serum injected.

Spinal fluids, cells 1 to 2, globulin negative, Wassermann negative, colloidal gold 0000000000.

April 10—13th-treatment as above, 18 c. c. of serum injected.

Blood Wassermann negative, cells 6 to 7, globulin negative, Wassermann negative, colloidal gold 0000110000.

Reported that he had been feeling splendidly.

April 24—14th-treatment as above, 20 c. c. of serum injected. Blood Wassermann negative, spinal fluid, cells 2 to 3, globulin negative, Wassermann negative.

May 8—15th-treatment as above, 21 c. c. injected.

Spinal fluid, cells 1 to 2, Wassermann negative, colloidal gold showed no reduction.

May 29—16th treatment as above, 19 c. c. of serum injected.

Spinal fluid, cells 3 to 4, globulin negative, Wassermann negative, colloidal gold 00011100000, blood Wassermann negative.

July 24, 1924—17th treatment as above, 15 c. c. of serum injected.

Spinal fluid negative, except that the Wassermann was weakly positive in 2 c. c.

Aug. 19—18th treatment as above, 18 c. c. of serum injected.

Spinal fluid, cells 76, globulin, Wassermann negative, colloidal gold 0012342100.

The high cell increase here was interpreted as a non-specific reaction. It was the reaction of the previous intra-spinal treatment.

A rest at this period until Sept. 23rd.

The blood Wassermann was negative, the spinal fluid was entirely negative.

Oct. 29—Blood negative, spinal fluid entirely negative.

December 22. He was again examined. The blood and spinal fluid showed nothing at all unusual. The spinal fluid was examined by 2 laboratories. Since this last examination the patient has been working all of the time and reports from him have been very satisfactory.*

This case well illustrates the futility of intravenous salvarsan treatment even when combined with mercury.

The patient's reactions on the whole were moderately severe, in that he usually suffered from headaches and pains in his legs, for 3 or 4 hours after the intra-spinal treatment. It was often necessary to administer codein in grain doses, and occasionally, morphine sulphate, grains $\frac{1}{4}$ was required.

Case IV. L. C. Colored, female, married, aged 35.

Referred from Eye Clinic (Drs. Feingold and Crebbin).

Diagnosis:—Locomotor ataxia, optic atrophy.

She has been married—no children—no history of chancre. 11 months before coming to clinic consulted optician on account of poor vision.

*Spinal fluid and blood negative in December, 1925, though no treatment had been given for a year.

Examination: Showed left eye to be almost completely blind, could count fingers at 3 inches. Right eye 5-9 vision.

Occasionally shooting pains over body. She complained of severe headaches. This patient was given Hg and No 1 and 4 injections of salvarsan (each 3-10 gram) with no apparent benefit.

Transferred to Neurological Clinic for opinion and treatment.

Spinal fluid cells 42-43, globulin positive, Wassermann positive, colloidal gold 0011000000.

Patella reflexes equal, moderately active. Patient was very worried and anxious over her condition. Emotionally depressed. Intra-spinal treatment and mercury rubs were recommended.

After the second intra-spinal treatment (.6 Gm. neo-salvarsan, 50 c. c. blood withdrawn in 40 minutes, 15 c. c. of serum injected) the headaches disappeared. She felt much improved. Patient had 8 intra-spinal treatments within a period of 5 months. Last one September 1924.

There has been a marked improvement in patient's general condition. The mood is not depressed and she is entirely normal, mentally. The oculists report that the atrophy has been arrested, that there has been an improvement of from 5 to 8% in right eye and a definite, but less improvement in the eye that was practically blind.

Sept. 4, 1924—Spinal fluid cells 7 to 8, globulin negative, Wassermann negative, colloidal gold, no reduction.

April 17, 1925—Spinal fluid cells 3 to 4, globulin negative, Wassermann negative, colloidal gold 0000011000.

Patient feels very comfortable. She does not suffer from pain. She is able to read headlines.

Case V. G. L., White, male, married, aged 34.

Transferred from Medical to Neurological Clinic for treatment.

Diagnosis: Locomotor ataxia.

Wife—Living and well, 6 children; no miscarriages.

Previous History: Negative except that patient had an initial sore (chancre) 16 years ago. He had little or no treatment at that time.

The most distressing symptom is pain, which is sharp, shooting in character, recurring at short intervals. These pains have been present for 5 years, and have not been relieved by routine, mixed treatment, or by 15 injections of salvarsan.

There has been some unsteadiness in gait, numbness in feet, etc. Examination: Showed pupils that did not react to light. Patella reflexes absent.

Blood Wassermann negative. Spinal fluid showed: cells 24-25. Globulin plus, Wassermann positive, colloidal gold 1122232100.

Feb. 28, 1924—Given an intra-spinal treatment (.6 gm. neo-salvarsan injected, in 45 minutes 50 c. c. blood withdrawn, 18 c. c. of serum injected.) Reaction consisted in a reproduction of the lightening pains, no headaches or nausea.

March 13, 1924—Second treatment as above. 18 c. c. of serum injected.

The pains had been less in the interval.

In 3 or 4 hours after injection began having lightning pains. No other symptoms. 2 hypodermic of codein (gr. one each) gave relief. Allowed to go home next day.

Spinal fluid cells 18-19, globulin, Wassermann strongly positive, colloidal gold 0112342000.

2 weeks later he was admitted for 3rd intra-spinal treatment and again every two weeks until 6 treatments were given; the last being May 15, 1924. He was then given a rest for 6 months.

Nov. 21—Spinal fluid examination showed: cells 7-8, globulin, Wassermann in 1 c. c., colloidal gold 0112210000.

Patient has now been given 12 intra-spinal treatments. The cells in the spinal fluid are normal, globulin is not increased, Wassermann, still weakly positive. From a clinical point of view the treatment has been very satisfactory. Formerly he suffered a great deal from tabetic pains in his limbs, interfering with his earning a livelihood. These pains, under treatment, have entirely disappeared. He feels better than he has for years.

Treatment will be continued and I feel confident that before long the spinal fluid will be negative.

Case VI. L. F., White, male, married, aged 39.

Referred by Dr. M. Feingold, May 15, 1924.

Diagnosis—Locomotor ataxia—Optic atrophy.

Married 7 years—wife living and well, no conceptions.

Has a recollection of an initial chancre, time vague. 9 years ago the blood Wassermann was negative. Complained of failing vision, using his eyes at work caused considerable strain. "Shooting and pulling" pains in his legs. Pupils irregular in outline and did not react to light. Patella reflexes, present.

Blood Wassermann negative, spinal fluid cells 105, globulin increased, Wassermann positive down to .1 c. c. colloidal gold 2234332111.

Patient was given mercury and salvarsan intravenously, until October 31st, when he was given the first intra-spinal treatment. He was given .6 grams of neo-salvarsan, in 30 minutes, 510 c. c. of blood was withdrawn, 10 c. c. of serum was injected. Moderate reaction.

Spinal fluid showed cells 5 to 6, globulin negative, Wassermann negative, colloidal gold 0000-111000.

In all he was given 6 intra-spinal treatments, the last being February 20, 1925. The spinal fluid has remained entirely negative. He has continued his work without interruption. He usually spent two days in the hospital. The pains have been entirely relieved, and Dr. Feingold reports that "his vision has not deteriorated, his fields are apparently unchanged, the fundus also shows no change, there is no return of the light reaction in either eye." From a clinical view this is a very satisfactory case, in that the atrophy has been arrested and other symptoms have entirely disappeared.

The spinal fluid has been negative over a period of many months.

Case VII. B. C. C. White male, married, aged 38, accountant.

May 16, 1922—Diagnosis General Paresis. Onset about one year previous. Wife living and well; no children.

Began to sleep badly, headaches within the past 6 months, he became forgetful, did his work poorly, irritable, finally lost his position as accountant, because of his careless work.

Pupils did not react to light; all other reflexes very active.

There was some slurring in his speech and tremors of the face muscles. He was almost stuporous, had no interest in anything, and would usually answer questions in monosyllables.

At this time the blood Wasserman was positive, the spinal fluid showed 15 cells, heavy increase in globulins, Wassermann reaction positive to 2 c. c., colloidal gold 555553221.

The patient was placed on intravenous injections of neo-salvarsan and on mercury rubs.

Intra-spinal treatment was commenced June, 1922. He was given 36 intra-spinal injections.

After the first 3 or 4 treatments improvement became very satisfactory and it was possible for

him to return to his work, which he did and he held the position as accountant for over a year.

During this time he took his intra-spinal treatments every 2 weeks. The intravenous neo-salvarsan was administered at his lunch hour on Friday. 50 c. c. of blood was withdrawn and placed in the ice box. After his work Saturday afternoon he was admitted to Touro and intra-spinal treatment given. He left the hospital on Sunday afternoon and was at his desk on Monday morning.

At no time did the spinal fluid become entirely negative. The cells returned to normal, but the Wassermann was always positive, the colloidal gold showed considerable reduction.

The patient died on September 11, 1924, 28 months after the beginning of treatment. During the greater part of this time he was able to work as an accountant.

The result in this case of general paralysis was very satisfactory, because of the long period of improvement. When first seen it appeared as though he would live but a short time.

Case VII. G. G., White, male, married, aged 35.

August 6, 1924—Diagnosis—General Paresis.

13 years ago he had a chancre. He was given salvarsan and other forms of treatment, and continued this for several years. He was assured that he was cured of his original infection.

For the year previous he had been suffering with headaches, weakness, and irritability. Two months prior to our seeing him he lost his position in one of the large banks of the city. He was discouraged because he could not work and support his wife and 2 children. Restless at night and did not sleep well.

Right pupil is larger than the left, neither reacts to light, slight Romberg present, tremors about the face and over action of face muscles, slight speech disturbance, calculations good.

Blood Wassermann positive, spinal fluid, cells 30, globulin strongly positive, Wasserman positive.

Patient has been given 16 intra-spinal treatments, the last being 2 weeks ago. The clinical improvement has been very marked, in that his irritability and restlessness have disappeared. He is free from headaches and can do some light work.

The laboratory findings have shown comparatively little change. The cells are normal, but the globulin and Wassermann are still positive. The colloidal gold shows considerable reduction.

Case IX. N. P., White, male married, aged 38.

August 5, 1924—Diagnosis—Locomotor ataxia, with gastric crises.

Had his initial lesion 14 years ago.

Patient was admitted through the Emergency Clinic at Touro. Some acute abdominal condition was thought to be present, as he suffered from most excruciating pains and vomiting.

Examination showed that the pupils were irregular and did not react to light, marked optic atrophy in left eye. Patella reflexes, absent. The blood Wassermann was negative, spinal fluid showed 17 to 18 cells, globulin negative, Wassermann negative, colloidal gold 0000112000.

September 18—Spinal fluid showed 26 cells, Wassermann 1 plus in 1 c. c., colloidal gold as above.

Patient has been given 9 intra-spinal treatments. The spinal fluid has been negative. Since the fourth treatment he has been almost entirely free of pains in his limbs. There has been at times some gastric crises, but these have not been severe and the intervals between them have been very much lengthened.

His condition now is a great deal better than previous to his intra-spinal treatments.

Case X. G. H. H., White male, widowed, aged 59.

September 17, 1923—Referred by Dr. Henry Blum.

Diagnosis—Cerebro-spinal syphilis (meningitic form).

For 4 months complained of loss of memory, dullness. "Woke up one morning and found that I had forgotten all that I had learned."

There was paralysis of the exterior ocular muscles of the left eye, with a resulting diplopia. Pupils irregular, reacted to light.

Patient was treated for several years before he married.

Blood Wassermann was negative, spinal fluid, cells 20, globulin strongly positive, Wassermann strongly positive, colloidal gold 1234554210.

Patient was given 6 intra-spinal treatments.

The spinal fluid remained positive for 5 treatments. It then became negative and has remained so for a year.

Shortly after treatment was instituted his mental dullness began to disappear and gradually the diplopia was relieved.

For the past 12 to 18 months he has been feeling very well indeed.

DISCUSSION.

Dr. Roy M. Van Wart (New Orleans): I wish to combine what I have to say in regard to Doctor Holbrook's paper with some remarks concerning the paper of Doctor Jamison this morning. In the first place I believe Doctor Jamison is entirely too limited in his ideas as to the value of this method of treatment. I think if you limit it entirely to early types of cases, you probably are simply treating those that are amenable to cure. Whether it is because they escape notice as far as infection is concerned or whatever may be the cause, the neurologist sees too many cases of acute meningitis.

I wish also to impress the fact that meningitis is an early symptom and not a late one. Similarly I do not believe it is possible to divide the disease into the primary, secondary and tertiary symptoms, because I have seen so-called tertiary symptoms occurring before the appearance of the secondary eruption. I recall one case of facial paralysis which appeared five days before the secondary eruption. Very frequently we see meningeal symptoms in patients showing secondary lesions, and I have seen one case of optic neuritis with the chancre still present.

The class of cases in which we have tried this treatment have not been those with noticeable parenchymatous changes. We have found the cases in which there were marked clinical phenomena such as change of knee jerks that our spinal fluid findings were not always in accordance with the clinical phenomena. The typical cases of paresis usually show a low cell count, but we found those cases of high count that were treated showed marked improvement. I do not think we have reached the point where we can do anything for the excessive changes that occur in the parietic, but we can relieve the acute phenomena. In many of these cases we find this treatment is capable of giving results in the way of amelioration of symptoms and the restoration of the individual to his usefulness at least temporarily. In one case a man was an accountant who was brought in convulsions, and in six weeks we were able to restore him so he could resume his work as accountant and he continued that way for a year and a half, and then he died suddenly in convulsions. So we must admit that even though meningeal cases can be cured by this method, it has a wider field of influence for there is a large number of chronic cases with acute phenomena which are markedly improved and

restored to usefulness and relieved of symptoms by this method of treatment.

Dr. L. L. Cazenavette (New Orleans): This subject is one of too great interest not to deserve more comment. I recognize one of the men Doctor Holbrook presented here as a patient to whom I had given several intravenous injections of neo-arsphenamine. He reacted very severely to these injections so much so that they were discontinued. In such a bad subject, I would not have attempted the intra-spinal route for treatment. However, it is pleasing to know that such treatment was given without untoward effect. Again I recall the man who took such large quantities of aspirin tablets for the relief of pain. He also is reported as having improved by intra-spinal medication.

Intra-spinal medication has given fairly good results at the hands of a few; but the dangers which may follow much medication will delay its use even though it is safe in the hands of the specially equipped.

Dr. A. A. Herold (Shreveport): In a limited experience in intra-spinal treatment I fail to see any benefit to the parietic cases, but I have seen marked improvements in the tabetics. Last month I was in Washington and visited St. Elizabeth Hospital and heard the report of their experience with the inoculation of the tertian plasmodium. I asked them, "why the malarial inoculations, instead of the well-known so-called specific treatments," such as we are here discussing; the reply was that they had never seen permanent improvement from any of the intra-spinal methods.

Dr. C. S. Holbrook (closing): Eight or ten years ago we tried out the intra-spinal treatment in the institution at Jackson, Louisiana, and we had the same experience as they had at St. Elizabeth. It was in 1882, that von Janet first observed that after the high temperature that these patients who experienced remissions were considerably better. So he experimented over a long period of time with tuberculin and other protein products and finally with malaria, to bring about a rise in temperature. At present this particular treatment is receiving much attention. The patients are getting inoculations of malaria and are allowed to have paroxysms eight or ten times, then the malaria is controlled. This type of treatment gives apparently only clinical cures because the spinal fluid shows little or no change.

The treatment we have carried out is a little different from the original Swift-Ellis treatment. At the present time we follow the method of For-
dyce in which we administer salvarsan or neo-salvarsan, and then after 15 to 45 minutes 50 c. c.

of blood are withdrawn from the patient. The blood is not handled in a syringe and the chances of infection are therefore decreased. About 10 to 25 c. c. of serum is introduced into the sub-dural space in the lumbar spine—this treatment is given every 2 weeks until 4 or 6 treatments are given and then an interval of rest is allowed.

The intra-spinal treatment in our experience has been so successful that we would feel very much handicapped if we could not use it in the treatment of our patients.

SYPHILIS AND SURGICAL CONDITIONS*

A. G. PAYNE, M. D.,
GREENVILLE, MISS.

I am not presenting this paper for the edification of any particular class of doctors, but it has always been my principle in presenting a paper before this section to call your attention to a very much over- or under-done work in certain conditions as we generally find them; and I have experienced enough failures to bring the subject forcibly to my mind thereby keeping afresh in my memory my mistakes and bad results, and to help steer others off the rocks and disaster.

The details of medicine are so numerous that no one can know all of them, even in a limited field. The subject of syphilis, only one disease, but which touches every department of medicine is no exception to this fact. Osler said, "The man who knows syphilis, knows medicine and that all together too few men know syphilis and that its prevalence is far greater than is appreciated and recognized." Latent or unsuspected syphilis is one of the wide spread maladies that we have to contend with, and one that attacks all ages and classes of mankind.

The urologist has to look out for the acute, sub-acute and chronic cases of syphilis in every department of medicine.

*Read before Mississippi State Medical Association, Biloxi, May 12-14, 1925.

It is up to him to cure the disease in its early stages, but anyone who knows anything about this class of patients as a whole know how hard it is to keep them under observation and treatment, until they could be classed as arrested disease cases, much less pronounce them cured.

In my opinion no man should be allowed to marry unless he can give a clean bill of health, especially along the lines of genito-urinary conditions.

The obstetrician has always to be on the look out for this dreaded disease that causes the death of so many children in utero, or at birth. The treatment of such conditions, as abortion with syphilis as a causitive factor should not be neglected when the condition can be determined.

The child specialist has to be on the look out for a disease that causes so many deaths during the first few months of child life, and other conditions not so manifest of the disease as snuffles, condylomata of the genitals, and syphilitic dactylitis.

The skin specialist has to be very careful in his diagnosis that he does not pass up syphilitic manifestations of the skin for other conditions. Such errors in diagnosis are very fruitful of producing contamination of others, and a prolongation of a disease easily amenable to treatment.

The internist and diagnostician must be scrutinizing to detect all of those various manifestations of the disease which so frequently affect the heart and large blood vessels twenty or more years after the initial lesion, as well as those of the kidney and various abdominal organs.

The gynecologist must be on the alert to detect and distinguish between syphilis and cancer, the two later conditions affecting especially the vulva and cervix. Too many times syphilitic conditions of the cervix are diagnosed cancer.

The nose and throat man frequently get into deep water when they have not been as careful as they should have been in pre-

operative diagnosis, for this region is one where the spirocheta pallida has a special affinity, just as the fish have an affinity for hidden places, or over-hanging banks in a stream.

The eye man has the better of the rest of us for detecting hidden or unsuspecting conditions of this character on account of his iodide therapy and non-use of the Wassermann reaction in doubtful conditions of this important organ. Too many times when using iodides for diagnostic means he places himself in position with the man who when in doubt of malaria administers quinine.

The surgeon has to be ever on the most acute alert, for his errors are the most widely known and subject not only to his own downfall in diagnosis and operative measures, but his mistakes are more palpable and he is more prey to the courts than all the others combined. It is therefore up to him to make good in both diagnosis and operation to be able to maintain himself in the community. He must be able to distinguish between chancre and epithelioma of the lip, cancer, tuberculosis and syphilis of the testicle, gummata and cancer of the brain, syphilitic disease of the bone, bone neoplasm and pyogenic osteomyelitis, syphilis and ulcer or cancer of the stomach, gumata and cancer of the liver. Syphilitic peritonitis and tuberculosis of the intestines. Tubercular cervical adenitis and the syphilitic variety of this disease which are so commonly confused. Syphilitic stricture of the intestine resembling cancer, all of these and many more too numerous to mention, he must be in some measure able to detect and operate upon or be able to cure by some other measure. Just how is he going to be able to accomplish such a task?

Shortly more than a decade ago he was handicapped in recognizing and treating latent syphilitic conditions, having only history of the case and subjective symptoms to guide him. But over the hill came the last specialist which has done so much

to enlighten us upon this and many other conditions pertaining to medicine. He has done as much for medicine as the American Doughboys did towards winning the war.

Biologic chemistry is now such a valuable force in medicine, and has advanced with such enormous strides during the last few years that we cannot get along with present day practice without its invaluable aid. I dare say that the name Wassermann has been written more during the last fifteen years than any other name connected with medicine; and his discovery has done more for the human race than we at present appreciate, for it may eventually rid mankind of one of its most dreaded diseases. We do not now make use of this valuable adjunct in our routine examination of our patient to the extent that we should, and no examination is complete without a serologic examination of his blood especially so when the United States Public Health and State Laboratory gives such examinations free. I am loath to say that too many times the name, "I Guess", should appear on our history sheet instead of our own, especially when we fail to append a Wassermann report.

The Surgeon-General's office will show that a large per cent of negroes coming up for examination during the World War were syphilitics, and if we take the trouble to find out, we will find especially among the white laboring class as well as among the negroes in industrial work many syphilitics.

We can do no greater work for the industries that we represent than have a Wassermann made on all injured patients, so that we can institute appropriate treatment to the end that the injured, the employer, and the doctor as well, will not have a long drawn out treatment and convalescence. Just here I would say that there is one condition in which the Wassermann negative might lead to error, that is, in old bone syphilis in many instances the Wassermann reaction will be negative. It is

in these cases that radiology will often prove helpful in clearing up the diagnosis of certain conditions which are brought to the surgeon for operation but in actual need of only specific treatment to save a limb from amputation or usefulness.

What appears to be an ordinary synovitis or bursitis is treated a great many times without any improvement being effected, subsequently when the nature of the trouble is diagnosed as syphilis and active treatment given, the condition rapidly subsides. This holds true not only for the cases that have been treated conservatively but also for those that have been operated upon and have failed to heal. Non-union in many fractures has syphilis as a causative factor and will never unite under any other measures than active anti-syphilitic treatment.

Finally, there is one consideration about the subject that bears an important relation to the doctor in any line of work, that is he may be accidentally infected and it may mimic other lesions subjectively and objectively.

DISCUSSION.

Dr. H. R. Hayes (Jackson): I do not know of any subject that reaches every phase of medical practice and surgical practice as does syphilis. Osler said, "Know ye syphilis in all of its different stages and manifestations, and all things clinical will be added unto you."

In going around over the state and talking to the different physicians who are in charge of industrial work, I find they are coming more and more to realize the importance of examining carefully into the patient's syphilitic history. A patient is hurt in an accident; he has had no manifestation of syphilis at all, but it will light up, and lots of times we are unable to get that patient back to work for a number of months on account of his syphilitic lesions. Of course they all deny syphilis, but a Wassermann when this patient was applying for the industry would have saved the industry a whole lot of money.

Regarding physicians who are infected, I know of six physicians who have been innocently infected and they are all high class men and they are suffering right now, and I dare say none of these physicians are taking adequate treatment. It is a strange thing to me that physicians are

so careless about themselves. They become infected and they know they must be under treatment constantly; they go on and give the other fellow the proper treatment, but they will not take it themselves. One physician especially is in my mind right now. I talked to him some years ago—he had a wonderful knowledge of syphilis and how to treat the other fellow, but he told me he was only taking two or three doses of arsphenamin every year. These patients should be treated constantly without a rest for at least one year and then after that if it is necessary. In other words, given a patient who has just had a chancre, we have no right to stop treatment, that patient should be treated straight along for at least a year and then if the Wassermann is positive or if there is any clinical evidence of syphilis he should be treated constantly for the second year. Every patient should be treated before he is even put on the rest treatment at least a year, and three years preferably. I believe the men treating syphilis are coming to the view that no patient should be allowed to marry for at least five year.

The Doctor has read a splendid paper and I appreciate it very much.

Dr. L. S. Lippincott (Vicksburg): I want to endorse everything Doctor Payne has said about the routine Wassermann examination. I am in the laboratory business, but I am not drumming up trade. However, I do believe that a routine Wassermann is a mighty important thing, especially in hospital cases. It is important in clinical cases, but more so in hospital cases. We have been using it routinely in both hospital and clinic cases, and we find that about 15 per cent. are positive.

Not long ago we had a tumor sent in for microscopic diagnosis. A Wassermann had not been done. We found it was a gumma. A Wassermann was made and it was positive. You will find many surprises if you make routine Wassermanns, and it will help you in your work.

Dr. S. A. Sheeley (Gulfport): The Doctor's paper emphasized some of the benefits to be derived from following the requirements of the American College of Surgeons. When we organized our staff a few years ago we put down a few things as routine. Soon we found that we had

to add other things as routine, one of which was that in this section we had to examine routinely for malaria. Then we soon found we had to examine the stools as routine on account of the hook worm infection in this section. We have not yet added the Wassermann to our routine, but I think on account of the lack of this routine Wassermann some of us have gotten into trouble. I remember some time ago we removed a testicle from a patient, and as all pathology that is not apparent is submitted to the pathologist, this was submitted to him, and of course he laid me out good and proper. He added a little note at the end of his letter saying that that was not the first testicle he had examined and found it to be a gumma. The patient rolled up a 4 plus Wassermann right away and of course had the necessary treatment. Then another incident in this particular hospital—I saved a man from a serious operation for kidney trouble along the same lines. He rolled up a 4 plus, too. So there are cases all along the line. The thing I want to emphasize is that we should make more careful study of our cases. I am not inclined to believe that we ought to have a routine Wassermann, because some of our patients are not able to pay for it, and then other times things are so apparent that you would not feel that a Wassermann was justified.

Dr. A. G. Payne (closing): I would just like to say along the line of this paper that there are so many conditions, for instance, gumma of the brain, that you would not feel justified in treating unless you had a Wassermann report. I have had several cases of that kind and I was unable to distinguish between gumma and cancer. In fact, I might have thought it was cancer, but the blood Wassermann showed positive. It is remarkable how these cases will clear up. There will be a bulging of the side of the head that will clear up with a half dozen doses of salvarsan or neosalvarsan.

I am glad Doctor Sheeley mentioned the testicle. I think it is a crime for any surgeon to remove a testicle until he has not only had a Wassermann made, but until he has given sufficient anti-syphilitic treatment to be not only clinically but therapeutically certain that this condition does not exist in that patient.

There are various phases I might mention, but the subject has been forcibly brought to the attention of the doctors, and I am glad that the doctors have given the paper as much discussion as they have.

TRAUMATIC AND SIMULTANEOUS DISLOCATION OF BOTH SHOULDER JOINTS*

AIMÉ PAUL HEINECK, M. D.,

CHICAGO.

Simultaneous traumatic dislocations of both humeri form the subject matter of this paper, based exclusively upon the analytical study of all cases (fifty-eight in number) reported in the English, French and German literature from 1836 to 1923, supplemented by the clinical observation of one personal case. All the cases were (a) in location, bilateral, (b) in occurrence, simultaneous or immediately successive, and always caused by the same accident, (c) in nature, complete, (d) in causation, unquestionably traumatic. With one exception (1), the condition had never previously occurred in the same individual. In another case (2), both shoulders had been dislocated, the left six years, the right fourteen years previously. We have not attempted to discuss completely bilateral shoulder dislocations; only clinical facts and anatomical lesions reported in the original article have been analyzed and summarized.

These dislocations differ in type, in clinical manifestations and present various associated injuries of the articular and peri-articular tissues (osseous, nervous, vascular, etc.) Early and complete reduction, correction (operative or non-operative) of the coexisting complications, and institution of judicious after-treatment (massage, mechano-therapy, electricity, etc.) minimize, in fact almost always completely overcome, the anatomical deformity and the functional disability incident to shoulder dislocations.

We discarded cases of habitual dislocation. Habitual or recurrent dislocation is a condition of joint instability characterized by repeated, frequent and complete

abnormal separation of contiguous joint-surfaces. It occurs upon slight provocation and is often consecutive to a traumatic dislocation. It may be associated with or determined by (a) abnormal laxity or bagginess of the articular capsule, the resultant of a previous injury; (b) paralysis of one, of several, or of all the periarticular muscles. The tonicity of the periarticular muscles maintains in normal contact the glenoid cavity and the articular head of the humerus, (c) non-union or faulty union of fractures of the glenoid cavity, of the articular head of the humerus, etc.; (d) non-union or vicious union of a fracture of one or of both humeral tuberosities; (e) traumatic detachment from their insertion of one or more of the rotators of the humeral head. When the external rotators are detached, with or without a lamella of bone, the action of the subscapularis predominates and a forward displacement of the head of the bone is easily effected. When the subscapularis is detached, with or without its osseous insertion, the action of the external rotators is no longer counterbalanced and backward dislocation of the humeral head may result; (f) traumatic separation of one or more of the upper epiphyses of the humerus; (g) anatomical defects of the glenoid cavity.

Incomplete, congenital, pathological, or spontaneous dislocations and those that were not simultaneously bilateral, are outside of the scope of this paper.

The fifty-nine cases herein considered present the following features: (a) All were traumatic in causation and complete in nature. (b) All were bilateral in location, though not always symmetrical. (c) All were simultaneous in incidence; both shoulders being dislocated within a few minutes' interval. Though not always due to the same immediate exciting factor, they were all caused by the same accident. A passenger fell with others from the top of an omnibus as the vehicle overturned. It was his belief that, in falling, he had dislocated one shoulder, and that his other

*The numbers in the article refer to illustrative cases, for which see the bibliography.

shoulder had been dislocated by a friend falling on it (3). (d) All the joints affected were, previous to the dislocation, free from structural abnormalities, as far as can be determined by the text.

Bilateral shoulder dislocations occur in both sexes and at all periods of life. Our series of collected cases shows that they are more frequent in males than in females; forty-seven males and eleven females. My patient was a housewife fifty-six years old.

The external violence which dislocates the humerus in adults, in children commonly gives rise to elbow dislocations, to fractures of the clavicle, to humeral epiphyseal separation. Bilateral shoulder dislocations are very rare before the twentieth year. The youngest patients in our series were a male nineteen years old, and a female twenty-one years old. In advanced life, shoulder dislocations are equally rare, the oldest patient being a female eighty-six years old (4). In eighteen cases the age incidence is not stated; in the other cases it was as follows:

19 years.....	1 case
21 to 30 years.....	6 cases
31 to 40 years.....	5 cases
41 to 50 years.....	11 cases
51 to 60 years.....	10 cases
61 to 70 years.....	5 cases
71 to 80 years.....	1 case
86 years.....	1 case

Bilateral simultaneous shoulder dislocations are either caused by external violence, direct or indirect, or by muscular action, acting singly or co-jointly. Violent shocks or wrenches acting simultaneously on the two arms can produce simultaneous bilateral shoulder dislocations (24).

The mechanism of displacement can only be surmised (twenty-five cases) (a) in cases not reported with adequate data. Case 19 gave no history of previous dislocations and though both shoulders were considerably bruised and swollen, it remains a question of conjecture whether one or both dislocations were caused by the fit or the fall; (b) in cases in which the mechanism

of displacement is either not stated (dissecting—(5) or postmortem-room subjects (6, 24), or not described in detail. In case 16, a woman fell forward head-first from the platform of a moving street car; (c) in cases in which the productive violence is complex in nature.

In five cases (7, 14, etc.) it was definitely reported that the dislocations were caused by violent muscular contractions incident to epileptic convulsions. In case 8, puerperal convulsions were the causative factor. In five other cases muscular action was the provocative force.

The remaining cases were caused by external violence, the causative force being applied either directly to the shoulder or transmitted indirectly to the articulation, as by a fall upon the outstretched hands, upon the extended elbows (9).

Examples of dislocations due to indirect violence follow. In case 20, patient was thrown from his cart and fell head downward, alighting upon his hands. In case 21, a porter, to receive a sack of grain upon his back, leaned forward and held on to the rear of his wagon with both hands. While still holding fast to the wagon, the sack fell heavily on the back of his neck and violently forced the trunk of his body forward. In case 24, the forcible elevation and traction of the arms caused the head of the humerus to impinge on the lower border of the capsule, thus favoring its exit. In case 25, patient, working upon a scaffold, lost his footing and fell, striking the ground with both elbows at the same time. In case 17, the forcible elevation of the arms by a fall through a narrow trap-door thrust both humeral heads out of their sockets. In case 18, patient fell into the water. He was pulled into a neighboring tug by his extended arms and immediately felt severe pain in both shoulders and arms; both humeri were dislocated. My patient fell from a ladder, striking the ground with both hands, arms and fore-arms being fully extended.

From the standpoint of prognosis and treatment, shoulder dislocations can be classified as recent and old. Dislocations become old through faulty diagnosis, faulty attempts at reduction and often through surgical neglect. In old dislocations, the articulation itself and the peri-articular tissues are the seat of structural changes. The anatomical relations of the head of the humerus and of the glenoid cavity are altered. The glenoid fossa may be partly or wholly obliterated by cicatricial tissue, calcified cartilage, etc. Case 5 presented fully developed false shoulder-joints. In old dislocations the various bloodless manipulative and other non-operative procedures are often, owing to these changes, powerless to effect either an anatomical or a functional cure. There were eight old dislocations varying in age from six weeks (22), nine and one-half weeks to several years. Cases 8, 9, etc., were of several months' standing.

All cases not referred to before (dissecting—and autopsy-room cases excluded) were recent in nature. My case was seen and reduced two hours after its occurrence.

There are several anatomical classifications in current use. Lack of uniformity in nomenclature is regrettable, is misleading. We have, in each case, quoted the reporter's words. In thirteen cases (3, 5, 6, 7, 8, 20, etc.), the anatomical type of displacement is not stated or is not precisely described. The exact anatomical relations of the displaced head are either not given or unqualified expressions as "backward" or "downward" displacement are used.

In thirty-six cases both dislocations were of the same anatomical type, and were symmetrical or closely symmetrical. In case 11, a double "luxatio erecta", the humeri were fixed in vertical elevation, both glenoid fossae were empty, both shoulders presented a distinct hollow beneath the acromion process, and in each axilla the humeral head could be palpated as a hard, globular mass. In a bilateral sub-

clavicular dislocation (12), each humeral head was lying against the second and third ribs, just below the clavicle. In case 18, a bilateral intra-coracoid dislocation, the head of each humerus could be felt to the inner side of its corresponding coracoid process; the inward displacement was more marked on the left side. Case 14, was a bilateral and symmetrical subspinous dislocation, each humeral head being palpable beneath the spine of its corresponding scapula.

Different reporters use unlike terms to designate like displacements. The description given in the case reports does not enable one to differentiate subglenoid dislocations from those termed axillary. Nevertheless, we use here the nomenclature found in the original publications. In two cases (13, etc.,) the reporters state that the head of the bone was displaced into the axilla. In my case, the head of the bone was palpable on each side immediately below the coracoid process of the scapula.

In six cases the dislocations were bilateral and in the same general direction, but dissimilar in anatomical type. A subglenoid and a subcoracoid dislocation were present in three cases (10, etc.). In case 15, the left humerus was displaced into the axilla, the right under the clavicle. In case 23, the left humeral head rested on the anterior margin of the lower border of the scapula just below the glenoid cavity, and the right humeral head was prescapular, lying between the anterior surface of the bone and the subscapularis muscle. Case 4 presented a subcoracoid and an intracoracoid dislocation.

Very little demonstrated pathology is recorded in the case reports because these dislocations, (a) unless complicated by great shock (11), associated injuries (6) senility, marasmus (4), etc., are not fatal and therefore rarely come to the autopsy table; (b) unless irreducible by bloodless methods, they do not reach the operating-table. To conform to the plan outlined at the beginning of the article, we record only the

pathology actually demonstrated and reported in our series of cases.

In shoulder dislocations, the articular and peri-articular soft tissues (4) are contused, lacerated and infiltrated with blood. The synovial fluid is blood-tinged and increased in amount (12). A tear of the joint capsule (4, 12, 23), through which the head of the bone has escaped from its normal habitat, is present in all cases. The greater frequency of forward and downward displacements is due to the fact that the capsular tear is usually on its anterior and inner portion (4), at its lower aspect. The capsule at its lower portion is not re-enforced by any ligament or muscle. The capsular tear and the untorn portion of the joint capsule control, determine in a large measure the type of displacement. In some cases there is recorded a detachment of the subscapularis, the teres minor, the supra- and infra-spinatus muscles, singly or together, from their insertion. At times a bony fragment consisting of the outer shell or cortical layer of the humerus is torn off with these muscles. Fractures of either the greater or lesser tuberosities are not uncommon. They vary in extent, may constitute a formidable obstacle to reduction and predispose to relaxation.

The diagnosis of these fractures is difficult (23) because the detached fragment cannot often be felt and crepitus cannot often be elicited. A valuable aid to diagnosis is the radiogram; but one must bear in mind that a torn subdeltoid bursa full of clotted blood may, by throwing a shadow, simulate a bone-fragment.

The following associated injuries are recorded: Bilateral fracture and detachment of the greater tuberosities (23), fracture of the right coracoid process near its base (23), compression of the axillary nerves and vessels (11), contusions of various portions of the body. As distal, though not related, associated injuries, the following are reported: Skull fracture (23), fracture of the lower third of the

femur, compound fracture of the middle of the left leg, complete (bilateral) dislocation of the jaw, gangrene of right foot. Fracture of the surgical neck of the humerus was not present in a single case. It is not rare in unilateral dislocations.

Some symptoms are common to all shoulder dislocations: (pain) (9, 20, 24); loss of function (16); rigidity (22); "patient is unable to use his arms"; in my case the loss of function and joint-rigidity were complete. There are symptoms that occur only in certain types of displacements: the location of the humeral head, the position of the elbow, etc., differ in the various anatomical forms. In complicated cases, one finds, in addition, the alterations of function, of structure and of contour due to the co-existing injuries.

In all bilateral shoulder dislocations, note the direction of the axis of each humerus, note the relations of the bony landmarks of the shoulder region, note the extent of functional impairment and the degree or range of joint-mobility. Any deviation from the normal is symptomatic of underlying pathology.

In unilateral dislocations, to establish a diagnosis, one compares the injured shoulder with the unaffected. In bilateral dislocations, the clinician cannot avail himself of this aid as both shoulders are, most always, symmetrically deformed, the measurements of both sides often not differing half an inch; at times they are similar (16). In my case, the measurements of both arms were practically identical. Secure full exposure of both shoulders by divesting upper portion of chest of all unnecessary clothing.

The rotundity of the shoulder depends partly on the head of the humerus being in its proper place and partly on the integrity of the deltoid muscle. Therefore, in all inward, downward or backward displacements of the head of the humerus, the normal contour of the shoulder is lost and there is present a double deformity:

a distinct flattening of the shoulder region, due to the absence of the head of the bone from its normal place, and an abnormal bulging due to the presence of the displaced head in its new habitat. In dislocations, the deltoid slopes straight from the acromion, or sinks in, having an indented appearance at its insertion. An empty glenoid cavity (9, 16) and abduction of the arm accompany all shoulder dislocations. The roundness of the shoulder is not present. "Both shoulders were flattened and both arms were abducted from the chest wall" (16, 24). In my case, though patient was obese, the emptiness of the glenoid cavities could be demonstrated and the flattening of both shoulders was typical.

In all shoulder dislocations, the head of the bone can, by painstaking inspection and palpation, invariably be detected in an abnormal location. "The head of the humerus could be readily felt under the pectoral muscle" (10). In posterior dislocations, the humeral head is readily felt upon the dorsum of the scapula. "In each axillary space, the head of the corresponding humerus could be palpated" (17). In case 18, the head of the right humerus was below and a little to the inner side of the coracoid process; the head of the left humerus lay farther inward. In case 9, and in my case, the humeral heads could be felt under the coracoid processes; rotation of either arm caused rolling of the corresponding ball-shaped head.

In all bilateral dislocations of the humerus there is a distinct hollow or hiatus beneath the acromion process (10, 13), this hiatus being less noticeable in sub-acromial dislocations.

In old and recent dislocations, the deformity is so characteristic that the diagnosis is often made by inspection and palpation. In obese and muscular individuals, exact diagnosis is more difficult. "There was a hiatus under each acromion,

but in consequence of the mass of adipose tissue it was not possible to feel the head of the humerus in the axillary space (13).

In all cases, it is advisable to have both shoulders radiographed. The radiograms serve as a record, as a guide; they often clear up many unsuspected conditions (16), and establish the diagnosis upon an indisputable basis. "The head is displaced downward; it is entirely below the glenoid cavity, and is away from the thoracic wall" (11). In my case, on both sides, the radiograms showed distinctly the integrity of the acromion, of the coracoid process, of the clavicle, of the head and anatomical and surgical necks of the humerus. The acromio-clavicular articulations were normal. Each humeral head was away from the chestwall, was away from the glenoid fossa and immediately below the coracoid process. Radiograms show the exact location of the humeral heads, reveal the presence or absence of complicating osseous lesions; fractures of the humerus, of the surgical neck and coracoid process of the scapula. They remove doubts from the clinician's mind. Stereoscopic pictures are less liable to misinterpretation.

Complicating injuries of the nervous system are evidenced by motor, sensory and trophic disturbances. Some of these nervous lesions are irremediable; others, such as contusions, compression, stretching and division (partial or complete) give, under appropriate treatment, a hopeful prognosis. At the first examination, one should exclude an involvement of the circumflex or other nerves; sometimes the nerve involvement affects all the muscles of the upper extremity. "One month after reduction of the dislocations, patient was unable, owing to a partial paralysis of the deltoid, completely to elevate left arm" (24). In non-reduced cases, the nerves may be compressed by scar-tissue. By taking the pulse, one is enabled to ascertain the presence or absence of important vascular injuries.

Including my personal case, we analyzed fifty-nine cases. Six cases, for various reasons, were untreated. In case 6, patient was dead at time of diagnosis. Case 23 died from a skull fracture five hours after being brought to the hospital. In case 12, patient died from a broncho-pneumonia shortly after admission to hospital and before the dislocations were reduced. Case 5 was a dissecting-room subject. To these may be added a case of double luxatio erecta (11); the dislocations were reduced but patient died of shock from the associated injuries. There were eight old dislocations; their treatment and the results obtained are discussed at the close of the article.

Recent dislocations are reducible or irreducible. Primary irreducibility is usually due to some complication. Associated fractures, detachment of either humeral tuberosity, especially if the detached fragment lie in the glenoid cavity, hinder reduction, predispose to recurrence. The indication to suture or nail the detached fragment to its normal place may prevail.

Recent dislocations call for immediate reduction. At the outset, let us emphasize that the treatment of choice is non-operative. In the treatment of shoulder dislocations, operation is a last resort. Only two recent dislocations were subjected to operation. In case 18, the dislocation on the right side was reduced with the aid of ether anesthesia without much difficulty. All manipulative efforts failed to reduce the one on the left side. On the following day the joint cavity and the left humeral head were exposed by an anterior incision. The humeral neck was crossed above on its outer side by the untorn tendon of the subscapularis.

Anesthesia facilitates reduction, it abolishes pain, it overcomes muscular spasm and the patient's resistance; with its aid, one can by gentle manipulation gradually break up adhesions opposing reduction. It

is especially serviceable in muscular individuals.

In five cases (2, 16, 21, etc.) in which reduction was obtained by non-operative methods, the text makes no reference of the use of anesthesia.

In nineteen cases (10, 15, 20, etc.), non-operative methods, unaided by anesthesia, successfully effected reduction. In some cases, one humerus is easily reduced without anesthesia, while the reduction of the other necessitates anesthesia. In twelve cases, to effect reduction, non-operative methods had to be supplemented by general anesthesia (4, 24, chloroform, ether, etc.). In my case, to secure reduction, the patient was etherized.

In every recent case but one (18) in which non-operative methods were employed, the head of the bone was successfully replaced in its normal habitat. At times, one side is reduced easily, but to effect reduction of the opposite side, difficulty is experienced (13); anesthesia may be required. In many cases, the clinicians noted the occurrence of a peculiar jerk, of a distinct audible snap upon return of the bone to its socket (4, 10, 20, etc.). Instant relief from pain often follows reduction. In seven cases (21, etc.) it is not stated that attempts at reduction were made.

Among the non-operative methods, Mothe's method was used in one case (4), Kocher's method in ten cases (1, 17, 24, etc.). In the remaining twenty-seven cases reduction was effected by various bloodless manipulative procedures supplemented by extension and counter-extension (13, 20, etc.). The extension is made by the operator, his assistants, weights or pulleys, counter-extension, by axillary pads, by heel in the axilla (10, 15, etc.). In fifteen cases the method employed to secure reduction is not described in detail (3, 7, etc.).

After reduction, the shoulder must be immobilized long enough to allow the re-

pair of the capsular tear. It is also imperative that passive and active motion, and massage, be instituted early enough to avoid ankylosis.

The treatment of old dislocations requires great care and individualization. Owing to the close interrelation of treatment and results, it is best that they be discussed together. There were eight old dislocations of from six weeks to several years standing. In old dislocations, the difficulty of reduction is due to various factors: Cicatrization and contraction of the capsular tear, inflammatory adhesions binding the head of the humerus to the surrounding structures, obliteration of the glenoid cavity, adhesion of the joint-capsule to the periphery or to the entire glenoid fossa, interposition of tendon or muscle, etc.

Some old dislocations are amenable to bloodless manipulative procedures, others require operative aid. Though not always successful, the former should always be first attempted; successful bloodless manipulative methods secure better functional and anatomical results than operative treatment. When manipulation, traction by pulleys, etc., supplemented by anesthesia, fail to obtain reduction, operation, if not contra-indicated, is to be performed. Arthrotomy permits direct inspection of the articulation and of the contiguous structures. It enables the operator to determine, to remove obstacles to reduction. "The tendon of the triceps prevented the head of the bone from reascending and slipping back into its normal place" (11).

Unreduced dislocations are accompanied by deformity and disability, varying in degree, but permanently impairing the earning capacity of a handworker. Operative treatment has a very low mortality, almost nil, and though final results are not always perfect, pain and circulatory disturbances are relieved. There follows a very fair restoration of function.

In elderly people, forcible attempts at reduction of old shoulder dislocations has fractured the humerus. During careful attempts at reduction of a dislocation of several months' standing, the humerus has been fractured immediately above the insertion of the deltoid muscle. Atrophy, adhesions of the surrounding muscles and soft parts and adhesions of the torn joint-capsule, all these tend to make, at times, reduction by manipulation difficult, impossible, or extremely dangerous. In case 8, seven months after the accident, reduction was secured by bloodless methods. In case 9, though the humeral heads had remained out of their sockets twelve weeks, reduction was effected by manipulative methods (elevation of the arms, etc.) with the aid of anesthesia. Joint-motion was not fully recovered. On right side, arm could be abducted to the horizontal; on left side functional recovery was more incomplete. In case 22, the value of judicious persistency is demonstrated. One month after the accident two attempts, two days apart, were made under anesthesia to reduce the dislocation with the aid of pulleys. They were unsuccessful. Two weeks later another surgeon effected reduction by the aid of pulleys.

Do not resort to a cutting operation unless you are convinced of the futility of further use of non-operative procedure. In the young, reduction is more easily effected, presents less difficulty than in adults, and bloody intervention is rarely justified. In one case, during attempts at reduction of the dislocation on the one side, the humerus having been fractured above the insertion of the deltoid, the joint was opened. Owing to the partial obliteration of the glenoid fossa by cicatricial tissue and by osteophytic outgrowths, reduction was difficult. The glenoid cavity was cleaned out, and cicatricial bands opposing reduction were cut. The head of the bone was replaced in its normal position. Three months later the arms could be abducted to the horizontal. Sir Joseph Lister operated on one

case nine and one-half weeks after the accident. Each humerus was protruded through the incision and all the rotators divided at their insertion; at the second attempt "the pulleys drew the bone into the proper position." Two months after discharge, patient came to the hospital for inspection and it was seen that arms could be raised to a right angle with only slight movement of the scapula; rotation was much improved. Patient stated that he could do hard agricultural work as well as ever.

The incision giving access to the articulation may be made along the posterior or the anterior axillary fold. All cicatricial bands impeding reduction are cut, muscles preventing reduction are divided and subsequently sutured. The head of the bone being replaced into the joint-capsule, the latter is closed as completely as possible.

In the recent dislocations, the ultimate results are recorded in some cases; not mentioned (twenty-eight cases) in others. In eight cases (15, 17, etc.) recovery was complete. In some of the remaining cases the late results are reported as follows: "Eight weeks after accident patient was quite well"; "seven weeks after accident patient was able to do light labor"; "patient suffers from chronic rheumatism; function has been slow in returning; it is not yet complete"; "five weeks after injury arm could be elevated to horizontal position", etc.

The prognosis in bilateral shoulder dislocation is influenced by many factors, chief among which should be mentioned, age of the patient and of the dislocation, the patient's occupation, the associated injuries and the treatment instituted. As a rule, the older the patient the longer the period required for recovery. As to the age of the luxation, it is agreed that dislocations call for immediate reduction. Sequelae are thereby forestalled; nothing is gained by delay. Convalescence is

longer in handworkers than in intellectuals; delicate hand movements are late in returning. Associated injuries require appropriate treatment. In some cases full function is not restored before the detached muscles or tuberosities are permanently fixed in their normal place.

Bloodless manipulative methods, supplemented by electro-mechano- and hydrotherapy give the best results. The two dislocations, right and left, are reduced separately, usually by the same method and at the same sitting. The duration of immobilization varies in different cases: 12 days, 5 weeks, etc. We are of the opinion that most clinicians err in prolonging complete mobilization beyond two weeks. About the tenth day gentle passive motion and massage and electrical treatment should be instituted.

After an arthrotomy and division of extensive adhesions, even though the bone is replaced to its normal position, some joint-stiffness is to be expected. This is generally compensated for by a movable scapula. The restoration of the rotundity of the shoulder and the absolute relief of pain give much satisfaction to the patient.

After reduction of the dislocations both shoulders are immobilized, the arms fixed in front of the chest by adhesive plaster, bandages, etc. The patient is practically helpless; he cannot feed himself, he cannot dress himself, he cannot attend to many of his other needs; he must be provided with an attendant until recovery is effected.

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SOME ASPECTS OF TUBERCULOSIS IN A GENERAL HOSPITAL.*

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The purpose of this paper is to present some of the aspects of Pulmonary Tuberculosis as observed by the House Physician in the medical wards of the Charity Hospital.

That the subject is one of too great proportions to permit of any elaboration or detail is obvious. In the time allotted I can only hope to touch upon a few of the many important and interesting phases of this disease. Pulmonary Tuberculosis, in spite of the immensity of the information that has accumulated concerning it, still remains a stumbling block to the physician with many vital problems yet unsolved.

Of 2,078 deaths from all causes for the year 1924 at Charity Hospital, 202, or 10%, were caused by Pulmonary Tuberculosis.

The total number of discharges for the year 1924 at Charity Hospital was 21,907,

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of which 602, or 2.7% were cases of Pulmonary Tuberculosis. Of this 602, 330 (54.8%) were whites and 272 (45.2%) negroes.

A classification of the types of the 602 cases of Pulmonary Tuberculosis showed:

- (a) 571 cases of Chronic Pulmonary Tuberculosis of whom there were

319 Whites	(55.8%)
252 Negroes	(44.2%)
- (b) 20 cases of Pneumonic Phthisis of whom there were

8 Whites	(40%)
12 Negroes	(60%)
- (c) 11 cases of Miliary Tuberculosis of whom there were

3 Whites	(27.2%)
8 Negroes	(72.8%)

Of the 602 cases there were 202 (33.3%) deaths, showing the morbidity of the disease to be three times greater than the mortality.

Of the 202 deaths, consisting of 99 (49.1%) whites and 103 (50.9%) negroes there were:

- (a) 187 cases of Chronic Pulmonary Tuberculosis of whom there were

93 White	(49%)
94 Negroes	(51%)
- (b) 7 cases of Pneumonic Phthisis of whom there were

3 Whites	(42.8%)
4 Negroes	(57.2%)
- (c) 8 cases of Miliary Tuberculosis of whom there were

3 White	(37.5%)
5 Negroes	(62.5%)

From the above morbidity and mortality statistics it is to be noted, that whereas the morbidity from Chronic Pulmonary Tuberculosis for the whites was 11.6% higher than for the negroes, the mortality incidence for this type was nearly the same for both whites and negroes, being 2% higher for the negroes. The negroes were more susceptible to the Acute Pneu-

monic and Miliary types of the disease, as shown by both morbidity and mortality statistics.

As a matter of interest, and more especially of great importance in differential, a study was made to determine what number or percentage of the tentative non-tuberculous diagnoses were finally proven to be cases of Pulmonary Tuberculosis. To determine this a study was made of a series of 213 indiscriminately chosen case records of patients discharged from the hospital within the last six to twelve months. In the series were 113 whites and 100 negroes, sputa examinations were done on 142 (66.6%) of the cases, of which number

104 (48%) were Positive
 38 " Negative
 71 " Not done

In reviewing this series, I found that of the 213 cases, 35 had been tentatively diagnosed incorrectly (*i. e.*, Non-Tuberculous diagnoses). This made an error of 16.4%.

The following table gives a list of the 35 cases; the number of each with the result of the sputum examination if done:

	No. of SPUTUM		No.
	Cases	Positive		Negative Done
Bilateral Salpingitis	5	3	2
Pneumonia (Lobar)	3	1	2
Malaria	3	1	2
Chronic Appendicitis	3		3
Acute Bronchitis	3	p	1
Arthritis	2	2	
Chronic Gastritis and Con- pation	2	1	1
Chronic Cardiovalvular Dis- ease	2	2	
Chronic Myocarditis	2	1	1
Probable Carcinoma of the Cervix	1		1
Psychosis (Cause?)	1		1
Mucous Coitis	1		1
Pyelitis; Mematuria; Colitis	1	1	
Probable Typhoid	1		1
Chronic Nephritis	1		1
Cervical Adenitis	1		1
Chronic Bronchitis	1	1	
Acute Cholangitis and Ca- tarrhal Jaundice	1	1	
Influenza	1		1
Totals	35	16	9

Of the 35 cases

16 (45.7%) had a positive sputum for tuberculosis bacilli

10 (28.5%) had a negative sputum for tuberculosis bacilli
 9 (25.6%) had no sputum examination

The report of the presence of acid-fast bacilli in the sputum was accepted as proof positive of the presence of Pulmonary Tuberculosis, all chances of error being considered. This therefore meant that the 16 cases were absolutely proven to be Pulmonary Tuberculosis. Of the remaining 19 cases with negative or no sputum, a careful study and correlation of the symptomatology, physical findings and X-ray showed at least one of the trio to be present to an extent sufficient to justify the final diagnosis of Pulmonary Tuberculosis.

A survey of the records shows:

1. In no case was a tuberculin test for diagnostic purposes used.
2. Too often was the thorough history and the complete physical examination sacrificed on the altar of the Laboratory and Roentgen Ray.
3. In not a few of the cases entirely too much reliance was placed on the X-ray findings, little thinking that it also is fallable.
4. The 35 errors enumerated are not peculiar to Charity Hospital.

With a just consideration of the difficulties of the Admitting Officer in the proper performance of his examinations and the acknowledged difficulty of early diagnosis even by experienced internists, one cannot help but feel that a percentage of error of 16.4% is rather small; in other words, 83.6% of the tentative diagnoses of Pulmonary Tuberculosis were correct. Compare this with the statement of Larason Brown, that of 2,000 cases admitted to Trudeau Sanatorium from 1916 to 1923, 1,725, or 81.2% of the tentative diagnoses of Pulmonary Tuberculosis were correct, and all of these patients, he remarks, were

sent in with a positive diagnosis of Pulmonary Tuberculosis.

It was interesting to note that of the 213 cases of Pulmonary Tuberculosis, 15, or 7% had a positive Wassermann reaction. In a series of 84 medical cases picked at random with diagnoses other than syphilis or tuberculosis there were 10% positive Wassermann reactions, showing 3% more positives for non-tuberculous than for tuberculous.

Of the 15 cases with positive Wassermanns,

- 10 (66%) had a positive sputum for tubercle bacilli
- 4 (27%) had a negative sputum for tubercle bacilli
- 1 (7%) had no sputum examination

Nine, or 60% of those fifteen cases with positive Wassermanns died; 6 (40%) whites and 9 (60%) negroes. This shows a mortality practically twice as large as those cases of pulmonary tuberculosis uncomplicated by a positive Wassermann.

In the series of 213 cases there were 4 cases of aneurism of the aorta revealed by the X-ray which were not detected by physical examination.

- 2 of the cases had a positive sputum
- 1 negative
- 1 not done
- Only 1 had a positive Wassermann
- 2 negative
- 1 not done

The record of the pulse rate and the temperature are of paramount importance in the diagnosis, prognosis, stage of activity, and the treatment of Tuberculosis. A careful search of over 500 histories of recently discharged patients did not reveal a single case where a temperature and pulse record had been kept for the information so necessary in the detection of Pulmonary Tuberculosis in its incipiency. In some of the histories occasional notes were made to the effect that the patient had an afternoon

rise of temperature, or a rapid pulse. This information was procured either by questioning the patient or from the nurse's chart. The nurse usually takes temperatures and pulse twice daily and so is absolutely of no value in attempting to make a diagnosis. From the cases I have personally examined with a tentative diagnosis of Pulmonary Tuberculosis, I am convinced that the two hourly temperature and pulse record, from 7 a. m. to 9 p. m., for a period of one to two weeks is the only satisfactory manner that this extremely important diagnostic aid can be obtained. The observation of the significant changes of the pulse and temperature at rest, and then following exertion (slight or severe), were not apparent from a review of the records.

Of the X-ray I shall say very little. Its value is inestimable. It is not only necessary that the roentgenologist be thoroughly conversant with the proper interpretation of the shadows presented by the skiagraph, but he must be equally aware of the limitations of the X-ray. At the Charity Hospital we are fortunate enough to have men who are extremely competent and the value of our reports is thus greatly enhanced. I have found that our most substantial and enlightening results come from the team work or co-operation of the clinician and the roentgenologist. The X-ray request for a picture of the chest gives a summary of the history, physical findings and duration of the disease and it is the correlation of this data with the X-ray findings that gives us the most valuable information. It must be remembered that there is no pathognomonic finding of Pulmonary Tuberculosis on the X-ray unless it be the caseo-calcareous node or the presence of fans of varying densities. The fact that not all of these cases present either one of these findings indicates, I believe, that it is impossible for the roentgenologist to make a diagnosis from the study of a single plate alone. In incipient and early cases of Pulmonary Tuberculosis, where the symptomatology and physical findings

pointed to a suspicious pulmonic tuberculous lesion and which was verified by the subsequent course of the disease, negative X-ray findings have been reported. A diagnosis of non-active or healed Pulmonary Tuberculosis cannot be made from the X-ray plate.

In cases with extremely mild constitutional symptoms, but with physical findings indicating a probability of great activity, the value of the X-Ray in verifying the extensive damage in the lung, or even showing more damage than one was led to suspect from the physical examination, is possibly one of the greatest assets to be derived from the X-Ray. Later, I shall have reason to say a few more words of the X-Ray in connection with tuberculin.

I will now speak of the diagnostic value of the tuberculin tests. "The many utterances concerning this subject", says Lawson Brown, (speaking of Tuberculosis, but which remarks are equally as pertinent concerning Tuberculin) "often ipse dixit in character, are sustained not by proof but by weight of authority", Misinterpretations, traditional half truths, and a lack of knowledge of the indications, contradictions and sources of error has resulted in a deplorable and great curtailment of their use. I have heard clinicians only recently assert that the tuberculin tests were useless since practically all adults have had or have Tuberculosis and will therefore give a positive reaction. I have been assured that the subcutaneous test is dangerous, for through its use many cases of inactive or quiescent Tuberculosis have been lighted up into activity. Upon questioning these men further I was surprised to learn that they had either not employed the tests at all, or that their experience in its use was very limited. Most of the greatest authorities on Pulmonary Tuberculosis are in accord concerning the inestimable value of the Tuberculin Test and the remark by Pottenger, (1) that from years of observation in the employment of the Tuberculin Tests, particularly in cases of Pulmonary

Tuberculosis, he has developed a firm belief in the value of these tests is, in a general way, the opinion of the others.

To my knowledge, with the exception of the occasional use of the Von Pirquet test in children in some of the pediatric services and the use of Intra-cutaneous Tuberculin Test in the Breaux Building by Dr. W. Durel, tuberculin tests have not been employed in recent years in the medical wards of the Charity Hospital.

Several months ago, I determined to make a study of the diagnostic value of the Intra-cutaneous Test of Mendel and M a n t o u x (1908) in non-tuberculous patients. This test was chosen because it is the most reliable, most sensitive and because of the simplicity of its technique. with the kind permission of the Medical Staff, I was given access to their ward patients. Owing to lack of space I cannot give a list of diseases upon which tests were done, but suffice it to say that they covered a great majority of the different diseases to be found in a general hospital. Because of the extreme delicacy of the Intracutaneous Test and because of the fact that Charity Hospital patients must surely be reckoned among that class who are predisposed, or easily susceptible to Tuberculous infection, I feel reasonably certain that the results obtained must be essentially correct and of great value as revealing, as Kolmer (2) says, "the full percentage of tuberculous infected individuals."

For the test Old Tuberculin (Koch) was employed in doses varying from 1/10 to 1 mgm. Two injections were given each patient with a control of normal saline in the center. In no case was there a rise of temperature, or an infection following the test. The reactions were considered positive when they showed hyperemia, induration and infiltration. A few of the cases showed a slight redness, though no infiltration of the control, which was undoubtedly due to slight contamination from the Tuberculin. Several of the negroes with extremely marked positive reactions showed vesicula-

tion around the center. This was not noted in the whites. Where there were some doubtful reactions and evidence pointed more to a positive reading, it was so considered. The reactions were read 48 hours after the injection so as to eliminate all reactions of trauma and psuedo-reactions. The results of this study are based on the observation of 255 patients with non-tuberculous diseases. These patients were indiscriminately chosen. Of the 255 tested, 179 (70.19%) were Whites and 76 (29.81%) Negroes.

The youngest case was two months and the oldest eighty nine years.

Of the 179 Whites

- 100 (55.86%) gave Positive Reactions.
- 79 (44.14%) gave Negative Reactions.

Of the 76 Negroes

- 54 (71.05%) gave Positive Reactions
- 22 (28.95%) gave Negative Reactions.

Of the total of the Whites and Negroes, numbering 255,

- 154 (60.39%) gave a Positive Reaction.
- 101 (39.61%) gave a Negative Reaction.

		—Age—	
No. of White Children	24	2 mos. to	6 yrs.
No. of Negro Children	8	10 mos. to	6 yrs.
No. of White Children	34	6 yrs. to	15 yrs.
No. of Negro Children	4	6 yrs. to	15 yrs.

	No. and Percent Tuberculin Reactions.		Total No. Cases	Total No. and percent Reactions
	White	Negro		
.....	1 (3.8%)			
.....		1 (12.5%)	34	2 (5.8%)
.....	13 (38.3%)			
.....		1 (25%)	38	14 (36.8%)

Of the 60 white children from the ages of 2 mos. to 15 years.

- 14 (23.33%) gave Positive Reactions.
- 46 (76.6%) gave Negative Reactions.

Of the 12 negro children from the ages of 10 mos. to 15 years.

- 2 (16.6%) gave Positive Reactions.
- 10 (83.3%) gave Negative Reactions.

Of the total of the 72 white and black children from the ages of 2 mos. to 15 years.

- 16 (22.22%) gave a Positive Reaction.
- 56 (77.78%) gave a Negative Reaction.

Of 9 white children between the ages of 15 to 20 years

- 3 (33.33%) gave Positive Tuberculin actions.

6 (66.67%) gave Negative Tuberculin Reactions.

Of 4 negro children between the ages of 15 to 20 years.

- 3 (75%) gave Positive Tuberculin Reactions.

1 (25%) gave Negative Tuberculin Reactions.

Of a total of 13 white and black children between the ages of 15 to 20 years

- 6 (46.16%) gave a Positive Reaction
- 7 (53.86%) gave a Negative Reaction

From the ages of 20 to 45 years, there were 47 white patients tested

- 33 (70.21%) gave a Positive Reaction
- 14 (29.79%) gave a Negative Reaction

Of the 41 negroes, between the ages of 20 and 45 years, there were

- 35 (85.36%) gave a Positive Reaction
- 6 (14.6%) gave a Negative Reaction

Of a total of 88 patients (whites and negroes) between the ages of 20 and 45 years, there were

- 68 (77.27%) Positive Reactions
- 22 (22.73%) Negative Reactions

Between the ages of 45 to 70 years, there were 56 white patients. Of this number

- 44 (78.57%) gave Positive Reactions
- 12 (21.43%) gave Negative Reactions

Between the ages of 45 to 70 years there were 17 negro patients. Of this number

- 13 (76.47%) gave Positive Reactions
- 4 (23.53%) gave Negative Reactions

Of a total of 73 patients (whites and negroes) between the ages of 45 and 70 years, there were

- 57 (78.21%) Positive Reactions
- 16 (21.79%) Negative Reactions

Between the ages of 70 and 89 years, there were 7 white cases

- 6 (85.71%) gave Positive Reactions
- 1 (14.29%) gave Negative Reactions

Of the 2 negroes between the ages of 70 and 89 years

- 1 (50%) gave a Positive Reaction
- 1 (50%) gave a Negative Reaction

Of a total of 9 cases (whites and negroes) from 70 to 89 years

- 7 (77.7%) gave a Positive Reaction
- 2 (22.23%) gave a Negative Reaction

The following is a summary of the percentage of the positive tuberculin reactions for the advancing age intervals mentioned above, for the combined total of whites and negroes at the particular age intervals noted.

Age—	Total No. of Cases Whites and Negroes	Percentage of Positive Tuberculin Reactions
*2 mos. to 6 yrs.....	34	5.8%
6 yrs. to 15 yrs.....	38	36.8%
15 yrs. to 20 yrs.....	13	46.16%
20 yrs. to 45 yrs.....	88	77.27%
45 yrs. to 70 yrs.....	73	78.21%
70 yrs. to 89 yrs.....	9	77.7%
	255	

Table of percentages of Positive Tuberculin Reactions (according to the Locality from which patient came, is as follows :

WHITES			
Location	Total	Positive Tuberculin Reaction	Percentage of Positive Tuberculin Reaction
Country	93	47	50.53%
City— Tenement .. .	32	14	43.75%
Garden	54	39	72.22%
NEGROES			
Country	40	26	65%
City— Garden	3	3	100%
Tenement	33	25	75.75%
WHITES AND NEGROES			
Country	133	73	54.88%
City— Garden	35	17	48.57%
Tenement	87	64	73.56%

Note: In the case of 100% of the negroes in the garden districts giving a positive reaction, I must explain that the living quarters, per se, were no better than those of the negroes in the tenements. They were put into this group because their homes were isolated from all others—one being opposite a cemetery and the other two the only houses on the square.

The conclusions from this study of 255 unselected non-tuberculous cases are :

1. Not everyone reacts to Tuberculin.
2. Even with the use of extremely delicate and sensitive intracutaneous tests on a group of patients ordinarily considered as being among the most susceptible to tuberculous infection, only 60.39% of all the cases gave a positive tuberculin reaction. The youngest in this series to give a positive tuberculin reaction was 2 years (white) ; the oldest was 89 years (negro). The youngest case that I have seen react, was in a child 3 months of age whose mother had died of tuberculosis.

3. The fact that practically 40% failed to react, with the possibility of one of the several so-called negative reactions considered and eliminated, is undoubted proof that these patients were free of tuberculous foci containing viable tubercle bacilli. It is well known that some cases who fail to react to the first skin test sometimes do so on a second or third. The percentage of positive reactions from these repeated tests averages about 20% of those that were negative on the first test.

4. The positive reactions obtained from the negroes were 15% higher than for the whites.

5. Up to the age of 45 years the negroes gave a higher positive tuberculin reaction than did the whites. From the age of 45 and on the whites gave a higher percentage of positive tuberculin reactions. Thus the percentage of positive tuberculin reactions for the white patients between the ages of 20 to 45 years was 70.2% ; that of the negroes 86.36%. From 45 to 70 for the whites it was 78.57% and for the negroes 76.47%.

It is interesting to note that the same holds true for the death rates for the age intervals stated. The percentage of all deaths for the white cases in the first mentioned series in this paper between the ages of 20 to 45 years was 58.8%, and for the negroes 63.1% ; whereas, between the

ages from 45 to 70 years the deaths for white patients was 29.4% as compared with 21% of the negroes for the same age.

6. For the combined total of the white and negroes, the highest percentage of positive tuberculin reactions was obtained on those patients residing in the tenement district of the city. It was 73.56%. The lowest was from the garden district of the city. It was 48.57%, thus showing 18.68% more positive reactions for the former than for the latter.

The country occupied the intermediate position with 54.88% positive reactions.

Table of percentage of Positive Tuberculin Reactions and death rate for whites and negroes for different age intervals:

Age—	Whites Positive Tuberculin Reaction	Death Rate	Negroes Positive Tuberculin Reaction	Death Rate
20 to 45 years.....	70.2%	58.8%	85.36%	63.1%
45 to 70 years.....	78.57%	29.4%	76.47%	21%

From this study I am convinced that the Tuberculin Test is an important link in the diagnosis of Pulmonary Tuberculosis. A negative reaction—all fallacies being considered—is extremely valuable. One can then with assurance assert that the patient is free of tuberculous infection. The great value of a negative reaction is obvious when one can rule out Tuberculosis in patients presenting themselves with indefinite and vague signs and symptoms suspicious of Pulmonary Tuberculosis. When it is remembered that the boundary between a subminimal and a minimal lesion in Tuberculosis is beyond the recognition of the clinician or the roentgenologist, the presence of so valuable a sign as a positive tuberculin skin test is not to be held so lightly until further thorough examination shall have proven it to be so. The moment when a positive tuberculous infection will become clinical Tuberculosis none can tell and we cannot escape the thought, in spite of the fact that not all giving a positive intracutaneous tuberculin reaction will develop the disease, that the sword of Damocles hangs over the head of every patient with a positive skin reaction.

I think that few will deny then that a negative Durel says that in his experience of over 20 years he has not seen a case which did not react to the skin test who developed active Pulmonary Tuberculosis. That the positive reaction is of very great significance must also be admitted. I cannot help but quote Pottenger (3), who remarks: "Let it be understood that the power of bacillary products (Tuberculin) to seek out and stimulate specifically sensitized cells may be far more accurate than our power to locate and determine the activity or quiescence of tuberculosis foci and when such evidence is present, even though we have not been able to locate the lesion, let us accept it as a tangible proof of our limitations rather than an instance of Nature's

specific reaction gone wrong." J. Musser, Jr., and E. B. Krumbhaar (4), in their study of the diagnostic value of the Percutaneous Test, conclude that in the light of the following figures (i. e., 77 Non-Tuberculous cases, 71 were negative), reinforced by the opinion of others, we believe to be erroneous the prevalent opinion that positive reactions in adults are of little or no value. Kolmer (5) says that "the positive reactions in healthy persons can usually be ascribed to

- (a) "Small hidden tuberculous lesions and
- (b) Healed Tuberculous Lesions (i. e., healed to the extent of encapsulation."

The routine followed by Dr. Wallace Durel (6) in the Breaux Building, and which I have used in a number of clinic cases outside this series presenting themselves with a probable diagnosis of Pulmonary Tuberculosis is to get:

1. Complete history.
2. Thorough physical examination.

3. A record of the temperature and pulse for one to two weeks.
4. X-ray of the chest.
5. Sputum examination.
6. Tuberculin tests.

An intracutaneous tuberculin test is performed to determine the presence of tuberculous infection. If this test proves negative another is given. Should this also prove negative and all the false negatives have been satisfactorily ruled out, the patient is considered as being tuberculous free. Should, however, the skin test prove positive, Old Tuberculin is next given subcutaneously in increasing doses in order to localize diseased foci, thus determining the activity of the lesions. The amount of Old Tuberculin given in the first dose is gauged by the extent of the skin reaction. If this reaction has been very marked, a dose of 1 mgm. is given; if moderate, 3 to 5 mgms., and if slight, 10 mgms. In other words, the more severe the reaction, the less the dosage of the Tuberculin. Any patient who fails to react to repeated doses of 10 mgms. of Old Tuberculin subcutaneously is considered as being free of clinical Pulmonary Tuberculosis. In some cases of extreme mildness or incipiency as much as 20 mgms. is sometimes given before a reaction is obtained. These conclusions are in accord with L. Brown(7), who asserts that a patient who fails to react to repeated doses of 10 mgms. of Old Tuberculin rarely, if ever, develops active clinical Tuberculosis. Hamman(8) by means of negative subcutaneous tuberculin test was able to send home 7.4% of his sanatorium patients. A patient who reacts to 10 mgms. of Old Tuberculin is considered an active case of Tuberculosis, but of a much milder type than one who reacts to 3 to 5 mgms. We consider a positive reaction one in which the patient reacts either focally, or constitutionally, or together. The local reaction, as in the skin test, is usually present. The significance of the focal and constitutional reactions is as follows:

A focal reaction means an exudative reaction around the tuberculous focus and undoubtedly signifies active or clinical Tuberculosis. It is truly specific. A constitutional reaction is accompanied by the same toxic symptoms noted in active Pulmonary Tuberculosis (i. e., drowsiness, fever, heaviness, vague aches and pains, nervousness, etc.). Durel says that 40% to 60% of the patients who give a constitutional reaction develop active Tuberculosis six months to fifteen years later.

In cases in which I obtained two (2) negative intracutaneous skin reactions, I failed to get a focal reaction at the site of the lesion with subcutaneous doses of Old Tuberculin. No physical findings could be detected in these patients. There was no increase in the perifocal reaction to be seen on the skiagraph.

The statement that Old Tuberculin subcutaneously has lighted up cases of quiescence into activity has not been borne out by our experience in the Hospital. In two very recent cases followed up by X-ray, one to two weeks after the subcutaneous injection of Old Tuberculin in which the patients had a focal reaction, the skiagraph vividly showed that the reaction had subsided and the size of the focus was now practically that of the original focus before the Old Tuberculin had been given. Durel(9), Trostler(10), Hayes(11), Brown(12), Bushnell(13), Riviere(14), and others most emphatically assert that in their wide experience they have never seen the proper use of the subcutaneous injection of Old Tuberculin light up a quiescent focus into activity. It must be remembered, however, that tuberculin is a powerful agent, and as such its indications and contraindications must be thoroughly understood. This is surely no more than is expected of the physician in his use of other diagnostic agents equally as potent and dangerous as Old Tuberculin and to say that the doctor cannot master this knowledge and become conversant with the dangers it possesses, as is claimed by some, is

ridiculous and farcical. With proper use, instead of being a danger these men on the contrary claim that, if anything, the Old Tuberculin has a decidedly beneficial effect on the lesion and may prove to be a stimulus sufficient to cause more rapid healing. In several recent cases at the Hospital the correctness of this observation was vividly and convincingly demonstrated.

At this place I would mention a few words concerning the combined use of the X-ray and Old Tuberculin subcutaneously in the diagnosis of Pulmonary Tuberculosis.

There is no doubt that the increased focal reaction in the lung is strikingly brought out by the X-ray plate. With the kind cooperation of Dr. Granger and Staff we have done several of these tests. An X-ray of the chest is taken. The Old Tuberculin, subcutaneously, is then given. Forty eight hours later, or as nearly so as possible, another plate is made and a physical examination of the chest made and the temperature and pulse chart studied. In two recent cases in which no reaction as indicated by physical findings could be noted, the X-ray also was negative for a focal reaction.

In two other cases there was present in both a constitutional reaction with slightly increased physical findings in the lungs. Here the X-ray showed a distinctly increased perifocal haziness around the site of the previous smaller lesions present before the Old Tuberculin had been given. I think that this combined use of the X-ray and Tuberculin in the diagnosis of Pulmonary Tuberculosis has a great field of usefulness. Trostler and Hayes, who have done a great deal of work along this line are enthusiastic about its great value, and Brown and others place decided emphasis on the diagnostic aid that it renders. Although I have used it in only a few cases, my experience is essentially the same as those of the above mentioned men. Its importance is sufficient to merit further investigation and more general use by the clinician.

Some of the statistics of tuberculin skin tests of different investigators, as compared with the results obtained at Charity Hospital in New Orleans, are as follows:

Hamburger and Monti report 90% Positive Reactions from 10 to 14 years.

Von Pirquet reports 70% Positive Reactions from 10 to 14 years.

Verder and Johnson report 38% Positive Reactions from 12 to 14 years.

Fishberg reports 71% Positive Reactions from 11 to 14 years.

Robbins (Charity Hosp.) reports 45% Positive Reactions from 10 to 14 years.

V. Greenham and S. K. Seibler, using the Intracutaneous Test on 299 well Jewish children between the ages of 6 to 12 years, got 33% Positive Reactions.

Robbins, at Charity Hosp. (N. O.), from 8 to 10 years (6 cases), 33.3% Positive; from 10 to 12 years (16 cases), 43.7% Positive. From 8 to 12 years, 38.5%.

Children's Hosp. (Phila.), from 8 to 10 years (5 cases), 32.6% Positive; from 10 to 12 years (29 cases), 31.0%.

The particular test used is not stated.

Nageli and others claim that hospital and dispensary populations gives almost 100% of infection (Tuberculous) or positive Tuberculin reactions after the age of 30 years. Our results show 80% positive reactions, 77.5% for the white cases and 84.7% for the negroes.

The Intracutaneous Tuberculin Test used on 23 cases of Pulmonary Tuberculosis gave 22 or 95.6% positive reactions for the whites. Two negroes gave 2 or 100% positive reactions. The one case that gave a negative reading was a far advanced case who died three days later. Of 4 cases of probable Pulmonary Tuberculosis there were 4 or 100% positive reactions.

In conclusion, I wish to express my appreciation of Dr. R. O. Russell's interest

and co-operation in the performance of the tests, and of Dr. W. Durel's many extremely valuable suggestions. For the great help rendered me in securing the statistical data I wish to sincerely thank Mrs. G. F. Patton and Staff of the Record Room.

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A SUMMARIZED TABLE OF THE DISEASES AND THE NUMBER OF EACH UPON WHICH A TUBERCULIN TEST (INTRACUTANEOUS) WAS PERFORMED, WITH THE NUMBER AND PERCENTAGE OF POSITIVE TUBERCULIN REACTIONS OBTAINED.

Percentage of Positive Tuberculin Reactions	Number of Positive Tuberculin Reactions	Diseases	Number of Cases
100%	6	Pleurisy Effusion—2 cases Fibrinous—3 cases Sero-Fibrinous—1 case	6
	2	Acute Rheumatic Fever	2
	3	Malaria	3
	2	Gastric Ulcer	2
		Gastric Carcinoma	3
	2	Parkinson's Disease	2
	11	Chr. Cardiovascular Disease	11
92.37%	12	Myocarditis	13
87.5%	7	Influenza	8
87.7%	6	Myocarditis and Nephritis	7
80%	4	Syphilis	5
75%	3	Hypertension	4
	3	Cardio-Renal	4
	3	C. S. Syphilis	4
	3	Diphtheria (Tonsillar)	4
75.7%	8	Arthritis	11
71.4%	5	Cholecystitis	7
66.6%	2	Pellagra	3
	4	Diabetes Mellitus	6
	2	Acute and Chronic Bronchitis	3
	2	Acute Nephritis	3
66.2%	2	Acute Salpingitis	3
50%	4	Bronchopneumonia	8
42.8%	3	Osteomyelitis	7
	2	Lobar Pneumonia	4
	1	Acute and Chronic Gastritis	2
	1	Empyema	2
	1	Prof. Tabes Mesenterica	2
	1	Mumps	2
	5	Hemiplegia	10
	1	Epilepsy	2
33.3%	1	Acute and Chronic Appendicitis	3
	1	Deep Pelvic Abscess	3
25%	2	Neurasthenia	8
	1	Cataract (Eye)	4
23%	3	Typhoid Fever	13
0%	2	Boards	2
	5	Fractures	5
	2	Convulsions (X)	2
	2	Pertussis	2
	2	Amebic Dysentery	2

A SUMMARIZED TABLE OF THE DISEASES AND THE NUMBER OF EACH UPON WHICH A TUBERCULIN TEST (INTRACUTANEOUS) WAS PERFORMED, WITH THE NUMBER AND PERCENTAGE OF POSITIVE TUBERCULIN REACTIONS OBTAINED.

Percentage of Positive Tuberculin Reactions.	Diseases	Number of Cases
100%	Chronic Constipation. Carcinoma of Rectum. Pyorrhea Alveolaris. Duodenal Ulcer. Gastroenteritis. Scarlet Fever Chicken Fox—Psychosis. Neosalvarsan Necrosis of Arm. Healthy Person. Maxillary Growth. General Carcinomatosis. Spastic Paralysis of Arm. (One of Each Tabes Dorssalis. Mentioned.) Functional Nervous Disorder.	
	General Paresis. Cerebral Gumma. Chronic Myelitis. General and Cerebral A-S-Senility. Melancholia—Senility. 32 cases. Partial Amnesia. Chronic Eczema. Erythema Venenata. Asthma. Unresolved Pneumonia. Lobar Pneumonia—Pleurisy with Effusion —Syphilis. Arthritis with Tonsillitis. Arteriosclerosis. Nephritis with Pyelitis. Nephrolithiasis. Threatened Abortion. Exophthalmic Goiter. Second Degree Bites of Body.	
0%	Congenital Syphilis. Hernia. Cellulitis of Neck. Traumatic Contractions of Scar Tissue. Unknown. Infected Wound of Foot. Dementia Precox. Infection of Right Eye. (One of Each Otitis Media. Mentioned.) Xeroderma Pigmentosa. Exfoliative Dermatitis. Acute Pharyngitis and Tonsillitis Tracheo-Bronchial Adenitis. Nephritis and Endocarditis. Auricular Fibrillation.	
	Hydrocele. Nephritis with Arthritis. Appendicitis—Peritonitis. Intestinal Intoxication. Malnutrition. Chr. Appendicitis—Intestinal Parasites— Diphtheria—Vincent's Angina. Cancer of Pancreas. Prob. Cancer of Liver. Intestinal Parasites. (One of Each Gastropasm. Mentioned.) Fistula in Ano.	
		26 cases

THE IMPORTANT RELATIONSHIP OF
POST-MORTEM EXAMINATIONS
TO CLINICAL MEDICINE.*

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In presenting this subject to the Society it is appreciated that the profession, as a whole, is cognizant of the fact that post-mortem examinations are of great value in the acquisition of medical knowledge. However, the lack of attendance of the physicians in charge at the post-mortems held upon their cases, is evidence of insufficient interest and justifies, I believe, some few pertinent remarks relative to this subject.

In the performance of my duties at the Charity Hospital, both for the laboratory service and in the teaching of the Junior Medical students of Tulane, I have had the occasion to carry out well in excess of 1000 autopsies, or approximately 1350. I have been so thoroughly impressed by the absence of the internist or the surgeon or even a representative interne at the post-mortem that it seems in order to place before you the consideration of this important aspect of medical science.

My remarks, of course, are applicable to the local profession but it may be presumed that the same situation prevails in other cities throughout the state. It is not my intention in any manner to criticize individuals in this regard but rather to represent the situation as it exists and to discuss certain phases demonstrating the value of the post-mortem with the view of encouraging better co-operation of those concerned in such valuable procedures.

While pathologists feel that clinicians sacrifice very beneficial information by their absence from the post-mortem of the case, wherein they were much concerned

during life, at the same time, the pathologist likewise loses the benefit of his important clinical observations made *in vivo* and the lack of encouragement and stimulation furnished by their attendance on such occasions. These latter factors are of importance to the pathologist as they serve to aid in his interpretations of the clinico-pathological relationships that may exist in the given case.

I can estimate conservatively that in these 1300 or more autopsies performed by me not over two per cent were attended by the visiting physician in charge of the case, that is, in only one autopsy out of every fifty was the clinician present. I might add that even this small attendance was not scattered through the list of those in charge but rather represents some two or three physicians who have been rather regular in their attendance of the post-mortem of their particular cases. A review of a considerable portion of the record, shows that a correct clinical diagnosis was made in only 40% of the cases and a partially correct diagnosis in 50%.

It can be seen that the proper attendance on such occasions would certainly encourage more precision and care in bedside work and thereby render a better type of service to the patient. It might even be said that through this means of post-mortem observation certain correct diagnoses upon future cases may be made which would ensure surgical or medical treatment directed in the proper line and thereby at times save the life of the patient concerned.

It may be well here in this connection to enumerate a few evidences of gross discrepancies between the clinical diagnosis and the post-mortem findings:

Case (1)—Post mortem examination reveals an aneurysm of the arch of the aorta which had ruptured into the oesophagus. The clinical diagnosis was pulmonary tuberculosis. No clinician present.

Case (2)—Post-mortem examination reveals pernicious anemia. The clinical diagnosis was sprue. No clinician present.

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

Case (3)—Post-mortem examination shows pulmonary tuberculosis. The clinical diagnosis was ruptured appendix. No clinician present.

Case (4)—Carcinoma of rectum with general metastases found at the autopsy. A diagnosis of amoebic dysentery was made before death. No clinician attended the post-mortem.

Case (5)—Carcinomatosis of abdominal viscera with primary growth in the cervix of uterus. The ante-mortem diagnosis was cardio-renal disease. No clinician there.

Case (6)—Lobular pneumonia found at autopsy. Clinical diagnosis was carcinoma of stomach. No clinician.

Case (7)—Post-mortem shows general carcinomatosis, primary in breast. Clinical diagnosis was cardiarenal disease. No clinician.

Case (8)—Clear-cut marked lobar pneumonia found at autopsy, with normal tubes and ovaries, whereas the clinical diagnosis was pyemia from rupture of a tubo-ovarian abscess. No clinician.

Case (9)—Diagnosis clinically was cardio-renal disease and at post-mortem advanced pulmonary tuberculosis was found. Clinically the lungs were cardiarenal disease. No clinician.

Case (10)—Case diagnosed clinically as typhoid, presenting fever and leucopenia. At post-mortem a definite influenzal pneumonia was found. No clinician was present.

These cases formulate only a few of the many striking examples which cannot be enumerated, because of time. In these there existed very distinctive differentiation between ante-mortem and post-mortem findings and certainly a clinician would have been much edified by the contrast to what he had considered existed in the living body. Such occurrences would certainly encourage more care and precision in future examinations and conservatism in diagnosis.

I might state at this point that probably the greatest discrepancies are found in pulmonary examinations. It is in these organs that the greatest liability to err appears to exist. Frequently paradoxical findings antemortemly and postmortemly exist for these structures. Repeated instances occur wherein the lungs are considered pneumonic

or tubercular by the clinician and at post-mortem are found to be normal or again other lungs presenting very extensive gross pathology are put down as normal in the clinical examination.

I am not including herein instances where the clinical findings in any manner paralleled the autopsy findings or could be explained by reflex transmission of pain and the like, but rather those in which no justification of the ante-mortem diagnosis could be determined.

I appreciate that it is very easy for the pathologist to make his diagnosis, because of the fact that he has all the organs of the body at hand, while this does not exist with the clinician during life, but when there is such a marked variance in the findings, it is hard, from a pathological point of view, to determine why the clinician arrived at his conclusion and diagnosis.

The striking report of Cabot appearing over a decade ago upon the clinical and post-mortem findings of several thousands of cases, created considerable commotion in the medical profession. Cabot found 50% of clinical diagnoses in error. Such facts however are soon forgotten and it seems necessary from time to time to bring forward data to encourage the proper co-operation between the clinician and the pathologist in post-mortem work. Recently Professor Robertson presented a paper along similar lines at the meeting of the Southern Medical Society. Robertson likewise considered the encouragement of greater clinico-pathological co-operation very much needed.

One realizes that physicians are busily occupied with various duties which engrosses their time and will occasionally interfere with their ability to follow up their clinical case to the post-mortem; however, it would seem that among such duties as otherwise occupy the physician's time there should be included the very vital and important duty of checking up their clinical findings when the post-mortem presents

such an opportunity. There is no doubt but that correct clinical diagnoses represent the most important factor in the medical and surgical fields.

When the correct diagnosis has been made the institution of proper therapeutics is of the greatest value. It is a fact that the post-mortem table demonstrating definite errors or explaining symptomatology in a manner that would otherwise pass unknown, certainly is calculated to bring about more careful and detailed data available for the proper diagnosis of the living case. With this sole purpose in mind and not from a standpoint of criticism, I have seen fit to present this data as it exists in our local community in the hope that a more substantial realization of the status of the local profession in post-mortem attendance would be more fully appreciated and that thereby there may be encouraged a betterment of co-operation between the clinician and pathologist from which both would receive a very great benefit.

DISCUSSION.

Dr. C. W. Duval (New Orleans): I am sure we are all agreed that the information to be gleaned at the post-mortem table is of inestimable value to the physician whether he be clinician, surgeon or pathologist. The trouble seems to lie in the failure of the physician to attend more regularly the holding of post-mortems; and I believe the poor attendance is not so much the lack of interest on the part of physicians as the irregular time at which the autopsies are held, making it difficult for the doctor to attend. Unfortunately the post-mortem cannot always be performed at scheduled periods, the exception being of course those held at the Charity Hospital for teaching of under-graduate medical students. As the essayist has stated these autopsies are open to all physicians, hence in these instances there is no excuse for non-attendance.

In this important branch of medicine, New Orleans through its great Charity Hospital offers opportunities unexcelled in any other city of the country, and it would seem that too few of our local physicians realize this fact. The well informed doctor is one who is taking advantage of necropsy facilities, and I unhesitatingly state that such a doctor is pursuing the only road that leads to advancement in our knowledge of medicine. It is difficult to conceive of a great physician who

has consistently stayed away from the post-mortem room. The autopsy offers the only means of realizing one's mistakes in clinical diagnosis, and is the way in which to study and correlate anti-mortem and post-mortem effects of disease.

Dr. Friedrichs in his paper draws to our attention how frequent are incorrect and anti-mortem diagnoses, substantiating his statement by relating the gross anatomical findings in a number of specific cases. This only goes to show the tremendous value post-mortem examinations are to the physicians in attendance. I think we all agree that the autopsy room is one of the best post-graduate schools in medicine.

Dr. H. Dickson Bruns (New Orleans): I was once a pathologist at the Charity Hospital and it was the same in the past as it is today. My professor of medicine at the Jefferson Medical College, Doctor De Costa of Philadelphia, never let anything stand between him and a post-mortem if he could possibly get there, and certainly he was a very busy man. He was also a marvelous diagnostician.

Dr. J. A. Storck (New Orleans): I do not believe that in 20 years I have been notified from the pathological laboratory that a post-mortem was to be held on one of my cases. If I ask the interne he says he does not know when the post-mortem is to be held—it might be at two o'clock this afternoon or it might be early in the morning. We would be compelled to spend all our time at the Charity Hospital if we wanted to see the post-mortem of any particular case. Again, sometimes the consent of the relative is not gained until late in the afternoon, and that is the reason. There is something to be said about the physician not being notified.

Dr. William H. Harris (New Orleans): I do not think the clinicians concerned should feel that the paper of Doctor Friedrichs is meant to imply that they would refuse to attend an autopsy but rather to indicate that they do not do so. No doubt, as Doctor Storck has said, there are certain instances wherein the clinician would be pleased to be on hand but they have a patient seriously ill case or an emergency call at that particular time. Again, it may be that the exact time at which the autopsy will be held, may not be known because of the question of the consent of the relatives and other interfering factors.

The status of the non-attendance, in general, is not accounted for by the arguments that have been advanced. The attitude of physicians who fail to attend the post-mortem of their case, is difficult to understand. In some instances one may get the impression that the clinician is of the

opinion that he is going to be belittled or that those about will have a good laugh on him or some other feature akin thereto. I do not believe that feeling should exist among men in scientific medicine. First of all, if the proper pathologist is at hand, he realizes that he is not doing a very wonderful thing in pulling out a pneumonic lung and making a diagnosis of pneumonia, or if he finds an unrecognized surgical condition existing in the abdomen, that to make such a post-mortem diagnosis certainly does not require skill. The point I am trying to bring out is that the pathologist wants the clinician present for the benefit of the clinical data he may gain from him and the clinician should want the pathologist to interpret where necessary, the pathology of the case he has been concerned with ante-mortemly when such an opportunity presents itself. The fact that only one in fifty autopsies is attended by the physician in charge is not explained by any discussion here presented. There is evident in some instances a lack of interest, a disposition to place the attendance on somebody else for example, an interne and even this latter does not appreciate the value of such post-mortems to him and usually does not attend. At times information is obtained in a round about way—they will ask the interne or ask the pathologist as to what may have been found. It is by inspecting the particular structures and appreciating the great amount of pathology that may exist and yet present an obscure clinical picture that one obtains valuable reference data. I have occasion every week to present before the post-graduate class of Tulane, gross specimens collected from several autopsies. We summarize the clinical histories of these cases and review the pathology present. It has always been my attitude that while the interpretations of the pathologist is of some service, the inspection of the structures and visualization of the pathology for the purpose of future examinations serves the greatest degree of value.

It is very discouraging to the pathologist that clinicians do not ever come to these autopsies. The procedures require work and time on the part of the pathologist and I think the clinician should come there, not feeling that he is going to be catechized, not from the standpoint of being belittled, but rather to see what is existing in that body and discuss with the pathologist what occasioned the failure of ante-mortem recognition of lesions in the particular case, if such failure existed. If this could be done I am satisfied it would be of great benefit to both sides concerned. While the pathologist needs post-mortems for his own knowledge, many of them present no unusual pathology and the performance of the autopsy is for the

clinician, for his gain, and he should where possible attend, since he is usually the more concerned.

Dr. Storck: The pathologist has been invited to our clinic meetings at the hospital and they never come and give us their opinion on post-mortem.

Dr. J. Geo. Dempsey (New Orleans): I rise to advocate an increase in autopsies to provide for more accuracy in the filling out of death certificates. The objection that has always existed towards interfering with a body after death should be removed in view of the privilege that is given to the embalmer to carry on work identical in nature.

Three years ago at the Southern Medical Association meeting in Washington, D. C., Doctor Garling of Johns Hopkins University declared that there were less than fifty percent of diagnoses made that were confirmed with autopsies. The gentlemen present were astonished at such a declaration. Doctor Renner while instructing the embalmers showed how easily the physician could diagnose a case as cardio-renal (which is not recognized in the statistics, it is either heart or kidney) and how the embalmer upon injecting into the body had observed a mass in either the right or left lung which showed that there existed an abscess of the lung or an old case of tuberculosis that was carried on as a cardio-renal condition.

Dr. Andrew W. Friedrich (closing): In answer to Doctor Storck, I am of the impression that all of the autopsies are posted on the bulletin board. The autopsies I do are always on the same days and at the same time, because I teach students and use the hospital material for the benefit of the clinician and hospital authorities, and also for the students. I am of the impression that the internists are notified by telephone.

Another thing is that if a patient dies in your ward we cannot touch that body for 24 hours, and if you have any interest in that body you have all that length of time to find out when the autopsy will be held.

I also believe that the laboratory staff is very ready to co-operate with the clinician. I know when I was on the staff we would hold autopsies at any time when it was convenient for the clinician.

As far as attending meetings is concerned, I have attended, not only one, but several, and those I attended there were papers read, but the post-mortems on patients were not discussed.

SACRAL AND PARA-SACRAL ANESTHESIA*

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For the past thirty years of more, there has been constant study and research in an endeavor to relieve the pain of surgical operations by means of local anesthesia, regional anesthesia and the blocking of the nerve trunks. Much has been accomplished, and the field of local anesthesia is gradually growing larger. The first work of this character began with the advent of cocaine in 1884. This agent was used very extensively, but its great toxicity rendered its use very dangerous and cost many lives. Less toxic agents have come into use, and more recently novocain, which is entirely safe, and can be used in large quantities, has rendered the use of local anesthesia practical and advisable in many cases which could not undergo an operation under a general anesthetic.

In the development of this great field, we are greatly indebted to the pioneer work of Dr. Rudolph Matas and the continuation and extension of this work by Dr. Carroll W. Allen of New Orleans. That wonderful book on "Local Anesthesia" by Dr. Allen has helped and encouraged many young surgeons, teaching them methods and technique, but above all showing them the value of an accurate knowledge of anatomy.

The objection of patients to a general anesthetic and my dislike of the infiltration method of local anesthesia in the region of the perineum and rectum, induced me, some time ago, to attempt the caudal block combined with the trans-sacral block in the relief of certain conditions. This method is advisable in all cases where there is any bronchial irritation or in cases where there is a tubercular condition of the chest, or an arrested case of tuberculosis where the administra-

tion of ether might light up the condition. It is not claimed that its use will reduce the number of cases of so-called ether pneumonia, because, except in those cases presenting respiratory symptoms before operation, it is generally recognized that this type of pneumonia is embolic in character and will occur as often after local as general anesthesia.

Infiltration around the rectum frequently is the cause of deep seated infection, and abscess formation resulting in great pain to the patient, a prolonged convalescence, and distress to the surgeon. Again, massive infiltration here, as elsewhere, devitalizes the tissues, resulting in slough or tardy healing and for this reason is undesirable. The method we propose is not new, but is being used by comparatively few surgeons. This is due to the fact that it takes probably more time and patience than a general anesthetic and a more minute knowledge of anatomy. But, if we consider that the method is as safe or safer, than ether and that the patient is saved the unpleasantness of going to sleep and the after nausea, I am sure more men doing surgery would adopt it.

Caudal block, associated with trans-sacral block, is indicated in operations upon the area supplied by the sacral plexus, namely the perineum, anus and rectum, post-sacral region, the cervix, prostate and bladder.

In the first place, it is to be remembered that this method is not spinal anesthesia, as the dura is not entered by the needle, and only when this is done by mistake, is the procedure attended by danger.

The efficiency of this method of anesthesia varies in the hands of various surgeons, but in the hands of the average careful surgeon, using the proper technique, failure should be unusual. At the Mayo Clinic, only three failures in a series of two hundred and twenty-five cases are reported. These failures were probably due to anomalies in the structure of the sacrum.

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It is necessary to take up grossly the anatomy of the sacrum in describing the technique of caudal and trans-sacral block. The sacrum, on its posterior surface is convex, and its convexity faces upward and backward. On each side of its irregular spinous processes are located two rows of openings, usually eight in number, four on each side, the sacral foramina. These rows of foramina are almost parallel, but converge slightly toward the lower end of the sacrum. At the lower end of the sacrum, corresponding to what would be the fifth spinous process, is a triangular opening, called the sacral hiatus. The landmarks which are our guide are the sacral cornu and the posterior superior iliac spines.

Caudal block is the injection of an anesthetic fluid through the sacral hiatus into the sacral canal. The solution does not, and should not, enter the dura mater. The patient is placed on his stomach and a pillow under the hips. The field is prepared with iodine, pyxol, picric acid, or any method the operator may desire. The tip of the coccyx is felt, and the finger is drawn upward until a depression is felt at the juncture of the sacrum and coccyx. The sacral cornu are felt on each side of the hiatus. The fourth sacral spinous process is felt above. In the centre of the triangle formed by the sacral cornu and the fourth sacral spinous process, the injection is made. The needle is first introduced through an anesthetic wheal, previously made, at an angle of forty-five degrees to the skin surface. As the needle passes into the sacrum through the sacro-coccygeal ligament, a sensation is felt which is usually recognizable to the operator. The needle impinges on the anterior wall of the sacrum, and should then be slightly withdrawn and the hub depressed and then the needle advanced for a distance of about six centimeters. After it is ascertained that no fluid or blood escapes from the needle, it is withdrawn very slightly and then twenty to forty cc. of a two per cent solution of novocain is injected slowly. If the solution is injected rapidly, shock will probably re-

sult. Adrenalin may be added to the solution if desired.

Many operators content themselves with the caudal block in operations on any area supplied by the sacral plexus. However, the consensus of opinion is that this should be combined with the para-sacral block. The technique is much more difficult, requires greater skill, and considerable patience. The reason for parasacral anesthesia, in addition to sacral anesthesia, is that there are a considerable number of failures in the use of the latter alone, whereas, where the parasacral method is used also, anesthesia is almost uniformly produced. The reason is that in caudal block alone, the anesthetic is not always evenly distributed, whereas, in parasacral block the nerves are reached as they are emerging and is virtually the same thing as para-vertebral block.

The patient is placed in the same position as for caudal block. The hand follows the crest of the ileum, posteriorly, and where it loses contact with the bone is the posterior superior iliac spine. In very thin patients, this landmark is easily seen, but in fleshy individuals, it is often difficult to locate. A line drawn one centimeter medial to the posterior superior iliac spine, downward and slightly inward, and passing over the sacral cornu, will bisect the sacral foramina. An anesthetic wheal is raised just below the posterior superior iliac spine and one centimeter medial to this landmark, this point representing the second sacral foramina. Another wheal is raised just lateral and below each sacral cornu which represents the sacral notch or fifth sacral foramen and is the point of injection of the last sacral nerve. The distance between these points is divided into three equal parts by two additional intermediate anesthetic wheals. Another wheal is placed in the same line two and a half centimeters above the uppermost wheal which is the point of injection of the first sacral nerve. This procedure, carried out on each side of the sacrum, indicates the

point of injection of the sacral foramina. I find the procedure is greatly simplified if a number of needles are available and each needle is left in situ. This serves as a guide in subsequent injections and saves much valuable time. Occasionally six segment sacra are encountered and may be recognized by the increased distance between sacral cornu and posterior superior iliac spines.

As the overlying tissues are much thicker over the upper part of the sacrum, longer needles have to be used in injecting these foramina. The needle used should be very flexible. Avoid a brittle needle. I have tried several types of syringes but the Leur-Lox outfit B. D. & Co., has been the most satisfactory in my hands. The needle never flies off the syringe, thus losing your anesthetic fluid and causing delay. Again the needles are very flexible and have a guard just below the hub of the needle which serves as a great protection in case the needle should break at the hub, which is the usual place for a needle to break. For the first foramina, a needle 10 c.m. long is used, 8 c.m. for the second, and 5 c.m. for the last three.

Six cc. of a one percent novocain solution is injected into the first foramina, five cc. in the second, four cc. in the third, three cc. in the fourth and two cc. in the fifth. If the caudal block has preceded the trans-sacral block, the procedure will be painless.

From fifteen to twenty minutes should elapse before operation is begun if caudal block is used alone, and the anus and perineum should be tested for anesthesia by picking up with tissue forceps or pricking with a needle. It will be noted that there is a complete relaxation of the rectum when anesthesia has taken place and practically no dilatation is necessary in doing a hemorrhoidectomy or other rectal operation. Where para-sacral anesthesia is also used, the operation can be begun in ten to fifteen minutes.

If painstaking care is used, proper anesthesia will be produced. If failure does occur, it is usually faulty technique. Occasionally, deformity of the sacrum will cause failure. Sometimes, immediately after the initial injection there may be slight shock, with rapid pulse and slight dyspnoea. It is due usually to too rapid injection of the anesthetic solution, but it is never of serious consequence.

CONCLUSIONS.

In operations on the anus, this anesthetic is far preferable to local infiltration, because with the latter, you are making deep injections into a field that is difficult to render sterile. This, likewise, applies to all rectal operations. In prostatic surgery, it is greatly to be preferred, because these patients are nearly always very old and weak, and it is not advisable to use a general anesthetic.

Its field of usefulness extends to operations on the bladder and posterior urethra. Cystoscopic examinations can be made, irritable bladders can be distended, tumors and stones can be removed from the bladder without pain.

Perineorrhaphies can be performed painlessly by this method, and even the uterine cervix can be dealt with surgically.

Resection of the coccyx can be done painlessly. Fistule in ano are dealt with easily and with entire comfort to the patient.

Sciatica can be quickly relieved, and frequently the relief is permanent.

Reports seem to indicate that sacral anesthesia may become a potent factor in the relief of pain in the latter stage of labor and in the relaxation of the pelvic floor, thus reducing the liability of perineal laceration. It is claimed that it has the advantage of allowing the patient to assist by voluntary effort, while traction is made with obstetrical forceps. However, it is difficult to use sacral and parasacral anesthesia on a pregnant woman, because you can not place her in the ventra prone

position and are forced to place her on her side. Again, it is hard to select the proper time for anesthesia, the tendency being to use it too early in labor.

The method is safe if properly used. The Mayo Clinic reports a series of eighteen hundred and seventeen cases without any serious results.

In tubercular cases, where a general anesthetic is not justifiable, sacral anesthesia should always be used.

Although the field of usefulness of this method of nerve block is limited, still there are many conditions where its use is desirable and advisable.

SPLENECTOMY IN CERTAIN TYPES OF ANEMIA*

WITH CASE REPORT.

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Before considering the types of anemia to which the spleen appears especially related, it seems worth while to review certain of the principal anemias, along with what is known of their causes.

Anemia is a deficiency in the oxygen carrying constituent of the blood, which is haemoglobin. Causes of anemia are of two principal classes: First, those conditions which produce anemia by defective production of blood, Second, those that produce anemia by increased destruction of blood or by blood loss from acute or chronic hemorrhage.

ANEMIA DUE TO DECREASED BLOOD FORMATION.

The principal anemias of this class are: Aplastic anemia, secondary anemia, anemia dependent on bone marrow growth, and chlorosis. *Aplastic anemia* is a disease of the bone marrow of unknown origin, characterized by atrophy of the hemopoietic areas in the marrow and the replacement

of these areas by fat and connective tissue, with consequent reduction of red cells, white cells, and platelets. The true idiopathic aplastic anemia is a slowly progressive and incurable disease. *Secondary anemia* is dependent on changes in the bone marrow resulting from some known disease, such as cancer, tuberculosis, nephritis, metal poisoning, etc. *Tumor growths* in bone marrow such as myeloma, chloroma, and metastatic malignancy in the marrow come more under the consideration of growths than of anemia. *Chlorosis* is a well known type of anemia occurring in young girls and associated with poor hygiene and improper diet. It is characterized by an anemia evident not so much by decrease in red cells as by decrease in their hemoglobin content. These cases recover with proper hygiene and medical treatment.

ANEMIA DUE TO INCREASED BLOOD FORMATION.

The principal anemic condition of this class are: Acute toxic hemolytic conditions, hemolytic jaundice, Gaucher's disease, Banti's disease, other chronic splenomegalies, pernicious anemia, and the hemorrhagic diseases.

Acute toxic conditions causing hemolytic anemia include malaria, some acute streptococcus infection, chemical poisoning, and hemolytic anemia of pregnancy and the puerperium. They will not be discussed in this paper. *Hemolytic jaundice* is usually a hereditary disease, but may be acquired. It is characterized by a mild chronic jaundice or subicteric state, anemia, and enlarged spleen. The characteristic blood findings are increased fragility of the red cells, increased number of reticulated red cells, along with the common changes of anemia. *Gaucher's disease* is a chronic disease beginning in infancy or childhood, and characterized by anemia and marked enlargement of the spleen. Hemorrhagic tendency may develop late in the disease. The blood shows anemia but no changes peculiar to this disease. The one pathologic finding diagnostic of Gaucher's disease is the filling of the spleen sinuses with the

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large vesicular cells, found only in this disease. *Banti's disease*, usually considered in three progressive stages, is a chronic disease characterized by anemia, digestive disorder, tendency to hemorrhages from the stomach, enlargement of the spleen, and in the late stages cirrhosis of the liver, ascites and marked emaciation. There is nothing in the blood examination characteristic of this disease. The anemia is marked and the hemorrhages are occasionally fatal. *Other splenomegaly* cases with anemia, include some cases which seem to be idiopathic and others with known cause, such as malarial syphilitic, and chronic septic splenomegaly. Pernicious anemia shows increased blood destruction, but also disorders of production. This may be true of other anemias regardless of how classified. This disease (pernicious anemia) is a well known chronic incurable anemia and does not require discussion here. *The hemorrhagic diseases*, purpura hemorrhagica and hemophilia, cause anemia by blood loss. Both of these conditions have bleeding as the principal symptom; but the blood examination gives different findings. In dealing with severe anemias and hemorrhagic diseases examination of the blood should include: Blood clotting time, bleeding time, blood platelet count, and fragility test in addition to other routine examinations. Blood clotting time, the time required for clotting of blood removed from the body should be in the normal person, from two to eight minutes. The bleeding time is the time required for bleeding from a needle puncture in the lobe of the ear to stop, the drop of blood being sponged off once each minute. This time should be from one to five minutes. The blood platelet count which runs from 200,000 to 400,000 per cubic mm. of blood, is a fairly complicated procedure, several methods being mentioned in the literature. We at first used the direct method, but have recently changed to an indirect method. The fragility of the red cells is measured by noting the resistance of the cells to varying strengths of salt solution. Hemolysis

in the normal person begins with a dilution of .44 per cent and is completed at .34. In hemolytic jaundice hemolysis may begin when the dilution is only down to .7. *Hemophilia* is a hereditary disease, usually transmitted by females, and occurring in males. The important blood finding in this disease is prolonged coagulation time. The platelet count is normal. *Purpura hemorrhagica* is characterized by a tendency to spontaneous hemorrhage especially from the mucosae, by hemorrhagic spots in the skin, and by decreased number of platelets in the blood, prolonged bleeding time, and normal clotting time, but with friable non-retractile clot.

It is well to mention that disorder of leukocyte production, as in the leukemias, also affects red cell formation and function and that of the platelets, and hemorrhagic conditions and anemia occur in the leukemias.

The above mentioned are the most important anemic conditions. Of these, the following five are cured or definitely benefited by splenectomy; hemolytic jaundice, Gaucher's disease, Banti's disease, idiopathic and other splenomegalys, and purpura hemorrhagica. Two more of these diseases, though not cured by splenectomy, have given questionable results by operation; namely, pernicious anemia and myelogenous leukemia. The remaining conditions, secondary anemia, aplastic anemia, marrow growths, and hemophilia, do not come in the class of cases in which splenectomy is to be considered.

Just why splenectomy is beneficial in these diseases is only partially understood. In order to explain results of splenectomy, it would be helpful to know the function of the spleen; but the function of the spleen is very incompletely known. However, the following facts regarding the spleen have been more or less completely demonstrated. The spleen in the normal person takes part in the process of blood destruction which is a normal process. Removal of the spleen causes decreased blood destruction and in-

creased resistance of the red cells to hemolyzing agents. The white blood cell forming function of the spleen and any other important function it may have, seem to be readily taken up in splenectomized patients by the lymph nodes, liver and other organs. This opinion is based on the lack of any deleterious effects following removal of the injured spleen in otherwise normal patients. Splenectomy in cases with decreased blood platelet count is reported to be followed by prompt elevation of the platelet content of the blood.

With the above observations in view we can partially explain some of the good therapeutic results of splenectomy. In hemolytic jaundice the fragility of the red cell is increased. Since splenectomy causes the reverse of this condition it is a very logical treatment, and clinically the results are excellent. In purpura hemorrhagica the characteristic blood finding is a low platelet count with increased bleeding time. As reported cases show that removal of the spleen is followed in such cases by prompt elevation in the number of platelets, splenectomy seems indicated for this condition, and clinical results are also excellent. In Banti's disease, Gaucher's disease; idiopathic, malarial, chronic septic, and syphilitic splenomegaly, there is no pathologic increase in the fragility of the red cells, and no diminution of platelets, and yet splenectomy gives excellent results in these diseases. Possibly such spleens are continually liberating some toxic substance into the blood stream. This would account for some of the secondary liver involvement, as the spleen blood goes directly to the liver. Also, once the liver is involved, removal of the spleen may be beneficial to the liver by diminishing the amount of blood to pass through it. In cases such as malarial, syphilitic, and septic spleens splenectomy also eliminates an infectious focus.

In the above paragraphs I have mentioned and partially classified the most important anemias. Clinically many cases do not fall completely into any of these classes, and this is true of the case which I have to report.

CASE REPORT.

Miss J. B., age 20, white, native of Mississippi. Occ. student. Admitted August 23d, 1924, to the Vicksburg Sanitarium.

Family history: Mother and father L. and W., and five sisters and two brothers L. and W. Grandfather on mother's side was a bleeder.

Previous history: Only other disease was measles and she was nit sick with it.

Present illness: Frequent ecchymotic spots since birth. Bled profusely from first and subsequent tooth extractions. Frequent severe epistaxis began at eleven years. Menstruation appeared at 14 years and with the first period she bled until her life was despaired of. Principal trouble since then has been profuse uterine hemorrhage with menstrual periods which are always prolonged. Each spring and each fall patient would have an unusually severe attack, uterine bleeding continuing without stop for weeks, and accompanied by extreme prostration and fever. Between these attacks she would slowly build up to a tolerable condition of health. The summer before admission health had been very bad. She was having about two chills a week with fever, thought she had malaria, took quinine which precipitated severe uterine hemorrhage, became so extremely ill that now, two weeks later, she is brought to the hospital by ambulance. On admission she complains of uterine bleeding, extreme weakness, shortness of breath, dimness of vision, swelling of feet, hands, and face, abdominal pain and distension, nausea and vomiting. Examination: Temperature 102, pulse 138, resp. 26. Skin white, lips colorless, marked apathy. Marked oedema of extremities and face. Numerous purpuric spots over entire body and extremities. Systolic murmur at apex of heart. Spleen or liver not palpable. Pelvic examination negative. Urine was normal. Stool examination negative. Hgb. 30½%. Red count 2,752,000. Platelets 17,000. Coagulation time 1 min. Bleeding time ½ min.

Transfusion of 500 cc. citrated blood was done immediately after admission. There was no reaction. Prompt improvement followed, all symptoms disappeared and on Sept. 7th, the 16th day from admission, patient was discharged. (For condition blood see Chart, Sept. 5th.)

BLOOD CHART.

	Coag. Time	Bleed. Time	Hgb. %	Red cells	Color Index	White Cells	% Poly.	Platelets	Fragility
Aug. 23, '24	1 min.	½ min.	30	2752000	0.47	16,200	79	17,000	
Sept. 5, '24			65	3528000	0.83	8,500	65	85,000	
Sept. 28	1 min.	1 min.	80	4392000	0.82	8,900	70	83,000	
Nov. 19	4 min.	1 ½ min.	65	3696000	0.82	5,800	63	95,000	
Nov. 21	Operation							76,000	
Nov. 23								246,000	
Nov. 26								133,000	
Nov. 28				4552000	0.74	12,000	73	92,000	
Dec. 1	2 ½ min.	1 min.	75	4256000	0.86	11,900	65	131,000	
Dec. 7			80	4784000	0.70	6,800	60	129,000	0.4
Dec. 31			75	4224000	0.64	12,200	57	46,000	0.25
May 2, '25	1 min.	3 min.	—	604224000	0.64	12,200	57	4,600	0.25

Wasserman negative to three antigens.

Re-admitted September 28th with bleeding from bowels which had just begun. General condition still unaffected by bleeding. Transfusion of 300 cc. citrated blood gave prompt relief. Patient discharged with advice to have splenectomy.

Re-admitted on November 19 for operation. General condition good, having been built by transfusion. (See Chart, Nov. 19.) On November 21, 1924, splenectomy. Gas-oxygen-ether anesthesia. Upper midline incision. Spleen not large. Liver and gallbladder normal. Spleen adherent posteriorly, and there was much bleeding on separating it from the diaphragm. This was controlled by packing. Attachments and vessels carefully secured and divided and spleen removed. Bleeding from wound edges was unusually free, and this was not perceptibly influenced by ligation of vessels. Oozing from the wound was unusually marked the first few hours post-operative. This is contrary to experience of others. Forty-eight hours after operation pulse was fast and patient weak and so transfusion, 450 cc. citrated blood was done. Prompt improvement followed and patient was up and in condition to leave hospital eighteen days after operation, on which date she was discharged. She has been well ever since, all hemorrhagic tendency has stopped. The menstrual periods come at normal time, last three to five days and are not too free.

Pathologic examination of spleen by Dr. Lippincott showed it of normal size, lobulated, malpighian corpuscles prominent, showing large germinative areas. Some vessels thickened, mostly the adventitia, slightly the muscular coat.

The most important point regarding this case are:

1. Splenectomy, so far, has cured this patient of her trouble which she had since birth, and which had disabled her for six years.

2. The blood platelets before operation were low, especially during bi-annual crises. They were comparatively much increased shortly after operation, and now six months after operation they have again fallen to a low level; but with no tendency to hemorrhage.

3. The spleen in this case was not enlarged.

4. Neither the bleeding nor the coagulation time was increased at any time.

5. As is usual after splenectomy the blood fragility in this case is much diminished since the operation.

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NOTE—Report from patient in February, 1926, fourteen months from date of operation is that she is free from recurrence, and is in good health.

ACUTE RHINITIS AND PHARYNGITIS.*

RELATIONSHIP TO PREVENTION OF MANY CONTAGIOUS DISEASES.

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Of all the dread epidemics which have taken their toll of human life since the dawn of medical history, practically all but

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one group have been brought under control. In this group are those diseases which gain entrance through the respiratory tract, or in which the initial symptoms may be an inflammation of the nasal and pharyngeal membranes. Preventive medicine today seems to be as far from a practical solution of the problem as it was in those days when such scourges as cholera, typhus, yellow fever, bubonic plague, and typhoid were stilled uncontrolled.

While some progress has been made in the study of the bacteriology of the various forms of rhinitis, pharyngitis and of the group of diseases above mentioned in which inflammation of the nose and throat may be the earliest symptom, woefully little has been accomplished in the immunology of these diseases. We may be progressing but we are still groping our way forward, in the study of etiology. Our terminology is loose and inexact to such an extent that we frequently cause misconception in the lay mind, and from force of habit we ourselves are often influenced by the suggested idea of a word or a name carelessly used. The word "cold" carries with it the suggestion of a lowering of temperature, of wet feet, of disagreeable draughts of air, of exposure.

Therefore, when we seek through medical literature for some practical method of prevention, we find the author devoting a brief and meagre sentence to the avoiding of infection but many full paragraphs on general hygienic measures, such as stout shoes, woolen clothing, and keeping out of draughts.

In looking over the more recent literature, including the writings of nose and throat men, one cannot fail to be struck by the absence of any attempt at an etiological classification of rhinitis. Even a superficial study of such a classification must convince one of the fleeting character and unimportance of some forms of rhinitis, on the one hand, and, on the other hand, of the possibility of the spread of infection from other

forms. "It is safe to say that at least 75 per cent. of all pneumonias are secondary to colds. The severe forms of bronchitis and asthma usually trace their onset to an acute coryza. Many of the more unusual infections, such as meningitis, poliomyelitis, and encephalitis, date their origin from an acute respiratory infection. Furthermore, it should be remembered that not only in the infectious diseases but also in the chronic constitutional diseases the upper respiratory infections play an important part. The first symptoms of cardiac decompensation, chronic nephritis, diabetes, chronic arthritis, etc., often appear in the wake of a severe cold." (Cecil, *Med. Clinics of N. A.* (July, 1924), v. 8, p. 103.)

In several of the acute exanthemata, the most prominent prodromal symptom is usually an inflammation of the nose and throat. It is furthermore agreed that many of the exanthemata may be transmitted by the discharges from the nose and throat. The dentists and ear-nose-throat specialists tells us, too, that 75 per cent. of all focal infections are found above the clavicles. Remember then that many of these acute infections of the nose and throat are but the beginning of foci of infection. In the face of this evidence, then, is it justifiable to lay so much stress on changes of temperature, and on the effect of foreign proteins and of other toxins, to the almost complete exclusion of bacterial processes? It is granted that a simple, acute rhinitis may not be a serious thing, but who can say in the beginning whether the patient is suffering from a serious or from a trivial condition? It will be readily admitted that at the present time it is not practical to have cultures from the nose and throat of each and every person presenting himself with a mucus discharge from the nares. But, in the absence of such an examination, who can say at the onset of a disease whether the patient is spreading influenza, pneumonia, measles, scarlatina, diphtheria, meningitis, infantile paralysis, or "merely a bad cold?"

The average person, whether physician or layman, usually exclaims, on hearing some one sneeze, "Oh, you are catching cold!" He does not stop to consider whether the sneeze is due to a physiological turgescence which warms cold air as it passes through the nostrils or to dust or some other irritant, or whether it is due to the inflammation of an acute or chronic infection. No attention is paid to the fact that as soon as one ceases to breathe cold air, the flow of mucus stops, and that when dust is removed from the nostrils, the discharge discontinues. Furthermore, in the physiologic, the mechanically irritated, and in the milder toxic types of rhinitis, the symptoms are purely local. It is in the infectious types that you have generalized symptoms such as fever, malaise and constipation.

Permit me to repeat myself. Far too little attention is paid to the origin of these colds and no one ever seems to think that the duration of a cold throws any light whatsoever on the situation. As we have already remarked, the duration of discomfort and discharge of mucus brought on by a physiological turgescence in the nostrils is short. It disappears without treatment. These symptoms, when produced by dust or other irritants in the nostrils disappear as soon as the nasal membranes have been cleansed of the offending foreign matter. But, on the other hand, you know that when you are dealing with a rhinitis of infectious origin, unless it be attacked in its very incipiency, and sometimes even in spite of early treatment, the patient is quite uncomfortable for several days. Many are more than uncomfortable—they are acutely ill. From the standpoint of both prophylactic and curative treatment, the physiological and the irritant types are of no importance.

But, because of the carelessness with which we speak of these conditions, the layman has not only been allowed to think of them as due to a lowering of the temperature, but he is actually taught by us that wet feet and draughts will bring them

on. Read any paper on the cause and prevention of colds and you cannot fail to be impressed by the fact that almost invariably the author merely mentions in passing bacteria as causing colds and then he devotes paragraph after paragraph to minute precautions as to keeping the feet dry and avoiding fresh air. He devotes much space to the wonderful mechanisms so delicately adjusted to produce a sufficient flow of blood to the nose to warm the cold air when a person has to breathe the atmosphere of a lowered temperature, and yet, in the very next breath, he is likely to speak of this same condition as a pathological one. Permit me to call your attention, too, to the fact that this very engorgement of these membranes is looked upon as making the field more fertile for the germ to grow but no attempt is made to make this opinion coincide with the now-universally-accepted principle that a hyperemia in any given locality, even though artificially produced, is a valuable means of fighting infection. I do not believe that, up to the present time, Bier's hyperemic treatment has been discredited. It is, therefore, high time that we have an audit of the various opinions and theories regarding the cause and prevention of colds.

It is high time, too, that the public be taught that every discharge from the nostrils is not due to a lowering of temperature. No one has the right to spray bacteria from his nose or throat into the faces of an unsuspecting public, even though it is not proven that he is suffering from influenza. Because a person does not know that he is a diphtheria carrier, he is not justified in shaking hands with a friend just after soiling his own fingers while "blowing his nose."

It is natural for everyone to back their own judgment. Their conclusions are usually based upon their own observation. But practically everyone observed that the world was flat until the time of Columbus' well known demonstration. For more than a hundred years, people were convinced

that yellow fever was transmitted by fomites. Those who went through the epidemic of 1905 will recall how reluctant were the adherent of the fomites theory to accept the mosquito doctrine.

The more intelligent layman today has ceased to speak of catching cold in a wound, or of a cold in the bowels. May we not hope, therefore, to show him also that he has an infection in his head, and not "a cold."?

If you ask what difference the name of a disease makes to the patient, I must call your attention once more to the suggested idea of a lowering of temperature conveyed by this word "cold" and remind you that as long as the layman is so busy fighting draughts, he is not going to bother about fighting bacteria. He can feel a draught but he cannot feel a germ. Just as long as our skin has more nerve ends transmitting sensations of cold than it has of those carrying sensations of heat, he is going to notice every cool breeze. Remember, too, cold air is stimulating, while warm air relaxes, hence is noticed less.

Much has been made of exposure, and it will be granted that floating for hours in an icy ocean after a shipwreck may lower one's vitality to very marked degree. This is very different from the ordinary so-called exposure. But it has been observed in practically every military campaign that soldiers in wet clothing, fatigued and hungry to the point of exhaustion, may drop in their tracks and sleep for hours without ill effects. But other soldiers, in good physical condition, in warm, dry billets, and with plenty of food, may come in contact with infection, and then "catch cold."

Another favorite and time-honored observation is that we "catch cold" in crowded churches, theatres, schools, railway trains, but none of these observers seem to think of the number of people in the crowd who are spraying infectious bacteria over their neighbors.

Attention should be directed, too, to those who "take cold" so readily and frequently. Of course, in this discussion, space cannot be given to a consideration of those suffering from hay-fever, rose-colds, and food anaphylaxis. It is said of the philosopher Kant, whose physical machinery was most delicate, that he easily took cold from handling moist proof paper fresh from the printer. Undoubtedly he had some form of chronic catarrh. Many people who "catch fresh cold" from wet feet and from draughts of clean, fresh air, are undoubtedly suffering from an acute exacerbation of a chronic infection in the antrum, sinus, or cells of the ethmoid, or sphenoid. Whether or not, the acute "flare-up" of a chronic condition is brought on by a slight lowering of temperature may interest the nose and throat men but the importance of these exacerbations in this connection is that these sufferers are carriers of infection.

Let us teach, then, that the discharges from the nose and throat are infectious. Let us stress the point. Let us make every physician and sanitarian a propagandist. Let our slogan be "Quit fighting draughts and fight germs." When the laity is taught to avoid the man with a cold as a probable spreader of influenza, diphtheria, or meningitis, then will our morbidity statistics show a falling off of these diseases. When people began to screen their homes against the mosquitoes transmitting yellow fever and malaria, it was noted that there was also a reduction in those cases of typhoid transmitted by the house fly. If we can show that keeping away from a person suffering from a cold is not only a practical means of controlling the spread of influenza, but also is a means of eliminating other diseases, then will not this work be more worth while than ever?

In the past, as has been mentioned above, too much stress has been laid on the avoidance of wet feet, insufficient clothing, and exposure, and too little attention paid to bacteria. It is high time that this process be reversed. Let anyone who wishes to do

so keep his feet dry; permit timid souls to keep away from dampness, if they can control the diffusion of moisture in the atmosphere; and, if anyone objects to the back of his neck being tickled, there is, of course, no reason to force him to sit in a draught. But, if the medical profession will recognize and preach and teach the infectious nature of the "cold", the elimination of these diseases will be assured.

It will even be possible, in time to make them see that the germ is no respecter of the sanctity of the family circle, around the fireplace and the stove, and that a huddling together in an attempt by every one to get a little warmth from the fire is simply shortening the distance that the germ has to travel from one person to another. When this point is recognized, then more people will see why "colds" are more prevalent in cold weather.

It is not claimed that this will be an easy task, but, by persistence, we may teach people that it is not nearly so necessary to avoid cool air and dampness as it is to avoid the bacteria-laden breath of those friends whose conversation makes the victim long for a mackintosh and umbrella.

When we bring people to look upon colds as a germ disease, we shall have won more than half the battle against influenza—to say nothing of pneumonia, diphtheria, infantile paralysis, meningitis, scarlet fever and other exanthemata.

Is the fight worth while?

CHART I

DISEASES WITH RHINITIS AS EARLY SYMPTOM AND CONDITIONS AS SEQUELAE TO RHINITIS

Measles	German measles	Chronic infections of:
Whooping-cough	Diphtheria	antra
Scarlatina	Influenza	sinuses
Pneumonia	Bronchitis	ethmoid
Tuberculosis	Infantile	sphenoid
Meningitis	Paralysis	middle ear
	Possibly	mastoid
Small-pox	Encephalitis	tonsils
Chicken-pox		adenoids
Mumps		

DISCUSSION.

Dr. E. F. Howard (Vicksburg): You older men realize, and you younger men when you get to be as old as I am, will come to a realization that it is always a pleasure to meet an old friend. In this day of bobbed hair and short skirts it is not always easy to recognize that friend, but we generally manage to do so if we look close enough, and so I welcome with joy the paper which Doctor Ullman has clothed in the habiliments of the modern scientific times, but which upon close observation reveals the lineaments of an old friend, one that you knew many years ago. This is well illustrated by a story.

It is recorded in the log of that vessel, the account of whose voyage furnishes our earliest maritime history, that when the Ark grounded on

CHART II
ACUTE RHINITIS

TYPE	ETIOLOGY	SYMPTOMS	DURATION
PHYSIOLOGIC	REFLEX to cold air bright light	Local Turgescence temporary Sneezing Clear mucus	Stops as soon as cause is removed.
ANAPHYLACTIC	Foreign proteins	As above	Stopped by elimination of protein or by immunization.
MECHANICAL	Irritant dusts and gasses, or excessive dryness of air.	As above, except when irritation be strong enough to cause pus.	Ceases as soon as cause is removed unless profound inflammation or suppuration occurs.
ACUTE INFECTIONS a. Local b. Systemic	Pathogenic bacteria a. localised lesion b. local reaction at portal of entry of infection	Local Turgescence Sneezing Muco-pus Systemic Headache Fever Malaise Constipation	Localized rhinitis Few days to weeks. Systemic Duration of rhinitis as above but merely a forerunner of many respiratory and exanthematous diseases.
ACUTE EXACERBATIONS OF CHRONIC CATARRHS OF UPPER RESPIRATOR TRACT	Sequelae of acute infections	Same as above RECUR FREQUENTLY	Variable, but often greater than in acute infections.

Ararat and Ham, who was roustabout on the boat, went overboard with the hawser, he slipped in the mud and got his feet wet, and as he started back up the gang plank he began to sneeze, whereupon Mrs. Shem, who was representing the Red Cross in the overflow district, said to him, "Colored man, you get right on down into the engine room and sit down by the boiler until you dry off, because, while, as Doctor Ullman says, this may only be a temporary physiological turgescence of the turbinates, it is possible that it may be catching; and while we do not know anything about germs, of course, because they have not yet been discovered, still we do know that we have two kinds of everything on board this packet and if you go to scattering them around and the giraffe gets the sore throat, there is no telling how long Doctor Dan Williams will keep us in quarantine."

Doctor Ullman's paper hinges on the fact that a physiological nasal reaction simulates symptoms frequently observed in the early stages of certain infections. That is quite true, but it is manifestly impossible to expect every one who sneezes to have a bacteriological examination, putting him in quarantine in the meantime until we get a report from the laboratory, and until we do, I am in the position of the woman who on being told of some of these wonderful improvements, remarked, "Well, the millennium has not come yet, thank God." In the meantime, it is my belief that we had better go on teaching that all colds are catching than to try to teach the people to distinguish between a transient physiological turgescence of the turbinates and the prodromal symptoms of something that will do real harm. This teaching is being done to a great extent in the schools, and I think really better when the doctors do it, and with the friendly and sane work of the State Board it is getting pretty well broadcasted.

As to the terminology at which Doctor Ullman couches his lance, there are many instances where names entirely erroneous have received the approval of years. I can recall nearly thirty years ago hearing Doctor John B. Elliott, Professor of Medicine in Tulane, the father of the gentleman who addressed us last night, lecturing on malaria, state that as malaria was due to the ingestion of bad water and not to the inhalation of bad air, a better word would be "malaqua," but that "malaria" had been so grounded into the public mind that nobody would attempt to do anything with it. We find many other instances of that sort, and we find every day in the mortality reports people dying of typhoid fever when we know absolutely that the conditions of which they died would not resemble typhus. And so I greatly fear that,

however much it may wring the soul of an etymological purist like Dr. Ullman, so long as people sit in draughts and get their feet wet they will continue to "catch cold."

Dr. W. A. Dearman (Long Beach): After having listened to this paper and the most elaborate discussion of Doctor Howard, I hesitate to continue the discussion, but that I may not go too far afield I will limit my remarks simply to that part of Doctor Ullman's paper referring to preventive measures in connection with the respiratory passages. There are two outstanding situations with reference to infection of the respiratory passages that we must consider. The first is the exciting cause, as Doctor Ullman has stressed—bacteriological agents and pathogenic organisms and predisposing factors.

As far as my personal convictions are concerned, I do not believe that there is an adult human being who has not in his own accessory sinuses a veritable flora of the most formidable organisms of the catarrhal group, including the pneumococcus, the micrococcus, the streptococcus viridans, streptococcus hemolyticus, and the staphylococcus group, especially the staphylococcus aureus. So much for the exciting cause, leaving aside the exanthemata with their expression in various nasal troubles.

When it comes to the predisposing cause, very important in my mind is preventing the bacterial cause of colds, because this is a very fundamental principle in the etiology of infections of the respiratory tract. I have never been able to convince myself that measles and other infectious diseases are the predisposing factors that stand out paramount and pre-eminently in the dissemination of so-called infections of the respiratory passages. Why? Because it is well known to the aurist, the rhinologist, the otologist, and to the clinician and the general practitioner, that that condition is almost as common as constipation and looked upon as being simpler. 90 per cent of colds in the respiratory passages occur in winter rather than in the summer seasons, and I want to say to you now as I have said to you before, in this Society, that there is a difference between fresh air and cold air. I have aborted a thousand colds by drying my feet after they have become damp. I have aborted a thousand colds by moving away from the draught when I was warm. I have known people to lose their lives by persistently sitting in a draught because they would not move. I have gone out of the operating room wringing wet with perspiration, and getting into an automobile with the wind in my face, and in five minutes I would have a cold. Why?

Because of the cold air that rapidly cooled me off when I was warm.

We rarely have an epidemic of colds, and if we did it would be almost impossible to isolate and keep in quarantine any one who had rhinitis, because they would not stand for it.

Dr. J. S. Ullman (closing): There is very little to say in closing, except to thank Doctor Howard and Doctor Dearman for their discussions. While I have failed to convince Doctor Dearman as to the unimportance of getting over-heated, he has failed, I think, esqually, to convince me of the importance of over-heating. It may be a poor sort of defense, but I have always this to fall back on—how can a man know that he has avoided this trouble or not? How can Doctor Dearman tell with certainty that if he had not changed his shoes or if he had not dried himself properly when he was over-heated, that he would have had a severe cold at that particular time?

THE TREATMENT OF THE FAILING HEART.*

T. D. BOURDEAUX, M. D.,
MERIDIAN, MISS.

The title of this paper might more properly have been *The Prevention of Heart Disease* rather than its treatment. For while the treatment is tremendously important to the individual patient, it is in the prevention of cardiac, as well as other diseases that medicine finds its largest field of usefulness to the human race. I shall not bore you with statistics to prove that heart disease is becoming yearly more important as a public health problem for each of you must have been impressed with the increasing number of cases of heart disease you are called upon to treat, and the number of death certificates you have signed giving some form of heart disease as the cause of death.

I merely pause here long enough to lay it on your conscience as medical men, to be alive to the situation and do what you can to prevent heart diseases, by enlightening the people to this danger.

This involves not only instructing your patients in the every day habits of living, such as work, play, rest, eating, etc., but also apprising them of the danger of any neglected infection.

It is your duty to safeguard the health and life of the individual patient by a careful study of the cardio-vascular system and to remove as nearly as possible any menace you may find—be it an error in habit or a focus of infection.

I am sure you all realize that almost every infectious disease whether scarlet fever, or an infected toe nail may become a monkey wrench in the circulatory machinery. I am equally sure you know that the mad pace at which America is living is breaking the lives and sending to unnecessarily early graves, too large a number of our people each year by the cardio-vascular route. Everybody is in a hurry to get somewhere, or do something different, or grab a few more dollars, and a large number of the people do not even take the necessary time each day to have a proper bowel evacuation.

Now as to treatment: What can the doctor do when he discovers a failing heart, unequal to the work required of it? First, be sure the heart is failing and don't make a diagnosis of heart failure on account of a murmur or murmurs. Functional capacity is entirely compatible with various sorts of murmurs. Try to determine by careful examination whether or not the heart is actually diseased or whether the patient has just been requiring more than the heart legitimately should be called upon to endure. If some source of infection is found this should be removed if possible. If the man's habits are wrong, correct these. If the cardiac failure is acute put the patient to bed on a light diet and then if the condition is not relieved—digitalis. Let me emphasize the importance of rest for the failing heart; in many cases, this is all that is required. There is nothing more gratifying to me in the practice of medicine than to witness the poor, tired, abused

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

heart muscle struggle back to functional integrity under rest and proper doses of digitalis.

Other drugs such as strophanthus and squill have their place of usefulness when, for any reason, digitalis is not well borne, but none of them possess any advantage over digitalis where this drug can be utilized. Do not pay any attention to the blood pressure if the heart muscle is failing, but give digitalis. In the heart failure of the acute, febrile diseases, morphine is the great tranquilizer and stabilizer and

this in conjunction with the ice-bag is probably the treatment of choice. Digitalis may be tried if the heart is dilated, but it cannot be expected to do much with an acutely toxic heart. Caffein, strychnine and camphor are probably not heart stimulants at all and should not be relied upon. There is one other condition of chronic heart weakness I wish to mention, and that is of the heart of myxedema or hypothyroidism, which improves strikingly under proper doses of thyroid substances. I have seen two such cases.

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BENEFITS OF MEDICAL ORGANIZATION.

You have been informed during the recent past through various medical sources of some of the activities and accomplishments in the conduct of periodic health examinations for our citizens in this country. This new type of work for medical men has been sponsored by the American College of Surgeons and the American Medical Association—applied by many of the states with successful results.

Here is a phase of medical activity truly the work and responsibility of the physician. From the records through the above sources, we find that the results will show not only a material benefit to the citizen

for better health, but the intensification and increase of medical work for the physician in the locality where such examinations are conducted. This should be the function of the family physician. The emoluments surrounding same and the benefits to be accrued should be to his credit.

In Louisiana there has not been any concerted effort for the application of this important feature. We should not tarry longer or we shall fall behind in the work and thus would redound to the discredit of our medical organization. The physicians of our organization and state have ever been alert and interested in the performing of their duty and obligations in all matters medical. Our position in the medical world requires some action to be taken early in perfecting a plan and instituting this work. So we ask that you give this your careful consideration and intelligent thought. Talk it over with your confreres, bring it up in suitable form before the parish and district society. Let us come to the Annual Meeting at Monroe with some revelent suggestion looking toward the application of periodic health examinations in our state.

To those who are not members of the Louisiana State Medical Society, the above is only one of the many features recommended and applied for the benefit of its members. You as a physician of Louisiana should join forces with organized medicine and thus perform your just function in the progression and development of medicine. Following you will find some of the benefits to be derived from membership in the Louisiana State Medical Society.

1. Modern medicine is keeping stride with scientific research. Membership in the State Society gives you a scientific standing.

2. Membership in the State Society provides you with publications recording the latest developments in the Medical Society.

3. Membership in the State Society permits you to discuss with the leaders of the profession medical problems.

4. Membership in the State Society gives you entrance to medical societies in any state of the United States.

5. Memberships in the State and local Society are necessary before you can affiliate with the reputable, professional societies of the country and the American Medical Association. In some states a year's membership in the local society is required before a license can be secured by examination or reciprocity.

6. Membership entitles you to a medical defense.

7. Membership entitles you to a card in the directory of licensed physicians.

8. Members will be supplied with literature for distribution among their patients on what scientific medicine is done to prevent disease.

9. By paying your dues you are advancing funds to promote better medical legislation.

10. The welfare of your profession depends upon the support you give it. A well organized profession means greater respect and better compensation.

AUTOPSIES ONCE MORE.

Autopsies are the occasion of so much discussion that, were the subject less grave, one might be tempted to say that it is a live question of the day.

Within a year this Journal made editorial comment on the difficulty of obtaining post-mortem examinations. The lack of co-operation on the part of morticians, explained by the inconvenience to which they are put by delays and by the technic employed, was commented upon. The suggestion was made, perhaps not relished because of the disagreeable thoughts aroused, that if physicians directed the holding of

autopsies on themselves, such examinations would be made more generally and would be looked upon with less repugnance, the public becoming gradually immunized by their growing frequency.

The present issue of the Journal carries an article in which a pathologist, Dr. Andrew V. Friedrichs, calls attention to the poor attendance on autopsies. Accepting his statement of the statistics as accurate, it would seem that when we have surmounted the primary difficulty of obtaining the important privilege of making a post-mortem examination, we are confronted with a poor attendance on the part of the clinicians who have studied the case ante-mortem. There results a lack of comparison of the *ante* and *post* observations, and the profit from lessons to be learned is correspondingly less; further the clinician gets a second-hand report of the findings instead of a first-hand visual impression, which would sink in more deeply, encourage further observation and present the easy recurrence of errors of omission or commission.

It is reported of the great clinical teachers that they have made attendance on autopsies a duty of the highest importance, with which only extraordinary circumstances were allowed to interfere. Certainly the New Orleans member of the profession who has had the greatest influence in stimulating interest in professional studies of all kinds, Dr. Rudolph Matas, is most untiring in the pursuit of information of this kind.

The explanation given by clinicians in the discussion following Dr. Friedrichs' paper is two-fold: lack of notification of the time of holding autopsies and inconvenient hours for the examination. The former impediment to attendance ought to be easy of removal. As for the latter it would seem difficult to find a generally convenient time. For with visits and operations in the morning, office hours in the afternoon, there is no perfect time for

autopsies. Perhaps agreement on some fixed time would help.

The complaint of the pathologist is an important one, to be taken seriously. Let us unite to make a change for the better!

EXPERT TESTIMONY.

The lay press, during the past year, has been quite scathing in its criticism of many alienists who have qualified as experts in some of the more notorious murder trials. Much has been said regarding their attempt to "differentiate 'twixt tweedle-dee and tweedle-dum". While we must admit that there may be a few black sheep in the medical profession, we are safe in stating that the reputation of the profession as a whole will compare most favorably in probity and in honesty with that of any other body of men.

Under our present system of testimony, both defense and prosecution employ experts to testify on questions of sanity. An alienist, in order to earn his fee honestly must try to present his client's case in the best possible light, just as the attorney does. No one questions the honesty of members of the legal profession when they take different sides on a case. It seems then that, so long as the present system lasts, the alienists, or any other scientists who are testifying, should be accorded the right to serve the interests of their clients.

It is but right and proper that there be legal standards of sanity. But are these standards in perfect accord with the facts as set forth by modern psychology and psychiatry? The legal profession makes much of the points as to whether the accused, whose sanity is being questioned, was sane at the time the act was committed. They will have a man sane today and insane yesterday. They are too prone to overlook the defective mental foundation which gives way under the stress and strain of modern conditions. Such a person is practically always a criminal. Reproduce similar con-

ditions to those existing at the time of a former crime, and we are even more likely to have this individual commit a second one, for the first act has lowered the threshold of his inhibitions.

So long then as we have these cases appealed, or thrown out of court on technicalities, these potential criminals remain both a burden on, and a menace to society.

It seems that the solution of this many-sided problem may be reached by the appointment of a permanent commission of experts. The commission should pass upon such technical questions, and its decision should be final in so far as the court was concerned. If its study of a case should prove a man a fit subject for a hospital for the criminal insane, such a finding should obviate the necessity of a trial and thus save the state a considerable expense. It would, furthermore, give the accused pauper, theoretically at least, as fair a chance as the accused millionaire.

The question of release from a penal institution, where the prisoner has been committed by decision of such a commission, should be determined by the same body. A governor, or a board of pardons, is no more qualified to pass upon a question of sanity than is a jury.

Such a procedure, as far as the matter of testimony is concerned, might with equal profit be utilized in the determination of questions involving other sciences than psychiatry. For the judge, lawyers, and jury are just as poorly qualified to consider the technical side of chemistry, bio-physics, and bio-chemistry, and the various branches of engineering.

Of course, it is obvious that the individuals chosen to membership on such a commission should be of such standing in their respective professions as to be above reproach. If such an office is to be looked upon as a political plum, then this method may be as badly abused as is the present system.

AMERICAN COLLEGE OF SURGEONS SECTIONAL MEETING

The 1925 Sectional meeting of the American College of Surgeons embracing the states of Louisiana, Florida, Georgia, Alabama and Mississippi, was held in New Orleans on January 25th and 26th. The program was splendid and impressive. The contributions of the doctors in the states embraced by the Sectional meeting were greatly augmented by a number of visiting doctors who travelled thousands of miles to add their efforts to the success of the occasion. The program embraced three definite sections; the Hospital Conference which was held the afternoon of January 25th and the morning of January 26th; the Public Community Health Meeting which was held the night of January 25th and the Scientific Session which was held the afternoon of January 26th. The question, directed by a layman who was vitally interested in medical problems, because of his membership on the Board of Managers of one of the New Orleans hospitals, was most impressive—"What is it", asked this Board member, "that brings these nationally known members of the medical profession to us on this occasion?" Certainly, the answer is in the fact that the College of Surgeons has for a number of years been utilizing these sectional meetings as a practical demonstration of their ideals of service to the sick. A great many of our doctors and still more of our hospital folks can not avail themselves of the opportunity of attendance on the big National Meeting and the holding of these sectional meetings is in fact the very bringing of the "Mountain to Mohammed".

Two special addresses of outstanding merit were delivered before crowded medical audiences at the Hutchinson Memorial. On Monday, Dr. George W. Crile of Cleveland, delivered an illustrated lecture on "New Surgical Technique", in which he described a number of original and very valuable procedures that he had developed in his Clinic. He declared that a fair trial of radium in the treatment of carcinoma of the tongue had led to disappointment, and increased his confidence in the superiority of surgery for this form of cancer. In carcinoma of the tongue he had adopted the method of Bastianelli of Rome, Italy in which the removal of the growth was preceded by the ligation of the lingual arteries, and a block excision of the submaxillary and carotid lymph nodes. The excision of the tongue then followed in a bloodless way under a local anesthesia. Dr. Crile then dwelt upon his well known electro-chemical theory of shock, and pointed very ingeniously to the great advances of diathermy as an ideal method of holding the body temperature especially of the liver and master organs of the chest and abdomen at or above a normal level, in performing abdominal operations on bad risk

patients. The application of diathermy in maintaining the body heat was most valuable in counteracting the depressing effect of shock, especially in abdominal cases. The treatment of contaminated wounds by packing with Morrison's "Bipp" (Bismuth, Iodoform and Paraffin) was also expounded as a valuable lesson from the World War. These and other points of very practical value were brought out in this instructive lecture. The admirable way in which these valuable suggestions were marshalled out in the course of an hour is well expressed in the comments of one of the younger surgeons who said, "I marvel that one can crowd so much information in so short a space."

On Tuesday, Dr. John Osborn Polak of Brooklyn, had as the subject of his address "What Type of Fibroid is Amenable to Treatment by X-Ray and Radium"? Dr. Polak's address was the very last word on the subject and those who had the privilege of hearing him have profited greatly by the very practical and fundamental keynote of his talk.

The Public Meeting, presided by Dr. James C. Willis of Shreveport, was held on Monday night to an overflow audience and our Dr. Matas now serving as the President of the American College of Surgeons, received an impressive ovation by his colleagues, fellow citizens and visitors when he took the platform to make the first address of the evening. In welcoming the visiting surgeons and guests, he rejoiced that they were meeting in the greater New Orleans, made greater by its unparalleled growth and prosperity through the magic touch of modern scientific medicine. He drew a striking parallel between the New Orleans of 1905 and the new and transformed city of 1926. He pointed to the memorable summer of 1905 when the decisive battle was fought which delivered New Orleans, the South and the North American Continent, from the yoke of yellow fever. For over a century New Orleans and the South had been held in the deadly grip of this plague—the greatest known destroyer of maritime commerce and trade. The victory of 1905 achieved by the application of the doctrine of mosquito control has made of New Orleans, like Havana, Panama, Vera Cruz, Rio and all the seaboard of the western hemisphere an eternal and unpaid debtor to medical science through the discovery of the role of the stegomyia mosquito in yellow fever propagation. For over two decades New Orleans and the South have prospered in the enjoyment of the fruits of this victory, and it was time that so epochal an event should be fittingly commemorated by a public monument. "It is time that the people should be reminded that the bloodless victories of science are far more significant to the welfare of the race than the bloody and

glorified battles that tell chiefly of man's inhumanity to man."

Dr. Franklin H. Martin, Director General, surveyed the activities of the College and laid stress on what it is doing to improve the character and efficiency of the surgeon, and upon the hospital as the center of the surgeon's activity. He explained the enormous significance for the welfare of the community of the great movement for hospital standardization so vigorously and successfully undertaken by the College. He stressed the growing importance of periodic health examinations for the prevention of disease. Of every one thousand deaths, 185 were from heart diseases, particularly claiming as its victim, the professional and office man, who suffered most from the high pressure and strain of modern mode of living. Death from this and other causes can be delayed by early consultation with a competent medical man. Every adult should celebrate his birthday by taking a complete stock of his physical condition through a competent physician. Dr. George W. Crile gave the public a picture of the untold benefits accruing to suffering humanity through information acquired by Experimental Medicine. Increase in the average length of human life from 18 years in the 16th century to 56 years in 1924 was due largely to the work of the quiet, painstaking medical workers in experimental laboratories, who devote their lives to the investigation of disease and to the problems involved in prevention and cure. They are inadequately compensated. He urged a better understanding by the public of the great value of the scientific work that was going on in these laboratories. He urged the intelligent and liberal minded to foster research and medical discovery by contributing liberally to the encouragement and maintenance of this modest but most productive class of workers.

Dr. John Polak spoke on "Prenatal Care" stressing the great necessity of insuring the greatest possible health to the mother that she might transmit it as one of the greatest heritages that is possible for a mother to give to her offspring. Dr. Polak complimented New Orleans on the wonderful opportunity it was giving in the form of post-graduate education in Obstetrics through the Junior League Fellowships that are to be carried on by Tulane University with Touro Infirmary cooperating. "No better contribution to the betterment of humanity could be given", he said. Few realize the tragedy of child-birth. An average of one woman out of every eight dies in child birth, and 8 of every 100 babies are still-born. 61% of all operations performed on women are required to correct the effects of poor obstetrical care. He showed figures on three sets of a thousand cases

each that the infant mortality in Brooklyn had been reduced 400% through proper prenatal care. Incidentally he said "The modern girl can't be told much, but she can be told something. She knows more than her grandmother did when she died, but the question is whether or not she knows the right thing".

Father Moulinier whose genial countenance and words of wisdom can always be looked forward to as a contribution to our Sectional Meetings gave a straight-from-the-shoulder address on the "Measure of a Hospital". He gave to the public some very definite and concrete information as to the measures they could apply in ascertaining whether or not the hospital they were to enter was the best one available.

The meeting was closed by Dr. Allan Craig, Associate Director, American College of Surgeons, who talked eloquently on the wear and tear of the human machine in modern life, and its prevention by recreation and rest, and along the lines of life extension. He closed the meeting with a very interesting moving picture on "How the Fires of the Body are Fed".

No one who attended this meeting could possibly have gone away without having acquired the impression that it was a good idea to judge his or her doctor by the hospital in which the doctor was permitted to work on the basis of the fact that hospitals, through the Hospital Standardization Movement of the College of Surgeons, had generally accepted their sacred stewardship of the public weal in permitting only the best doctors to do their best within the walls of these institutions.

SCIENTIFIC SESSION.

The scientific session, presided over by Dr. W. H. Wilder of Birmingham, Alabama, was held on Tuesday afternoon at the Hutchinson Memorial. An unusually full and attractive program was presented as follows:

"Surgery of the Gall-Bladder", by Dr. Frank K Noland, Atlanta, Georgia. "Practical Remarks on Intestinal Obstruction", by Dr. Frederick W. Parham, New Orleans. "Gastric Syphilis", by Dr. J. Knox Simpson, Jacksonville, Florida. "Gun Shot Wounds of the Abdomen", by Dr. Rudolph Matas, New Orleans. "Hirschprung's Disease", by Dr. H. P. Shands, Jackson, Mississippi. "Present Status of the Cancer Question", by Dr. Frederick L. Hoffman, Newark, New Jersey.

The scientific session was as important and interesting to the professional public of New Orleans as the community health meeting had been valuable and interesting to the lay audience of the previous evening. The auditorium of the Hutchin-

son Memorial was crowded with attentive listeners, who appreciated the excellent points brought out by each one of the speakers. All the papers were of a high order and should be reproduced in the Medical press for permanent reference. As of special local interest, we would refer to Dr. Matas' paper on "Gun Shot Wounds of the Abdomen". He showed that from 1890 to 1924 inclusive (34 years), 1174 gunshot wounds of the abdomen had been admitted to the Charity Hospital, with an average mortality 60.52%. During the eleven years, 1914-1924 inclusive, a total of 3140 patients had been admitted for the treatment of gunshot wounds in general, and of these 632 had died. This means that 3.31% of all the surgical admissions to the hospital were for gunshot wounds, and that 10.11% of the total surgical deaths in the hospital were attributed to wounds inflicted by fire arms. From 1904 to 1924 inclusive, a grand total of 5691 gunshot wounds had been admitted of whom 1196 had died! In the discussion of this paper, Dr. F. L. Hoffman, the eminent statistician and veteran student of criminology in this country, stressed the sociological side of this great problem. "We must wake up", he said. "The pistol toting habit in this country is one of the vilest remnants of lawless, pioneer days. The figures show that 70% of all murder deaths in this country are due to fire arms. I am not an alarmist or a pessimist, but this is a frightful state of affairs. The surgeons and medical men who are unavoidable witnesses of the fearful havoc wrought upon the life and morals of the community through the criminal use of fire arms should raise their voices in protest."

In closing his address on the Present status of the cancer question", Dr. Hoffman said, "From the examinations made of 1600 native Indians in Boliva and Peru, I found only four cases of cancer, and these were all in city dwellers. Cancer and civilization go together; it is the most menacing disease facing the adult people of America today. The greatest single factor in coping with the disease is the time element, by which I mean, the time elapsing between the discovery of the disease and its treatment. For New Orleans this is eighteen months on the average. Surgery still remains the best treatment, but the prime essential is promptness in applying the treatment.

The *Hospital Conference* furnished very excellent medium of exchange of ideas as between the doctors and the hospital administration. Dr. James C. Willis of Shreveport presided at the Monday afternoon meeting at which Dr. Franklin Martin, Director General of the College of Surgeons spoke on the American College of Surgeons and its relation to hospitals.

Dr. L. R. DeBuys, representing the American College of Physicians, spoke on Hospital Efficiency from the Standpoint of the Internist, and Rev. C. B. Moulinier, S. J., spoke on the Community Responsibility of a Modern Hospital.

The Round Table conference which followed was conducted by Dr. W. T. Henderson of Mobile. The following questions were discussed: "Extension of Privileges to Practice in Hospital," by Dr. C. Jeff Miller, New Orleans, discussed by Dr. J. W. Barksdale, Jackson. "Consultations," by Dr. Gerry R. Holden, Jacksonville, discussed by Dr. J. M. Moseley, Shreveport. "Organizations of Ophthalmological and Oto-Laryngological Departments in General Hospitals", by Dr. A. B. Harris, Birmingham, discussed by Dr. C. S. Lentz of Augusta and "Laboratory Service", by Dr. George S. Graham of Birmingham.

The Round Table Conference for Hospital folks was conducted on the morning of January 26th by Dr. Williamson, Assistant Director of Hospital Activities of the College.

New Orleans is proud and happy in having the privilege of entertaining the Sectional Meeting of the American College of Surgeons and feels deeply honored in having been visited by the members of the College in Alabama, Florida, Georgia, Louisiana and Mississippi, and particularly in having been signally favored by the visit of Crile, Polak, Father Moulinier, Franklin H. Martin, Allan Craig and the rest. New Orleans is no less proud in being able to point to its own Dr. Matas who, in accepting the Presidency of the American College of Surgeons, has brought honor to us.

On Tuesday, January 26th, the following State Committees were elected for 1925:

Louisiana: Dr. H. B. Gessner, New Orleans, Chairman; Dr. E. S. Hatch, New Orleans, Secretary; Dr. Louis Abramson, Shreveport, Counsellor.

Mississippi: Dr. S. H. Hairston, Meridian, Chairman; Dr. J. C. Culley, Oxford, Secretary; Dr. T. E. Ross, Hattiesburg, Counsellor.

Alabama: Dr. W. H. Wilder, Birmingham; Chairman; Dr. French H. Craddock, Sylacauga, Secretary; Dr. F. G. DuBose, Selma, Counsellor.

Georgia: Dr. W. A. Selman, Atlanta, Chairman; Dr. G. Pope Huguley, Atlanta, Secretary; Dr. C. T. Nolan, Marietta, Counsellor.

Florida: To be elected.

Birmingham will be the next meeting place. Tennessee will also be invited to participate in the Birmingham Conference.

Dr. C. Grenes Cole, State Secretary, the President, and the Local Committee of Arrangements, including the Committee on Hospital Clinics, deserves great credit for the excellent way in which the preparations for the meeting were conducted.

TRANSACTIONS ORLEANS PARISH MEDICAL SOCIETY

January 11th, 1926.

ANNUAL REPORT OF THE SECRETARY 1925

To The Officers and Members, Orleans Parish Medical Society:

Gentlemen:

To the Medical Man his local Medical Society, is or should be his chief interest. Its scientific sessions fulfill their purpose but carry little of the actual workings of the Society, this being accomplished by the Board of Directors.

In presenting this, my Annual Report, I wish to review some of the work accomplished during the year adding thereto some suggestions which I hope will prove acceptable.

During the past year two of our members have been recipient of signal honors. Dr. Rudolph Matas was elected to the Presidency of the American College of Surgeons, and Dr. C. C. Bass was elected to the Presidency of the Southern Medical Association. We entertained as guests during the year, Professor Aldo Castellani of London, England and Dr. George Gelhorn, of St. Louis.

MEMBERSHIP.

Effort has been made during the past year toward increasing our membership. We fell short of our aim, a membership of 500, principally due to insufficient available material. The present membership is 470. Losses during the year from all causes amounted to 27, with a net gain of 40. Our gain is represented as follows: New members 38, reinstated 4; losses were due to deaths, 6; dropped for delinquency 9, resigned 4, removals 2.

MEETINGS.

A total of thirty-one meetings were held during the year. Eleven regular scientific meetings, 4 Clinical Meetings, 4 Executive Meetings, and 12 Board of Directors Meetings.

The programs were very interesting and well prepared; the papers read were of excellent quality and the discussions were rather free in many instances, but I am of the opinion that the assigning of someone to open discussions would be generally beneficial. The attendance has increased about 30% over the previous year. This is some improvement, but it is not yet near what it should be and every effort should be made toward securing larger gatherings. Our Executive Meetings are largely a matter of routine and lack color, but these meetings might be made more attractive by

allotting some of the time for the discussion, through the medium of prepared papers, of subjects allied to our Profession namely, Questions of Ethics, Civil Rights, Legislation, Legal Medicine, Medical Witnesses and Court Procedure, the Financial side of the practice of Medicine, etc. These matters I believe from time to time should be frankly discussed among ourselves and the suggestion is offered for what it is worth.

Speaking of attendance it is interesting to record that during the past three years approximately 70 members have not attended a single meeting, and practically as large a number have attended but one meeting.

DUES.

Early in the year a successful attempt was made to collect the annual dues. The experiment proved very satisfactory, a large portion of our dues were received early in the year and resulted in less delinquencies than ever before.

If this Society is to expand and develop all of its features to the point reached by other Medical Societies, an increase in dues is imperative. We must take cognizance of the fact that it is simply a question of time before we may have to change our domicile and something must be done to increase our domicile fund. The Library is growing and lacking the protection of a fireproof room and its expansion is making greater demands for maintenance. Office expense shows a slight increase due to the increase in membership, greater activities in the office work and necessary purchases from time to time of material to promote office efficiency. It is impossible to develop our scientific programs by the addition of leaders of the Medical Profession from other sections of the country because of lack of funds. I believe that it would be highly desirable to have sufficient funds for such a purpose thereby allowing the membership to hear distinguished guests from time to time during the current year. The development of New Orleans and its position as a Medical Center make this city more and more desirable as a meeting place for Medical Associations and to maintain our prestige it will be necessary for us to invite and stage such Medical Meetings from time to time. The picayunish practice of collecting and soliciting contributions from members is a practice which is oppressing to all concerned. When acting as a host the amount budgeted should be drawn against a fund created for this purpose. With the wealth of Professional and Clinical material in the community we should be in a position to hold each year for the benefit, particularly of Southern Physicians, a Clinical Meeting such as is conducted in Kansas City and St. Louis, and I believe that this Society

should sponsor such a movement. Our dues are much lower than the average Medical Society. They range from \$20.00 in St. Louis to \$40.00 in Pittsburgh.

DOMICILE.

It is not only desirable, but I believe in a not too distant future that this Society will have to make provision for its own domicile. Effort should be made toward increasing our Domicile Fund, and I am offering as part of this report a plan which calls for a per capita assessment of \$100.00 payable \$25.00 at the termination of each five year period of membership. This assessment should be levied on present and future members of the Society and this additional revenue plus the interest on our investments should add handsomely to a permanent domicile fund.

BULLETIN.

The Monthly Bulletin published in the New Orleans Medical and Surgical Journal should serve the purpose of acquainting the membership with what is taking place in the Society from month to month. Its value can be enhanced by the addition of a summary of the Treasurer's and the Librarian's monthly reports.

COMMITTEES.

Several of the Committees were unusually active during the year and are due credit for the large part of the work that has been accomplished. It would appear that some of our Committees should become more active as there is much work that remains to be done and with a little more effort our activities could be increased.

REVISION OF THE BY-LAWS.

A necessary revision of the By-Laws has been prepared by the Board of Directors and is now ready for your consideration and final disposition. Should favorable action result, I believe that each member should be furnished with a copy of our By-Laws so that he may familiarize himself with the rules which govern our Organization.

PUBLIC POLICY.

This Society has taken its place in the activities of our community and has made its influence felt in many ways. It is possible that a more aggressive policy should be adopted. Some medium should be provided by which the public may be kept informed and in an accurate manner of the advances made in Medicine. Health talks and health articles are of general interest and it is possible that we could enter this field. There is also a need for some means by which the Press may secure opinions and accurate data concern-

ing medical topics which appear in the daily press from time to time. Radio health talks have met with considerable success in the North and in the East, and I believe that this practice should be conducted here if some arrangement can be made with the local Station WSMB for a monthly appearance during their dinner hour program.

LEGISLATION.

Little was accomplished during the year as the Legislature was not in session, but we should prepare immediately for the approaching meeting as, in all probability, we shall be called upon to deal with the same questions that we were forced to take care of at the last session in addition to several others.

OFFICE ORGANIZATION.

The work in the office during the year has proceeded in a satisfactory manner. Our membership record is not yet complete, but it will serve many useful purposes. The office is equipped to do all of the work assigned to it in a very orderly manner.

I wish to thank Miss Lucille Maier, our Assistant Secretary-Treasurer for the faithful performance of her many duties. Full credit is due your Board of Directors for the major part of this successful year. To them I feel deeply grateful for their kindly interest and true helpfulness. We must continue to develop our Society and individually and collectively we shall benefit thereby.

Respectfully submitted,

LUCIEN LEDOUX, M. D.,
Secretary.

A PLAN PROVIDING FOR A PERMANENT DOMICILE FUND.

While visiting in Los Angeles several years ago, the plan by which the Los Angeles Medical Society financed its Domicile, suggested itself as one that could be adopted by us, with certain modifications to meet local conditions.

In Los Angeles, with a membership four times greater than our own, the assessment was fixed at \$100.00. Dr. Harlan Shoemaker, then Secretary, succeeded in winning over the membership to his idea and it is now a "Fair accompli."

Dr. Englebach of St. Louis went to Los Angeles and studied the workings of this plan, returned to St. Louis which has a membership approximately the size of our own, raised the per

capita to \$500.00 and succeeded in putting it over for the St. Louis Medical Society.

I first began to work on this plan during Dr. Kostmayer's administration, but I misplaced some very necessary data and regret its appearance at such a late date.

This plan provides for the formation of a permanent endowment domicile fund. The per capita is placed at \$100.00 payable in sums of \$25.00 for each five years of membership up to and including twenty years. Viz: At the end of five years, \$25.00, at the end of ten years, \$50.00, etc. At twenty years the full assessment of \$100.00 would have been paid. This assessment would be levied on present and future active members of the Society.

The moneys received into this fund and the interest would be applied toward the purchase of a building site and when deemed sufficient in amount to the building of a home. After the building is fully financed this fund could be held intact as a trust fund and the interest applied to the up-keep, including Library, etc.

Were this plan adopted at this time, based on an assessment of 400 members, excluding honorary members, associate and interne members the return would approximate \$23,000. At the end of five years, approximately \$5,000 could be added to this amount.

In presenting this idea to you, I realize that it is very much in the "rough," but hope it will serve to open a free discussion of the subject, project activity, and possibly serve as a basis for the actual settlement of this matter.

Respectfully submitted,

LUCIEN LEDOUX, M. D.,
Secretary.

ANNUAL REPORT OF THE TREASURER FOR 1925.

To the Officers and Members, Orleans Parish Medical Society.

GENTLEMEN:

I wish to submit a brief summary of the receipts and expenditures of the past year, limiting myself to the totals, as a detailed report would be too lengthy for publication. The report with the itemized receipts and expenditures is on file in the office and forms part of the records of the Society for the past year.

REPORT OF THE GENERAL FUND.

Balance on hand, January 1st, 1925.....	\$1,349.34
Receipts	9,107.17
Expenditures	9,972.36
Actual Book Balance	484.15
Total office expenditures	149.36
Incidentals	357.07
Total special receipts	1,141.97
Total special expenditures	5,416.98

Respectfully submitted,

JOHN A. LANFORD, M. D.,
Treasurer.

ANNUAL REPORT OF THE LIBRARIAN FOR YEAR 1925.

To the Officers and Members, Orleans Parish Medical Society.

GENTLEMEN:

During the year which has just closed distinct advancements have been made in the Library.

There has been an unprecedented interest manifested by the attendance of the members and their frequent requests for literature and services available in the library. In revealing these services the efforts of Miss Marshall are certainly commendable and much credit for our steady progress is due to her co-operation.

Five hundred and thirty books were added to the library during 1925; of these 190 were received by binding, 51 by regular subscription, 135 by gift. The total number of volumes in the library on December 31st, 1925, were 11,570.

Acknowledgement is made of gifts from the following: Mrs. P. Michinard, Medical Library Association, Dr. Haidee W. Guthrie, Dr. G. F. Cocker, Dr. P. B. McCutcheon, Dr. H. P. Jones, Dr. W. A. Lurie, Dr. H. B. Gessner, Dr. P. Grafagnino and Dr. Maurice J. Gelpi.

One double-faced tier of five sections of steel shelving has been added.

The number of complete bibliographies prepared in 1925 totaled 37, an increase of 26, or over 200% above 1924. The number of ready references requested have shown a corresponding increase.

All available space in our present quarters has been filled with additional book shelving and some provision for further expansion will become necessary within another year. Requests for additional lighting in the reading room is being made.

During the year the library assumed responsibility for reviewing new books received through the New Orleans Medical and Surgical Journal. A group of members representing the various specialties have accordingly volunteered to review these texts. Their prompt activity has afforded the Society a ready access to the very newest works.

Respectfully submitted,

DANIEL N. SILVERMAN,
Librarian.

ADDRESS OF THE RETIRING PRESIDENT.

URBAN MAES, M. D.

When I was inaugurated as the presiding officer of this Society one year ago, I advanced for your consideration the thought that the Society was yours, to do with as you would, that you, the members, could improve upon the work of the organization, or that you could permit it to remain as it was, a group of physicians, the majority of whom paid their dues but did nothing else to further its development.

At the end of the year I again appear before you, this time to turn over the reins of office to my successor and to give you an accounting of our year's work. The attendance at meetings has increased some 30 per cent, but this by no means implies that the membership at large has been stimulated into activity. The chairman of the Scientific Essays Committee has worked hard and diligently to attract interest in the meetings by the excellent quality of the papers presented, and he has the personal satisfaction of work well done, as well as the hearty approval of the Board, but the full membership has shown small appreciation of his efforts. We have a total membership of some 478, but the activities of the Society are carried on by 75 or 100 men, no more; the remaining 400 pay their dues, but they rarely attend a meeting. A partial explanation may lie in the fact that papers on special subjects are bound to be of unavoidable, and the only remedy is to change the present organization into the New Orleans Academy of Medicine, and to meet in sections devoted to the specialties.

This brings us to the consideration of what may be done to increase the usefulness of the Society. The diligent work of a special committee assures us that the present membership of 478 is about the maximum we may expect for the present. The increase in membership hereafter must be gradual and relative to the normal

increase in population and the resulting increase in practitioners of medicine.

It is obvious that if we are to achieve results a closer liaison of our membership must be achieved. Organized politics accomplishes its results by "getting together," and there is no reason why organized medicine should not accomplish its own results, which are frequently more to be desired, by exactly the same means. A united front will increase our own prestige, and incidentally and ultimately public approval of us.

For some years past we have lagged behind in our educational features. During the past year our largest meetings were during the visits and addresses of distinguished guests, notably Dr. Aldo Castellani, who is now, happily, one of us. The visit of the Springfield Medical Society brought out a large attendance, as did the splendid address of Dr. George Gelhorn of St. Louis, which were enjoyed through the courtesy of the New Orleans Gynecological and Obstetrical Society. These facts seem to point to the advisability of encouraging more frequent visits of distinguished men from other medical centers, but in the last analysis this can only be accomplished by an increase in the funds at our disposal. You are aware that the funds which we possess now are for one specific purpose, a home for the Society, of which I shall speak in more detail later. Nearly all medical societies in the country have found an increase in dues necessary, and now that the period of War and post-War depression is past, when a large part of the membership was in service and there was a corresponding remission in dues, I would urge your earnest consideration of this most important point, again emphasizing the fact that upon it depends our keeping step with other societies throughout the country in our educational development.

During the year, through the courtesy of Dr. Oscar Dowling and Drs. Samuel and Simon, we have seen the advantages of the moving picture as a means of presenting useful medical facts. Increased funds would make the wider employment of this educational facility, whose importance is now universally acknowledged.

Certain other points should be brought to your attention if this resumé of the year's work is to be complete. The Society has purchased its own daylight screen for lantern slide projection, and has also provided reading lamps for the essayists' desk and for the reading room of the library. Dr. C. Jeff Miller has been appointed as the official representative of the Society on the State Gorgas Memorial Committee. Homeopaths

have been admitted to membership on equal terms with other physicians. The matter of the use of secret and unethical methods of medical treatment has been disposed of by the Society in a way to settle it definitely and to establish a precedent should similar problems arise in the future.

The activities of the Librarian and his co-workers will be a matter of special report, but for fear this young man may be too modest, I wish to call special attention to his report and to that of his efficient co-worker, Miss Marshall, the latter of whom was good enough to honor us with a paper which called attention to the facilities of the library and to her willingness to cooperate and assist in the preparation of special bibliographies. Notable acquisitions have been the books presented by Mrs. Paul Michinard, belonging to her lamented husband, and the books presented by Dr. Cocker. At one time we were not getting many books from the publishers, owing to our failure to publish many reviews, but with the co-operation of the Librarian this situation has been remedied, and we are now receiving a fair number of volumes by donation.

It is with regret that I announce to you that we are losing the services of Dr. Lucien LeDoux, our secretary for the past four years. He has been a diligent and faithful officer, at all times watchful of the interests of the Society, and he sets a precedent for all succeeding secretaries to follow.

Other matters will be presented to you in the reports of various committees, and I shall not encroach upon their fields. I would point out, however, that certain matters have engaged the attention of your officers which, in the very nature of things, could not be pushed to completion. First and perhaps most important of these is the question of a permanent home for the organization. Its realization is obviously impossible in the immediate future, and perhaps for many years, but it is not too much for us to conceive of a physicians' and surgeons' club, under the auspices of the Orleans Parish Medical Society, housing meeting places, club rooms and library under one roof. I can think of no happier means of bringing together our scattered membership in both a social and a scientific way for mutual betterment and advancement. In this connection, the services of a full time secretary is also a desideratum.

I would suggest for the consideration of the incoming officers the question of periodic health examinations, so earnestly advocated by the president of the American Medical Association;

closer co-operation with health boards through special committees, and with the public through a carefully supervised press bureau; and the continuation and improvement of that very useful and helpful column in our *Journal* which publishes the monthly bulletin of the Society.

I should be derelict in my duty if I did not express to those who have worked with me my thanks and appreciation of their efforts. To the membership in general I would express also my appreciation of the cordial support they have accorded to this administration. And in conclusion I would call to your attention that quotation from the late Theodore Roosevelt which heads the column in the *Journal* devoted to our activities and which I used in my address as your incoming president one year ago, "Every man owes some of his time to the upbuilding of the profession to which he belongs." I think now, as I thought then, that if we, as individual members of this organization, conscientiously observe that precept, success cannot fail to crown our every effort.

INAUGURAL ADDRESS OF PRESIDENT MAURICE J. GELPI, M. D.

MR. PRESIDENT, LADIES AND GENTLEMEN:

Although the Medical Society does not demand that the individual selected for office express his views on important topics before election, it is certainly entitled at some time or other to clear-cut declaration of principles so to speak and to an honest expression on the outstanding questions of fundamental interest to the membership at large. I take this to be the opportune moment to tell you what I believe. I shall limit myself first to some of the main problems and issues immediately confronting us, and secondly I shall take the liberty of making two or three suggestions for your consideration in the future.

First of all, let me remind you, if that is necessary, that while with time, our interests have ramified in many directions, we are still, essentially a scientific body. One of our main functions therefore should be to foster and encourage the development of scientific connection. I have two messages. The first I shall address to every one of you, but most particularly to those of you who are teachers. All of us in the Society are under moral obligation to each other, not only to receive scientific enlightenment but also to contribute our quota to the best of our ability. None of us have a right to be parasitic. For those of you with unusual experience and for the teachers, appearance on the scientific program should not entail too great a hardship. Furthermore, appearance before the society furnishes an

opportunity for the most laudable type of teaching, because you are teaching active, practical men, prepared and eager to utilize and digest every morsel of newly acquired information, with immediately resulting benefits to the community. On the part of the teacher especially, whose life-work requires early familiarity with all the new developments of scientific medicine, the duty of spreading this information liberally to less fortunately situated confreres, should not be overlooked. What greater incentive can there be for the whole-hearted dissemination of knowledge, than the assurance of its immediate utilization, for practical purposes? My next appeal is to the rank and file like myself. Come and listen to the scientific discussions and you will be amply repaid. In my opinion, nothing is more disheartening to an essayist than empty chairs and conversely a large interested audience is greatest imaginable stimulus. In other words, just as we know that good scientific programs will increase attendance, so also, good attendance will improve the scientific programs. Let us now turn to other problems concerning us which assume a more material aspect.

Work for the Legislative Committee already looms up very prominently. The threatened invasion by the Chiropractors and other disciples of the "Short cut" to the practice of medicine or pseudo-medicine still demands attention as does also the problem of hospital abuse which at the present moment is a subject of concern not only to the Society but to the Charity Hospital and its Staff.

As regards the question of hospital abuse, let me first state that I believe that the practice undoubtedly exists. If my contention is correct, and I feel it will be proven at the proper time, I am also convinced, that it can be and should be stopped. This is true as a matter of principle, irrespective of the extent of abuse. In other words, whether the abuse is in the proportion of one, ten or fifty per cent of admission, the practice is pernicious and detrimental, and should be curbed. Let us look at the question briefly, but frankly and fairly and without camouflage, from three standpoints especially, namely, that of the indigent poor patient, the Hospital itself, and lastly the doctor giving free service.

For the poor patient, every single case of abuse refused admission, means more hospital funds and therefore better attention. When the information is doubtful, with the benefit of the doubt always granted the patient, not a single injustice need occur, and no maudlin sentimentality need be wasted on this score.

For the Hospital itself, every single case of abuse refused admission is an evidence of efficiency automatically resulting in more funds for the better treatment of existing patients or for further admissions and treatment on the same basis. On the other hand, every case of abuse deliberately admitted is a waste of hospital funds, un-businesslike and open to serious criticism. This contention is just as true whether the loss entailed amounts to only one hundred dollars or ten times this amount; the principle is always the same.

For the doctor giving free services, and let us not shun discussion from the standpoint, every single case of abuse refused admission means simple justice. Every case of abuse tolerated, means a definite financial loss to the profession giving free service. Nor is this entirely compensated for by the gain in experience by any means, as will be attested to those by doing "T and A's" by the half-day and many others whose routine amounts at time to considerable drudgery. There are prospects of this question being brought to a focus in the near future and the Society must take cognizance of it and should play an important part in its solution. I approach the next subject with a certain hesitancy because any question involving disbursement is seldom popular. However, the urgent necessity for an increase in dues is facing the Society and it behooves us to give the matter serious consideration.

Your ex-secretary has given you an array of facts over which to ponder very earnestly. In this connection, all I ask you is to remember that we cannot stand still; we must either go forward or retrogress, and an increase in the dues is going to be to a large extent, the determining factor. Remember the multiplicity of benefits which you derive from membership in the Society, remember that our activities must keep pace with the strides of our own rapidly developing city. Finally, remember that this progress is utterly impossible without the necessary funds which can only be made available through an increase in dues. The idea of progress brings to mind a situation affecting our future development to such a degree that I should feel sorely delinquent in failing to take this opportunity to bring to your attention, a seriously impending situation.

Our goal has been for some time, as you know, the housing and protecting of our increasingly valuable library, in a centrally located fireproof building, suitable also for a creditable domicile. This of course presupposes the possession of the necessary site. Please note that with the rapidly increasing land values in accessible locations,

such a site as we desire is going to be prohibitive, unless some action is taken in the very near future for its acquisition. The advisability of this step has already been informally discussed from time to time and the topic was brought up again, I understand, at the last meeting of the Board, which I was unable to attend for unavoidable reasons. I wish to place myself on record as favoring the immediate appointment of a committee for the purpose of investigating without delay the possibility of acquiring a suitable site for the future erection of the library and the domicile. If we fail to do this now, we may find it impossible to do so later. I must now give full credit to Dr. LeDoux for the successful consummation of a laborious undertaking.

The entire By-Laws have been revised and this revision will be ready for your early consideration. This matter should be ready for disposal in the first quarter. Two other problems have suggested themselves for your attention during the coming year. The first of these is the possibility of developing a doctors' telephone exchange and information bureau to be conducted by the Society. The second is the revival of interest in the abolishment of the Professional License Tax.

Of late years, centralization has been the keynote of the Society's development and the establishment of a doctors exchange by the Society would seem to be in keeping with this idea. Such a department properly managed, might be conducted at a substantial saving to the individual and should also be more efficient than the private exchange. The information bureau could be run in conjunction with the exchange.

As regards the Professional License Tax, the matter was almost successfully disposed of a year or two ago and had it not been for more pressing legislative business, the chances were excellent for the abolition of the tax in a manner entirely satisfactory to the profession. This should stimulate us to further efforts in the same direction and attention of the Legislative Committee is called to this point.

In conclusion let me take this opportunity of thanking you for the confidence you have placed in me and let me express the desire that our administration will be characterized by the same zeal for your interests, the same fairness, the same becoming modesty, and the same dignity as has been in evidence in the case of my predecessors. With this example before me, it is with a certain fear and trepidation that I take up the cudgel, but with the expectation of your full and complete co-operation comes also the feeling of strength and eagerness to carry on.

CO-OPERATION IN MEDICINE.

J. H. MUSSER, M. D.,

One year ago almost to a day I received my introduction to organized medicine in New Orleans at the annual inauguration meeting, which we are celebrating again tonight. During the year that has passed I have learned to admire and to love the quaint old city I now make my home, more than it would be seemly to expiate upon at this time. The Crescent City, with its stately palms, its graceful palmettos, with its wonderful evergreen live oaks, its gardens and its superb levees, with its French quarter redolent of the stories and glories of the past, has an attraction which gradually grows on the observer until he cannot help but contrast unfavorably other cities which he knows and with which he is acquainted. Even the mighty Mississippi, levee girded and everlastingly pushing, rushing and beating against its barriers, at first sight becomes in course of time a river of romance, of superb power and of unmitigated strength on which Spanish galleons sailed and French ships of line in days of old battled against the current. In the chocolate particles and the ever present driftwood, worn barkless and shiny in its long trip from the mountains of Pennsylvania or Idaho, one sees the visible evidence of the contact of these waters with the East, the North and the West borne down to this Southern region in a ceaseless stream.

Gladly I record my impressions of the city and happy am I to say that just as I am content with the physical state, so am I delighted with that indefinite something I have found in New Orleans, which is not a definite corporeal entity, but rather a spiritual characteristic of the mind of man; the warm heart, the cordial welcome, the cheerful greeting, the frank hospitality cannot be recorded in black and white but are intangible and to be felt rather than seen and read. I should like to express in so many words, just as I have done inadequately with my surroundings, my impressions of the members of the medical profession as I have seen them and as I have come in contact with them. Such an exposition, however, would hardly seem fitting from one so newly arrived in your midst, nor would it be a fair presentation. I have only learned to know well two groups of medical men here in New Orleans, the group connected with Tulane and those associated with the Charity Hospital. It would seem to the rest of the local profession that I had singled out special groups for the purpose of lauding them, when they know that it is with these men only that I have been closely associated. If I am unable to express fully my sentiments in this

particular, may I then not choose for a theme a subject which I feel may be of general interest to the whole organized profession; a subject in which I feel that no matter how well the profession pull together and work together, there will be always rooms for improvement. It matters not that this medical community may rise superior to other localities in freedom from petty jealousies and causeless ill feelings, the fact remains that no man is perfect and men are not paragons of virtue, and from what I have observed in my medical peregrinations, a few words on medical co-operation might not be amiss, here or anywhere.

The word co-operation is derived from two Latin words, *co* or *com*, the conjunction meaning together, and *opus*, word, or *operari*, to work. Of the two words in this combination, I like best the little *co*. It hints at more and has a deeper meaning than the word work. Literally, this compound work means the ability to work together, or team work. It implies, furthermore, not only this understanding, of toil and labor, but figuratively also the power to strive and to attain in company, and to play and to enjoy in concert. It intimates mutual understandings between fellowmen. It is a much used, much abused word, this word co-operation, but there are not many words in the English language so pregnant of ideals and so replete with the highest ideas.

When we consider the broad aspects of co-operation in medicine, we should reflect on how such working together affects us as medical men: first, the bearing it has on us in our relations with the patient; second, on our connections with the community, and, lastly, in our dealings with one another.

Although co-operation implies equal interchange, in our relations with the sick man we should not expect too much from him. He is sick, unwell, abnormal, but we should expect that he should treat us with honesty, have confidence in us and depend on our judgment. Without this assistance from the patient, our treatment will be unsuccessful and a failure. From time to time criticism is made by laymen of medical ethics and medical etiquette. How unfounded is this censure would be readily understood by the intelligent lay individual were he to study and to learn just what medical ethics means. In the broadest sense it is simply the application of the golden rule. It means do unto others as you would have them do unto you. It applies to physicians alone and in no way hinders the patient or binds him or prevents the freest use of his own personal judgment in the selection of his physician or physicians. Practically, the patient is much

freer in the selection of his physician or in the retaining or disposing of his services than is a client with a lawyer. In the latter case the client, once he has engaged a lawyer, is almost bound by the very law perforce to stick to his first choice, whereas the patient can change his physician freely and unhampered. All we ask is that such changes be above board and that we be frankly told that a change is desired. Once such a substitution is suggested, then it is our duty to make the transfer as expeditiously and smoothly as possible.

If we ask and expect full co-operation with the patient, if we demand certain things from them, none the less should we neglect certain obligations to them. I speak not now of the man severely ill or injured, because no disciple of Hippocrates has ever fallen so low as to fail in his specific obligations to mankind, but I refer to him with the psychic illness. The neurosthenic is a trouble, a bore, a time consumer, but bear in mind that no man is so sick as he who thinks himself sick. Well placed sympathy often does a world of good alone; and sympathy, cheerfulness and tact frequently will inclinate in the mind of the functional sufferer the will to get well. Nor, more important than all else, should it ever be forgotten that in the majority of cases there is a cause for most neurosthenic phenomena, be it an infected root abscess or an unhappy marriage. Seek for the underlying cause of the physical disturbance and through perchance it is not a medical problem but an economic, social or even sexual enigma, much can be done by disinterested advice to straighten out the puzzling complexities which have grown on the patient until finally they seek alleviation from mental worries in physical ills. It might be said with truth that the old fashioned family physician has helped as many with his wise counsels and his sage advice as he aided with his nostrums and physics. After all, most acute diseases are self limited and there is but little we can do to terminate them, but we can aid, help, succor and assist him who is troubled with real or imaginary oppressions.

Let me conclude this portion of my essay with two quotations from the writings of Hippocrates: "Life is short, the Art is long, occasion sudden, judgment difficult. Neither is it sufficient that the physician do his office, unless the patient and his attendants do their duty, and that externals are likewise well ordered." Surely and definitely the Father of Medicine calls attention to the necessity of co-operation by the patient just as he shows in the following aphorism that the physician must be interested not only in cases, but in

patients: "To the love of his profession the physician should add a love of humanity."

The Physician and the Community. There seems to be a very general impression among physicians that co-operation among doctors and the people consists largely in the doctors carrying out the opus or work portion of this word co-operate. The doctors are expected to do a tremendous amount of gratuitous work for the benefit of the poor of the community. Thousands of hours a year are given freely and cheerfully by the physicians in the clinics and wards of the hospitals of the state and municipalities and thousands of patients are there treated. Do we ask too much when we merely request that patients well able to pay a physician's fee, be excluded from attendance at free clinics or in hospital wards? The answer is that we most assuredly do not ask more than is just, fair, equitable and right, yet little attention is paid to our plea for justice.

Another phase of the lace of co-operation between the public and the medical profession lies in the failure of the public to endorse and to subscribe to measures which are taken for their own protection. In promoting public health legislation the medical man is actuated solely by unselfish motives which to him may mean financial loss. The general public looks upon these health plans frequently with distorted vision. They can see only the possible inconvenience to themselves or the slight increase in taxes such measures may entail and soon distort a wise beneficent plan into some wily scheme of the medical profession to benefit themselves. It is our duty as physicians and public spirited members of a community to show our individual contacts the wisdom and common sense in laws or enactments designed to prevent the dissemination of disease. Disease is a tremendous economic drain on the pockets of an individual and on the treasury of any civic group. Prevent disease and the initial expense will be repaid a thousand fold.

Co-operation between physicians. A mention of our relations with one another, between doctor and doctor, is a delicate matter and brings to mind several phases of this most important subject. It might be well for each and every one of us to hold from time to time a private, secluded, solitary confession of our faults and attempt to estimate wherein we have erred, or in our professional life have done wrong to our medical mate. Have I done all that I can to help the other fellow? Have I spoken well of my professional friend or have I slurred him and spoken of him with contempt? Have I poured sand into the axel or have I applied grease to make the

wheel run smoother? are a few of the questions we might more or less periodically ask ourselves. What matters if we lose this patient or that, if we miss out in this job or that appointment if we can take our loss with the satisfied feeling that we have acted squarely and fairly? I ask you, gentlemen of the organization, is it not better, than all the honors attainable in any medical society or organization, to go to the grave honored, revered and loved by patients, friends and fellow practitioners because of a life that was thoughtless of self and thoughtful of others? Our late friend and colleague, Dr. Marcus Feingold, was but a few short days past laid in his last resting place. To him, then, in his coffin, all worldly attainments meant nothing, but could he have but seen the throng that gathered to pay their last respects to his remains, he would have known that at last he had garnered the fruits of a life unselfish, ever kind, always benevolent and benign, beneficent and benignant.

Co-operation between physicians yields not only freedom from the petty jealousies and the absence of friction which makes life smoother and happier, but it affords also material rewards which are not to be gainsaid. As example, witness the wonderful growth and development of the Mayo Clinic, which is the ultimate in medical co-operation. As example, observe the life of Sir William Osler. Honors of all kinds were heaped upon him, he was considered the greatest and was recognized as the best-known medical man of his time; yet we cannot put our finger on one outstanding discovery, one wonderful piece of research, nor one remarkable accomplishment that he left behind him. Great rewards came to him because of his willingness, his eagerness, to work with, and for, his fellow man.

And now let us, in the closing moments, consider co-operation in our medical society. How best can we further its aims and its ambitions? The answer to this should be simple, and that answer should not be an abracadabra, something without meaning. It should be clear, concise, succinct. Attend the meetings of your society, take an interest in its doings and help co-operate with its officers. The man that does not attend medical meetings, is the man who does not read medical literature. Stagnant waters and stagnant air grow corrupt and unfit for use, says Florence Nightingale. The man who stagnates, who does not do his share or take his part in medical affairs grows lazy, selfish and self-centered. His keel is befouled and corrupted by seaweeds and barnacles and he cannot cut through the waters life cleanly and without friction.

Gentlemen of the Orleans Parish Medical Society, I have finished my peroration, the summing up of my theme is brief.

Let us work together for the good of mankind, strive together for the preferment of the medical society, labor together for the advancement of science, in every way, and always co-operating for the betterment of our beloved profession, medicine.

BULLETIN OF THE ORLEANS PARISH MEDICAL SOCIETY.

During the month of February there was held one meeting of the Board of Directors and two scientific meetings.

Dr. Harry L. Zengel who was elected to active membership has qualified.

The Board of Directors approved the new budget compiled by the Budget Committee with Dr. John A. Lanford as Chairman. This budget for the coming year showed several changes, most notably an increase in postage and incidental accounts. This budget shows an excess of only \$350.00 over and above the anticipated income of 1926, and this alone should be a strong recommendation for the adoption of the proposed increase in dues for the active members in the Society.

Dr. Bennett G. Owens was elected to Interne Membership.

The President was empowered by the Board of Directors to appoint a Committee of Five, with the President and Treasurer as ex-officio members, for the consideration of a permanent domicile site.

A special amendment to the By-Laws relative to an increase of dues from \$12.00 to \$18.00 per year for active members was recommended by the Board of Directors and the Society was officially notified at the Scientific Meeting held February 8th. Final vote on this amendment took place at the meeting on February 22nd., and the society by a large majority adopted this increase.

Owing to this increase corrected bills for dues for 1926 have been mailed to the membership.

At the Scientific Meeting held February 8th the following papers were presented and discussed as follows:

“Insulin an adjunct in the treatment of Persistent Pernicious Vomiting of Pregnancy, with Report of a Typical Case.”

By Dr. Thos. B. Sellers. Discussed by Drs. E. E. L. King, Walter E. Levy, H. W. Kostmayer and closed by Dr. Sellers.

“Gall-Bladder Disease—its metabloic aspect.”

By Dr. Daniel N. Silverman. Discussed by Drs. W. Denis, S. K. Simon, Emile Bloch and closed by Dr. Silverman.

“Quinidin and Ouabain in certain Cardiac Diseases.”

By Dr. Chaille Jamison. Discussed by Drs. G. R. Herrmann, P. H. Jones, Jr., and closed by Dr. Jamison.

A communication from Dr. A. E. Fossier in which Dr. Fossier suggested that a meeting night in May or June be set aside in commemoration of Laennec, the founder of the stethoscope and a leader in the advance of clinical medicine was referred to the Scientific Essays Committee for consideration.

The Society went on record that the Annual Dinner be continued and be held on Election night.

At the Scientific Meeting held February 22nd the following papers were presented and discussed: “Sterility,” By Dr. P. Graffagnino.

Discussed by Dr. G. A. Mayer and closed by Dr. Graffagnino.

Dr. H. Gideon Wells, of Sprague Memorial Cancer Institute of Chicago, beink a visitor in New Orleans, gave a talk at this meeting on “Relationship of Heredity to Cancer.”

“Post Operative Duodenum Obstruction with Gastric Dilatation.”

By, Dr. Donovan C. Browne.

Discussed by Dr. S. K. Simon.

On January 23rd Dr. O. L. Pothier died, on February 4th, W. H. Weaver died, and on February 23rd, Dr. G. A. Nelken died.

Total membership to date is 471.

REPORT OF TREASURER FOR JANUARY

Actual Book Balance 12/31/25.....	\$ 484.15
Receipts during January.....	\$2,477.00
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Total Receipts	\$2,961.15
Expenditures	\$1,047.64
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Actual Book Balance 1/30/26.....	\$1,913.51
Outstanding Checks.....	\$ 477.50
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	\$2,391.01
Receipts since Bank Balance.....	\$ 169.00
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Bank Balance 1/28/26.....	\$2,222.01

REPORT OF LIBRARIAN FOR JANUARY

Two bibliographies have been prepared during January on subjects as follows:

Blastomycosis (for Dr. Van Studdiford.)

Spirochetal Gangrene of Lung (for Dr. Maes).

Twenty-eight volumes have been added to the Library,—of these eleven were received by regular subscription, eight by gift and one by replacement of a volume lost, with eight from the New Orleans Medical and Surgical Journal.

Among the accessions of the month, a list of the books of recent date is as follows:

NEW BOOKS—JANUARY 1926

U. S. Public Health reports, V. 40 pt. 1, 1925.

American Association of Genito-urinary surgeons Transactions, 1925.

U. S. Public Health Service. Report, 1925.

Index catalog of Surgeon-General's Office, v. 5. 1925.

New York University and Bellvue Hospital. Collected reprints 1925.

Clendenning—Methods of Treatment. 1924.

Hays—Diseases of the Ear, Nose and Throat. 1925.

Osler—Modern Medicine. V. 1. 1925.

Pusey—Old time country doctor. 1925.

Macleod—Antidiabetic function of pancreas. 1923.

Macmillan—Massage and Therapeutic exercises. 1925.

Fox—Insects and Disease of Man. 1925.

Dutton—Intravenous therapy. Ed. 1-2 1924-25.

H. THEODORE SIMON, M. D.,
Secretary.

TRANSACTIONS LOUISIANA STATE MEDICAL SOCIETY

H. Theodore Simon, M. D., Associate Editor.

PARTIAL PROGRAM OF LOUISIANA STATE MEDICAL SOCIETY MEETING, MONROE, APRIL 15TH-17TH.

Section on Medicine and Therapeutics.

Dr. J. B. Vaughan, Chairman, Monroe.

1. "Chronic Bronchitis with Hemorrhagic Sputum, of Non-Tubercular Origin," by Dr. Aldo Castellani, New Orleans, La.

2. "The Diagnosis and Care of the Weakened Heart Muscle," by Dr. Allan Eustis, New Orleans, La. To open discussion, Dr. Irwin Wolf, Monroe, La.

3. "Supposed Quinine Resistant Cases of Malaria," by Dr. C. C. Bass, New Orleans, La.

4. "Major Surgery in Diabetes," by Dr. I. I. Lemann, New Orleans, La. To open discussion, Dr. S. K. Simon, New Orleans, La.

5. "Ouabaine, Its Use in Certain Forms of Heart Failure," by Dr. Chaille Jamison, New Orleans, La. To open discussion, Dr. S. K. Simon, New Orleans, La.

6. "The Management and Treatment of Pulmonary Tuberculosis," Dr. C. R. Gowen, Greenwood, La. To open discussion, Dr. H. Boswell, Sanatorium, Miss. Followed by, Dr. S. E. Thompson, Kerrville, Texas.

7. "Some Newer Methods in the Treatment of Oedema and Ascites," by Dr. N. M. Keith, Rochester, Minn. To open discussion, Dr. J. L. Adams, Monroe, La.

Section on Bacteriology and Pathology.

Dr. Arthur A. Herold, Chairman, Shreveport.

1. "Remarks on Some Pathological Conditions," by Drs. F. G. Ellis and W. P. Butler, Shreveport, La.

2. "Etiology, Diagnosis and Pathology of Hodgkin's Disease," by Dr. John A. Lanford, New Orleans, La.

Section on General Surgery.

Dr. Lucian H. Landry, Chairman, New Orleans.

1. Paper by Dr. F. W. Parham, New Orleans. Title not yet announced.

2. "The Warren Incision in Malignant Tumors of the Breast," by Dr. R. E. Stone, New Orleans, La.

3. "Breast Tumors; What Shall We Do With Them," by Dr. A. C. King, New Orleans, La.

4. "An Analysis of the Post-Operative Mortality and Morbidity in Gall-Bladder Disease," by Dr. Maurice Gelpi, New Orleans, La.

5. "Spinal Anesthesia in Surgery," by Dr. P. Graffagnino, New Orleans, La.

6. "Skull Fractures," by Dr. C. P. Gray, Monroe, La.

7. "Foreign Bodies in Small Intestines," by Dr. I. D. Hirsch, Monroe, La.

8. Paper by Dr. O. C. Cassegrain, New Orleans. Title not yet announced.

Section on Gynecology and Obstetrics.

Dr. T. B. Sellers, Chairman, New Orleans.

1. "Some Problems in Gynecology," by Dr. B. C. Garrett, Shreveport, La. To open discussion, Dr. John Dicks, New Orleans, La.

2. "Conservation of the Perineum During Childbirth," by Dr. P. J. Carter, New Orleans, La. To open discussion, Dr. P. Graffagnino, New Orleans, La.

3. "Surgical vs. Non-Surgical Management of Placenta Praevia," by Dr. Lucien LeDoux, New Orleans, La. To open discussion, Dr. O. P. Daly, Lafayette, La., followed by Dr. L. B. Crawford, Patterson, La., followed by Dr. D. C. McBride, Alexandria, La.

4. "The Treatment of Uterine Fibroids and Bleeding Cases, with Particular Reference to Radiation Methods," by Dr. Curtis F. Burnam, Howard A. Kelly Hospital, Baltimore, Maryland. To open discussion, Dr. Ernest Samuels, New Orleans, La.

Section on Eye, Ear, Nose and Throat,

Dr. W. R. Buffington, Chairman, New Orleans.

1. "The Correction of Esotropia with Glasses," by Dr. A. B. Cross, Crowley, La.

2. "Localized Influenzal Affections of the Head," by Dr. Rufus Jackson, Baton Rouge, La.

3. "Industrial Ophthalmology," by Dr. C. A. Bahn, New Orleans, La.

4. "Acute Otitis; Its Importance and Early Treatment," by Dr. Geo. R. Beridon, Opelousas, La.

5. "Ocular Defects due to Nasal Diseases," by Dr. A. L. Peters, Monroe, La.

6. "Otitis Meningitis (A Case Report)," by Dr. T. C. Moody, DeRidder, La.

Section on Urology.

Dr. M. H. Foster, Chairman, Alexandria.

1. "The Meaning of Blood in the Urine," by Dr. B. M. McKoin, Monroe, La.

2. "Eneuresis (Bed Wetting) in Female Children; its Treatment in Otherwise Normal Individuals, with Report of Cases," by Dr. A. Mattes, New Orleans, La. To open discussion, Drs. J. R. Stamper and I. B. Rougon, Shreveport, La.

Section on Radiology.

Dr. G. C. McKinney, Chairman, Lake Charles.

1. "The Value of Electrothermic Methods in Treatment of Accessible Malignancy," by Dr. Grant E. Ward, Howard A. Kelly Hospital, Baltimore. Discussion to be opened by Dr. S. C. Barrow, Shreveport, La.

2. "Paper by Dr. Manly J. Sandborn, Apperson, Wisconsin, President of the Radiological Society of North America. Title not yet announced.

3. "Diagnosis of Gall Bladder Pathology," by Dr. Leon J. Menville, New Orleans, La. To open Discussion, Dr. Lester J. Williams, Baton Rouge, La.

An unusual program has been arranged for Thursday evening, April 15th, as follows: President's Address, Louisiana State Medical Society, Dr. E. M. Ellis. Address—Dr. Rudolph Matas, President American College of Surgeons, New Orleans, La. Address—Dr. W. D. Haggard, President American Medical Association, Nashville, Tennessee. Address—Dr. Will J. Mayo, Ex-President American College of Surgeons, Rochester, Minn.

The monthly meeting of the New Orleans Gynecological and Obstetrical Society was held at Touro Infirmary, Thursday, February 18th, 1926 at 8 p. m.

The program consisted of two scientific papers as follows:

"The Rubin Insufflation Test" was demonstrated by Dr. P. Graffagnino.

Case report of intra cranial hemorrhage in the new-born by Dr. P. T. Talbot.

The above papers were discussed by Drs. John F. Dicks, P. Graffagnino, Phillips J. Carter, H. Machea, L. A. LeDoux, and A. H. Gladden.

Dr. John F. Dicks presided.

EAST BATON ROUGE PARISH MEDICAL SOCIETY.

The regular meeting of the East Baton Rouge Parish Medical Society was held in the Alvis Hotel on January 13th. Members present were Drs. Pipes, Naef, Riche, King, Morris, Lee, McCaa, Paulsen, Darby, Cushman, Wallace, W. K. Irwin, and Weiss. The regular order of business was carried out. Under the head of new business, it was decided the surplus fund in the treasury be invested in interest bearing securities.

Dr. Emmett Irwin of New Orleans was a guest of the Society, having been invited to read a paper before the society at its regular meeting. Dr. Irwin chose as his subject "Regional Analgesia in Major Abdominal Surgery, with particular reference to Splanchnic Analgesia." The paper which was illustrated by lantern slides demonstrations of the technique, proved extremely interesting to all members present.

The society earnestly looks forward to the time when we can have Dr. Irwin with us again. The meeting adjourned.

At a meeting held in New Orleans, January 25th and 26th, the Louisiana group of members of the American College of Surgeons elected the following officers:

Dr. Hermann B. Gessner, Chairman, New Orleans; Dr. E. S. Hatch, Secretary, New Orleans. Dr. L. Abramson, Councillor, Shreveport.

Dr. David E. Brown, a well known physician of Chatham, Jackson Parish, La., has accepted a position with the Louisiana State Board of Health as Director of Tuberculosis Control. There is a broad field before Doctor Brown and we bespeak for him the co-operation of every physician in the State.

Dr. Carleton Simon, for many years chief of the Narcotic Division of the Police Department of New York City has come to Louisiana on invitation of the State Board of Health and is making a study of the narcotic situation with the hope of being helpful to the profession and those who have been unfortunate enough to become victims of the narcotic habit. He is asking the cordial co-operation of every physician, druggist, dentist and veterinarian in his study.

The International Trade Exhibition opened February 1st with imposing ceremonies and a very large crowd in attendance. One of the interesting features of the Exhibition is an educa-

tional exhibit by the Louisiana State Board of Health. This consists of three electrical figures. The exhibit is largely devoted to milk, the distribution and the effect of milk drinking especially with reference to children.

Dr. Helen A. Moore of the American Child Health Association has been loaned to Louisiana for a period of two months. Dr. Moore will make a trip through a number of the parishes in an effort to give instruction to groups of midwives and will probably carry out an intensive program in this instruction in Webster Parish. Dr. Moore's schedule includes Avoyelles, Rapides, Natchitoches, DeSoto, Caddo, Claiborne, Ouachita and Webster Parishes.

Monroe, Minden, Shreveport and Lake Charles have adopted the standard milk ordinance.

Dr. Zucernikoff, the full time dentist employed by the infancy maternity division, Bureau of Child Hygiene, Louisiana State Board of Health has practically completed examination of teeth of children of all the schools of Rapides Parish.

The City of Bogalusa is paying the expenses of a doctor and nurse from the Bureau of Child Hygiene, State Board of Health, for the examination of the school children of Bogalusa.

The Annual Meeting of the Tuberculosis and Public Health Association of Louisiana was held at the domicile, Room 14, Howard Annex, New Orleans, at 11 a. m. The attendance was good. Senator Weil and Mrs. Ed. Adrion came from Alexandria and Dr. Charles R. Gowen from Shreveport.

In addition to routine matters, the Annual Election was held and the following officers were elected: Dr. W. H. Seemann, president, Dr. H. E. Bernadas, 1st Vice-President, Dr. Homer Dupuy, 2nd Vice-President, Miss Anna F. Kennedy, Secretary, and Mr. Walter F. Jahncke, treasurer.

Additional members of the Board were elected, as follows: Mrs. L. U. Babin, Baton Rouge, Dr. A. F. Barrow, St. Francisville, Mrs. Meyer Benson, Shreveport, Gladys Breazeale, Natchitoches, Mr. L. C. Buckley, Shreveport, Mary K. Ellis, Kentwood, Rev. J. F. Foster, Lake Providence, Dr. P. R. Gilmer, Shreveport, Dr. C. R. Gowen, Shreveport, Dr. M. Hirsch, Monroe, C. O. Holland, Minden, F. A. Knapp, Lake Charles, Odelia Laycock, Baton Rouge, Rev. J. W. Lee, Crowley,

Dr. M. Meyerowitz, Alexandria, Rev. C. C. Miller, Franklinton, Dr. J. A. Packer, Alexandria, Dr. Ruffin Paine, Shreveport, Rev. B. L. Price, Alexandria, Maude Reid, Lake Charles, Rev. W. S. Slack, Alexandria, Mayor L. E. Thomas, Shreveport, Dr. John Turner of Homer, Dr. C. O. Wolf of Haynesville, Dr. Roy Young of Lafayette, Mrs. Fay Shannon Watts of Monroe and Rev. Wm. Freeman of Jackson.

The returns of the Seal Sale for this year show a very gratifying increase over last year. There is evidence of an increasing interest on the part of the laity, especially in the work of the Association.

Many physicians aided materially in helping the Association and it is hoped that more physicians in the future will lend their personal efforts to promote the Association, which was begun and is operated under the auspices of the Louisiana State Medical Society.

DR. W. H. SEEMANN,
President.

TRI-STATE MEDICAL SOCIETY.

The Tri-State Medical Society met in Marshall, Texas, on January 20th and 21st, 1926, this being the twenty-first meeting. There were a hundred and eighty-six members and guests present. The following officers were elected for the coming year:

President, Dr. Frank S. Littlejohn, Marshall, Texas. Vice-Presidents, Dr. J. G. Yearwood, Gayle, La.; Dr. A. C. Chace, Texarkana, Ark.; Dr. J. A. Daniels, Carthage, Texas. Councillors, Dr. J. E. Knighton, Shreveport, La.; Dr. R. H. T. Mann, Texarkana, Ark.; Dr. Richard Grandberry, Marshall, Texas. Secretary-Treasurer, Dr. Frank H. Walke, Shreveport, La. This is Dr. Walke's tenth consecutive year as Secretary, and the society has grown in this length of time from 315 to 1828 members.

The next meeting place is Texarkana, Arkansas.

DIED. Dr. O. L. Pothier, head of the department of bacteriology, Loyola University, New Orleans, died January 23, 1926. He was born in New Orleans in 1864, received his preliminary education at the College of Montreal and at Laval University, Quebec. In 1889 he graduated in medicine from Tulane. After doing graduate work at the Pasteur Institute, Paris, he did special work in bacteriology at John Hopkins. He was for several years professor of pathology in Tulane and served the Charity Hospital, New Orleans, as chief pathologist for more than twenty years.

As a member of the Rockefeller Foundation he went on repeated expeditions into Central and South America to study tropical diseases. As a member of the commission sent by the U. S. Public Health Service to Vera Cruz to study yellow fever he rendered valuable service.

During the Mexican border uprising in 1914 he commanded the First Louisiana Field Hospital, Brownsville, Texas, with rank of major. During the World War he commanded the field hospital of the thirty-ninth division. At the time of his death he was lieutenant colonel in the organized medical reserves.

In 1897 he married Miss Marie Lemarie. Besides his wife, he is survived by two sons, Oliver and Marcel Pothier, and by two sisters, Mrs. L. O. Lemarie and Mrs. Allison Owen.

We mourn the loss of our confrere and extend deepest sympathy to his widow and all of those who loved him.

TRI-STATE MEDICAL ASSOCIATION.

The Tri-State Medical Association, of Mississippi, Arkansas and Tennessee, held a very successful meeting at Memphis, Tennessee, on January 26 to 28, 1926. Thirty-two papers were read, including a number of addresses by prominent invited speakers, from different parts of the country, including Baltimore, Dr. Thomas H. Browne, Johns Hopkins, ("Diagnosis and Treatment of Digestive Diseases"); Buffalo, N. Y., Dr. Irving W. Potter, ("Technique of Elective Version," illustrated); Chicago, Dr. H. L. Kretschmer, ("Problems in the Differential Diagnosis and Treatment of Acute and Chronic Pyelitis"), Dr. Frank Smithies, ("Newer Conception of the Mechanism causing Peptic Ulcer"), Dr. J. H. Hess, ("Intestinal Hemorrhages in Infants and Children"), Dr. Robert H. Babcock, ("The General Practitioner and the Heart"); Cincinnati, Dr. Martin H. Fischer, ("Coma"); Cleveland, Dr. G. W. Crile, ("Carcinoma of the Colon"); New Orleans, Dr. Rudolph Matas, ("Politics and Hospitals in Relation to Standardization"); Philadelphia, Dr. B. B. Vincent Lyons, ("Evolution of Early to Late Gall-tract Disease", illustrated); St. Louis, Dr. J. L. Turney, ("Diagnosis and Treatment of Diseases of the Ductless Glands"), Dr. W. T. Coughlin, ("Diagnosis and Treatment of Facial Pain").

A little over 300 physicians were present exclusive of 150 Memphis doctors. There were twenty-nine commercial exhibits and an unusually large scientific exhibit from the Pathologic Institute and Art Department of the University of

Tennessee, under the direction of Dr. H. C. Schmeissen, assisted by Mr. J. L. Scianni, medical artist. Dr. W. A. Anderson, of Booneville, Mississippi, the acting President delivered an admirable address in which the sociologic, economic and evolutionary phases of medical life, were most interestingly and entertainingly presented. The memory of that splendid character and surgeon, Dr. Frank D. Smythe, of Memphis, recently deceased, was recalled in a feeling personal tribute, by Dr. Matas of New Orleans. The meeting was a fine success from every point of view. The following officers were elected for the ensuing year,—President, Dr. F. L. Husbands, Blytheville, Arkansas; Vice-Presidents, Dr. W. C. Overstreet, Jonesboro, Arkansas, Dr. T. M. Riddell, Swifttown, Mississippi, Dr. H. T. Collier, McKenzie, Tennessee; the efficient Secretary-Treasurer, Dr. A. F. Cooper, of Memphis, was re-elected.

MEDICAL STUDY TOUR TO EUROPE.

The Travel Study Club of American Physicians, founded at the London International Medical Congress of 1913, is announcing plans for its 1926 Study Tour. Sailing from New York on June 12th, the party will visit clinics and medical institutions in the medical centers of Oslo (Christiania), Stockholm, Copenhagen, (optional to Berlin and Munich), Cologne, Heidelberg, Strasbourg, Berne, Zurich, Leysin, Geneva, Paris and London, returning on August 8th. Dr. Louis I. Seaman of New York is President, Drs. Fred H. Albee of New York, Edward B. Heckel of Pittsburgh, John P. Lord of Omaha, vice-presidents. Physicians in good standing, to the limit of fifty, are invited to participate in this tour, and the secretary, Dr. Richard Kovacs, 223 East 68th Street, New York City, will supply any further information desired.

12th ANNUAL MEETING OF MEDICAL WOMEN'S NATIONAL ASSOCIATION.

The Twelfth Annual Meeting of the Medical Women's National Association will take place April 18-19, at Dallas, Texas, in conjunction with the American Medical Association meeting.

The headquarters of the M. W. N. A. are the Hotel Baker. Dr. May Agnes Hopkins, Medical Arts Bldg., Dallas, Texas, is the Chairman of the Committee on Arrangements.

Women intending to go to this meeting should promptly make reservations either through Dr. Hopkins or directly at the Baker Hotel, as there will be a big crowd there. Hotel rates are reasonable, a double room with bath averaging \$6.

The terms for railroad transportation should be looked up in the A. M. A. Journal, but in many places where there are large numbers of members of the Medical Women's National Association, special cars for the women may be run.

Medical Women passing through New Orleans are especially invited to stop over there and will meet with a cordial welcome from the New Orleans medical women, represented by Dr. Elizabeth Bass, 3513 Prytania Street, who is President of the Women Physicians of the Southern Medical Association.

The Texas women, co-operating with the chairman, Dr. Hopkins, are making most attractive arrangements for the meeting. All medical women, whether members of the M. W. N. A or not, are most cordially invited to participate in this meeting.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:

At Washington, D. C., March 15, 1926. At Chicago, Ill., March 15, 1926. At New Orleans, La., March 15th, 1926. At San Francisco, Calif., March 15, 1926.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

THE WESTERN PHYSIOTHERAPY ASSOCIATION.

The eighth annual meeting of this association will be held in Kansas City, April 15 and 16, under the presidency of Dr. A. David Willmoth of

Louisville, Ky. The sessions will be held in the beautiful Hotel President, Fourteenth and Baltimore Avenue, Kansas City's newest hostelry. Members of the association attending this meeting will find it convenient to reserve their rooms in the President Hotel, and all be quartered under the same roof. Reservations should be made early. Eastern members will find it convenient to stop over in Kansas City en route to the A. M. A. at Dallas, which meets the following week. The Western School of Physiotherapy will hold its sessions in the same hotel, beginning April 8, and continuing until April 14. Full information and prospectus may be obtained from the Secretary, Dr. Chas. Wood Fassett, 115 East 31st Street, Kansas City, Mo.

EXHIBIT SHOWS HOOKWORM CONTROL FOR DOGS, CATS AND MAN.

"Carbon Tetrachloride" is the title of an illustrated, three-section exhibit prepared by the United States Department of Agriculture. Carbon tetrachloride, a well-known chemical, was proposed in 1921 by the Bureau of Animal Industry, of the Department, as a drug for the treatment of hookworm disease and is now in general use the world over for this disease in man and in dogs, cats, and foxes. More than 1,500,000 human hookworm cases have been treated with the chemical.

CHILD WELFARE IN THE LEAGUE OF NATIONS.

An American woman, Miss Julia Lathrop, first chief of the Children's Bureau, has been appointed to serve in connection with the child welfare Committee of the League of Nations. Miss Lathrop is one of three American experts who will advise the committee—the other two being Miss Charlotte Whitton of the Canadian Council on Child Welfare and Dr. Ismael Valdes of Chile, president of the Pan-American Child Welfare Congress. Grace Abbott, Chief of the Children's Bureau, represents the United States on the committee in an unofficial capacity.

INDIAN BABIES GIVEN OPIUM.

The "Times of India" gives an astonishing picture of life among the poor mothers and children of India. It states that the practice among Indian Mothers of drugging their babies with opium to keep them quiet while they themselves are at work in the mills is so prevalent in Bombay that the

matter of securing legislation to prevent it was discussed at a recent meeting of the Bombay Municipal Corporation. A report of the medical relief committee of the corporation was finally adopted, with a few dissentients, which states that such legislation "would be premature in the present state of public opinion among the people concerned and would be resented as an unnecessary interference with a prevailing practice which would deprive them of the opportunity of earning their daily bread." The report recommended efforts to educate public opinion and the encouragement of the agencies trying to bring about better sanitation and living conditions in Bombay.

CHILD WELFARE WORK OF THE AMERICAN LEGION.

Care of the needy children of world war veterans is the object of the Children's Welfare Division of the American Legion, created by the Legion at its sixth annual convention. It is the policy of the division to care for the children in their own homes or in supervised foster homes, using, so far as possible, the facilities provided by the State or local agencies already existing. Temporary care is provided in Legion "billets."

UNITED STATES CIVIL SERVICE EXAMINATION.

The United States Civil Service Commission announces the following open competitive examinations.

Medical Officers. Applications for medical officer positions will be received until June 30. The examinations are to fill vacancies in the Indian Service, the Public Health Service, the Coast and Goedetic Survey, the Panama Canal Service, the Veterans' Bureau and other branches.

The examinations are of five grades: Junior medical officer, assistant medical officer, associate medical officer, medical officer, and senior medical officer.

Medical Interne (Psychiatric). Applications for medical interne (psychiatric) will be rated as received until June 30. The examination is to fill vacancies in St. Elizabeths Hospital, Washington, D. C., at \$1,860 a year, without allowances, and vacancies in positions requiring similar qualifications, at this or higher or lower salaries.

Occupational Therapy Aide, \$1,680. Occupational Therapy Pupil Aide, \$1,140.

Applications for these positions will be rated as received until June 30, 1926. The examinations are to fill vacancies in the Veterans' Bureau throughout the United States.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse, any city.

The Tristate Medical Society of Louisiana, Arkansas and Texas, held a very successful meeting at Marshall, Texas, in January. A highly instructive and entertaining program, over a two-day period, attracted a large number of members and visitors; among the latter were Dr. Henry Meyerding, of Rochester, Minn., Dr. J. H. Sanford of St. Louis and Dr. Willis Campbell of Memphis, all of whom presented papers. The 1927 meeting will be held in Texarkana, Ark.

A recent wedding of much interest was that of Dr. Robert Gibbs Douglas of Shreveport to Miss Esther Marian Carter, which took place at the bride's home, Garden City, Kansas, on February 19th. The groom is a popular and successful physician of Shreveport, where the bride is also well and favorably known; The JOURNAL extends warm felicitations.

Among those attending Clinical Congress on Internal Medicine in Detroit and Ann Arbor are the following Shreveport physicians, viz: Drs. Knighton, T. E. Williams, Douglas, Ellis.

Indications are for a large attendance from North Louisiana at the Monroe meeting in April. The slogan is: On to Monroe! Let's all go!"

TRANSACTIONS MISSISSIPPI STATE MEDICAL ASSOCIATION

J. S. Ullman, M. D., Associate Editor.

The Tate County Medical Society reports officers elected for 1926 as follows: Dr. H. L. Murphy, Arkabutla, Mississippi, President; Dr. H. F. Byers, Senatobia, Mississippi, Vice-President; Dr. J. Sidney Eason, Coldwater, Mississippi, Secretary and Treasurer. Dr. Eason is to be congratulated on having held this office of trust since 1911.

Tate County is making a special effort to have sanitary toilets placed in all homes in the county, as well as in the business places.

The Health Officer has vaccinated, and has given to other physicians over the county, free typhoid vaccine for about twenty-seven hundred patients. This has cut the typhoid record down to twenty-four cases a year, as against two hundred or four hundred and fifty cases in that county in 1911.

The Parent-Teachers' Association of Tate County held a meeting in Arkabutla on January 30th. This was a joint meeting with the County Teachers' Association, and the County Health Officer, Dr. J. Sidney Eason, addressed the gathering on the subject of the prevention of diseases with special reference to the communicable diseases of school children.

The December meeting of the Central Medical Society was a very enjoyable occasion. Addresses were delivered by Dr. Dubose, of Selma, Alabama; Dr. J. P. Wall and Dr. John Darrington, local members.

At the election of officers for 1926, Dr. John Darrington, of Yazoo City, was elected President, with Dr. R. W. Hall, of Jackson, as Secretary-Treasurer.

Delegates to the State Medical Association are Drs. W. H. Watson, W. E. Noblin, J. H. Howell, and J. W. Wilson, E. L. Walker and R. W. Hall.

The Central Medical Society is to be congratulated on its attractive and helpful monthly journal, which contains papers by members, notices of meetings, and other information of interest to members.

The Coahoma County Medical Club is a local society which meets the second Wednesday of each month, for a real good fellowship and get-together meeting. These are usually well attended, with a large number of county doctors present.

At the meeting on February 10th, at the City Hall of Clarksdale, the following papers will be read: "What is a Diseased Tonsil?" Dr. E. L. Wilkins.

"A Case Report," Dr. P. R. Wasson.

Officers for this club for 1926 are: Dr. James A. Slack, Friars' Point, President; Dr. J. B. Mitchell, Clarksdale, Vice-President; Dr. E. LeRoy Wilkins, Clarksdale, Secretary.

The Issaquena County Medical Society has been admitted into the Delta Medical Society. This change was made at the regular fall meeting of the Delta Medical Society.

At the December meeting of the Tri-County Medical Society (Copiah, Lincoln, Pike, Walthall), the following officers were elected for 1926:

President—O. N. Arrington, Brookhaven, Miss.

Vice-Presidents—Copiah, J. M. Catchings, Hazlehurst, Miss.; Lincoln, R. E. Higdon, Brookhaven, Miss.; Pike, G. W. Robertson, Magnolia, Miss.; Walthall, A. B. Harvey, Tylertown, Miss.; Secretary, Elise Rutledge, McComb, Miss.; Medical Defense, J. H. Johnson, Brookhaven, Miss.

The East Mississippi Eleven Counties Medical Society met in regular session Tuesday, December 15th, one o'clock P. M., at the Masonic Club rooms, Tupelo, Mississippi.

After the opening exercises, and adoption of minutes, the following papers were read and discussed:

"Some Problems in Pediatrics," Dr. H. F. Garrison, Jackson, Miss.

"Gallbladder Disease from the Standpoint of the Internist," Dr. Henry G. Rudner, Memphis, Tenn.

"Blood Transfusion, Indications and Choice of Method," Dr. R. D. Kirk, Jr., Tupelo, Miss.

"Hare-Lip and Cleft Palate," Dr. Jos. E. Johnson, Memphis, Tenn.

"Care of the Cervix and Perineum During and After Labor," Dr. J. C. Walker, Houston, Miss.

"Our Mouth Hygiene Program," Miss Gladys Eyrich, Jackson, Miss.

"Asthma, a Surgical Disease," Dr. J. G. Lilly, Tupelo, Miss.

Following Dr. Johnson's paper, Dr. Johnson together with several surgeons left the meeting for

the Tupelo hospital, where Dr. Johnson conducted a clinic.

It was moved and unanimously adopted that Alcorn and Tishomingo Counties be accepted as component counties of the East Mississippi Eleven Counties Medical Society, subject to the action of the Council at the time of the State Meeting in May.

The following officers were elected for 1926:

President—Dr. W. J. Aycock, Derma, Miss.

Vice Presidents—Dr. Ross A. May, Amory, Miss.; Dr. W. B. Holland, Verona, Miss.; Dr. B. J. Shaw, Slate Springs, Miss.; Dr. J. T. Senter, Fulton, Miss.; Dr. W. C. Walker, Houlka, Miss.; Dr. C. R. Bush, Macon, Miss.; Dr. C. B. Mitchell, A. & M. College, Miss.; Dr. F. C. Spalding, West Point, Miss.; Dr. J. W. Turner, Pontotoc, Miss.; Dr. E. J. Banks, Baldwyn, Miss.; Dr. W. C. Brewer, Columbus, Miss.; Dr. T. P. Haney, Burnsville, Miss.

Dr. R. B. Caldwell, of Baldwyn, was elected Censor for a term of three years to succeed Dr. G. S. Bryan, of Amory.

Dr. W. A. Johns, of Corinth, was elected member of Medico-Legal Defense Committee.

Dr. W. H. Anderson, of Booneville, was elected Secretary and Treasurer to succeed Dr. F. J. Underwood.

Delegates and Alternates were elected as follows:

Monroe County—Dr. J. M. Acker, Aberdeen, Delegates; Dr. Ross A. May, Amory, Alternate.

Lee County—Dr. T. F. Elkin, Tupelo, Delegate; Dr. C. R. Berry, Tupelo, Alternate.

Itawamba—Dr. W. L. Orr, Fulton, Delegate; Dr. N. W. Nanney, Fulton, Alternate.

Chickasaw—Dr. J. Rice Williams, Houston, Delegate; Dr. J. C. Walker, Houston, Alternate.

Calhoun—Dr. J. F. Aycock, Calhoun City, Delegate; Dr. Eli Powell, Vardaman, Alternate.

Noxubee—Dr. E. Q. Withers, Macon, Delegate; Dr. J. D. Green, Brooksville, Alternate.

Oktibbeha—Dr. H. L. Scales, Starkville, Delegate; Dr. F. B. Long, Starkville, Alternate.

Clay—Dr. Price Ivy, West Point, Delegate; Dr. S. R. Deanes, West Point, Alternate.

Pontotoc—Dr. L. O. Carruth, Tupelo, Delegate; Dr. Z. A. Dorsey, Troy, Alternate.

Prentiss—Dr. L. L. McDouglas, Booneville, Delegate; Dr. W. H. Sutherland, Booneville, Alternate.

Lowndes—Dr. W. C. Brewer, Columbus, Delegate; Dr. J. W. Lipscomb, Columbus, Alternate.

Alcorn—Dr. J. R. Hill, Corinth, Delegate; Dr. I. L. Stephenson, Corinth, Alternate.

Tishomingo—Dr. N. C. Waldrup, Iuka, Delegate; Dr. F. T. Carmack, Iuka, Alternate.

At the January meeting of the American College of Surgeons in New Orleans, the following officers were elected by the Mississippi group:

Dr. S. H. Hairston, Meridian, chairman.

Dr. J. C. Culley, Oxford, secretary.

Dr. T. E. Ross, Hattiesburg, councilor.

Dr. J. A. Mead, of Logtown, Mississippi, formerly health officer of Hancock County, a past-President and at present Secretary of Hancock County Medical Society, has moved to Finkbine, where he has accepted a position with the Finkbine Lumber Company.

Dr. M. K. Tedstrom, St. Louis, Missouri, former resident of Pine Bluff, Arkansas, arrived in Corinth on January 5, 1926. He will be associated with Drs. McRae, specializing in Internal Medicine.

BOOK REVIEWS

Surgical Pathology: By William Boyd, M. D., M. R. C. P. Ed., F. R. S. C., with 349 Illustrations and 13 colored plates. Philadelphia and London. W. B. Saunders Co. 1925.

Until the appearance of Ewing's magnificent treatise on Neoplastic Diseases, pathology had maintained an academic seclusion strongly tainted with an odor of the dead house. Of course, this is not true of pathologists themselves. They have been practical and valuable consultants but for some obscure reason, this admirable quality has been exhibited only in their less formal expressions. It may be that this detached scientific attitude was necessary to the proper development of a new science that has fought its way through mazes of superstition and half-baked deductions to make modern medicine spring from a semi-religious formalization of superstitions jointly flavored with facts. It was perhaps too much to ask that they should directly invade the sacred precincts of practice in their early days, but that time is long since past and many an humble and unpretentious physician had begun to feel the attitude of pathologists, as expressed in print smacked of intellectual snobbishness. Ewing did much to clear the air in that respect and Boyd has actually come full half way to meet the practitioner.

Pathology as an abstract science may reach perfection and accomplish little unless the average physician knows of and applies the facts discovered, just as the progress of medicine in general fails to reach the patrons of chiropractic and electronic reactions. That is an extreme comparison, of course, and does not apply to medical centers where we are privileged to consult competent authorities daily, but I believe it to be true that the average physician has turned to his more fortunate confreres for the facts of pathology and their interpretation, rather than to the proper source. This is at best, second hand and faulty information. It is also likely to be delayed in transmission.

Boyd's *Surgical Pathology* is of especial interest chiefly for the above reasons. *Surgical pathology* is covered briefly but adequately. The material is up-to-date and as accurate as briefness and dogmatism permit. It is not intended as a reference work for pathologists, nor for others who wish to pursue a subject to the limit of the published literature. It is a guide to the practicing surgeon and to the student in need of both facts and interpretation—pathology translated into terms of the living patient. This limitation of scope, is, I believe, proper. There is no lack of authoritative treatises on this subject.

Emphasis is placed on common conditions and processes such as wound healing, gangrene of the legs, stone in the urinary bladder, gallstones, tuberculosis, syphilis, etc. Common and uninteresting things (to the pathologist) such as hydrocele of the tunica vaginalis tests are considered more fully than are dentigerous cysts and primary carcinoma of the liver. Controversial questions are avoided or merely mentioned. The family characteristics of bacteria, etc., are emphasized in such a manner as to give valuable suggestions for prognosis and treatment. I cannot recall having seen before a clear statement of the differences between staphylococcal and streptococcal infections. No doubt the facts were available but only a small proportion of us are capable of accurate generalization. If the author's remarks on vaccines and sera ever become current knowledge, several well-known commercial laboratories will face a serious diminution of patronage.

The arrangement of this book is in some respects unfortunate. It would seem that a division into general and special (regional) pathology calls for needless repetition though it is convenient for the practitioner confronted with a mass in the neck, to consult the chapter only, instead of investigating masses in general. With this arrangement, it is quite impossible to recommend this volume as a text-book, in spite of the fact that the author's approach to the subject would be extremely valuable to students trying to accomplish that terrific metamorphosis from academic scientist to practical physician.

This is a review by a clinician for clinicians. I can readily see that pathologists will find much to be desired, particularly in fullness of treatment, but the book is not intended for pathologists. It is a tangible recognition of the needs of the ultimate consumer of knowledge about disease.

J. D. RIVES, M. D.

Textbook of Physiology: By William D. Zoethout, Ph. D. Second Edition. St. Louis. The C. V. Mosby Company. 1925.

Professor Zoethout intended this excellent volume for students of dentistry, pharmacy and for those preparing for teaching appointments in physical education. It is well adapted to all of these classes, especially the latter, but will be found useful by medical men for review and for preparing for examinations as it is neither too elementary nor too compendious. The subject matter has been brought up to date in the new edition and is reliable and authoritative.

FRANCIS M. MUNSON, M. D.

Radiography, Technique, Interpretation and Therapy: Charles D. Enfield, M. D., F. A. C. P. Philadelphia. P. Blakiston's Son & Co. 1925.

This book was written for medical men, not roentgenologist, doing some, or all of their own X-ray work. It is a question whether any book on roentgenology can qualify a medical man to become sufficiently proficient, (without personal instruction) to do good X-ray work. I do not think so.

This book should prove a valuable contribution to any roentgenologist. There are twenty-three chapters and a large number of beautiful illustrations.

The subject matter has been well covered and the author shows himself by this book to be a roentgenologist of wide experience.

In chapter fourteen the author states that after the esophagus is found free of any gross abnormalities, the red light may be switched on and the patient allowed to drink the remainder of the pint barium mixture at his leisure. We cannot agree with the author in this, as much valuable information can be obtained by visualizing the stomach while the patient is drinking the barium mixture. Early lesions of the cardia are visualized that would otherwise be overlooked.

LEON J. MENVILLE, M. D.

The Normal Diet: A Simple Statement of the Fundamental Principles of Diet for the Mutual Use of Physicians and Patients: By W. D. Sansum, M. S., M. D. Illustrated. St. Louis. C. V. Mosby Co. 1925.

Doctor Sansum has prepared an excellent little manual that is correctly described in the subtitle. It is the outgrowth of lectures delivered by him to patients suffering from various nutritional disorders. There are many manuals describing the diets indicated in diseased conditions but this one is a simple statement of the fundamental principles underlying a normal diet that, if followed, would prevent many minor and some more serious ailments.

FRANCIS D. MUNSON, M. D.

Disease of the Ear, Nose and Throat: By Harold Hays, M. A., M. D., F. A. C. S. Philadelphia, F. A. Davis Co. 1925.

A most excellent volume written especially for the Student and the General Medical Practitioner.

For the one who would do exact work, it is simple and for the one who would round out his Medical Education, it is comprehensive and up to date.

The first 485 pages devoted to the Ear, the remaining 440 pages to the Nose and Throat are written in a masterly way giving much evidence of original research.

The illustrations are clear cut and well selected.

W. MARVYN JOHNSON, M. D.

Massage and Therapeutic Exercise: By Mary McMillan. Second Edition, Reset. Philadelphia and London. W. B. Saunders Co. 1925.

The first edition of Miss McMillan's excellent little manual was based largely on war experience and physical reconstruction work resulting from war injuries; the new edition conforms to the needs of civil practice such as is in vogue in large city hospitals and industrial accident clinics. The treatment of recent fractures has been rewritten and a number of drawings of modern apparatus have been added, both for fractures and different kinds of therapeutic exercise. An outline of the principles as well as the application of massage is embodied in the text, making it a very useful hand-book for training schools for nurses as well as a handy reference book for the busy practitioner.

FRANCIS D. MUNSON, M. D.

The Therapy of Puerperal Fever: By Robert Koehler, M. D. American edition prepared by Hugo Ehrenfest, M. D., F. A. C. S. Illus. St. Louis. C. V. Mosby Co. 1925.

This monograph of some 250 pages thoroughly embraces the various surgical and medical measures for the treatment of puerperal fever. In it the writer displays a vast knowledge and clear reasoning, based on a wide experience and large acquaintance with medical literature on the subject. The introductory chapters deal with the very important factors of prophylaxis and asepsis. In the following chapters he treat systematically with the surgical therapy by hysterectomy and ligation of veins, going into detail and proving the futility in most instances of such surgical interference, particularly as there is no way by which one may gauge definite indication for interference, especially with reference to infected thrombi in some veins to be extirpated when such thrombi may also exist in other remote veins.

In the chapters discussing the various medicinal agents: bichloride, magnesium sulphate, formaldehyde, colloid metals and further in the chapter of chemotherapy, treating with anilin dyes, various foreign proteins, vaccinotherapy, the author proves sound reasons pro and con the therapeutic value of these various agents, illustrating

with case histories and concluding that his experience does not coincide with that of those reporting such dramatically good results.

After reading this valuable addition to medical literature, one is inclined to deduce that in spite of what is done or not done in the instances where cures result, the resistance of the individual has played an important role.

The monograph ends with a voluminous bibliographic list.

ADOLPH JACOBS, M. D.

Insects and Diseases of Man: By Carrol Fox, M. D. Illustrations. Philadelphia. P. Blakiston's Son & Co. 1925.

Surgeon Fox has prepared a concise and well written book on a subject that is of tremendous importance to the medical profession of the Gulf States. This is a thoroughly practical work on medical entomology, and is intended for the field health officer, physicians, entomologists and others whose work has to do with the disease-bearing insects.

The first part deals with the classification, identification, anatomy, life history, general considerations, key to sub-families, etc., together with a chapter on Arachnida and Rodents and notes on technique, which latter will be of genuine benefit to the isolated health officer or practitioner.

Part II discusses the diseases carried by Arthropods among human beings. Under each disease is given the causative agent, source of infection, mode of transmission, period of communicability, epidemiology, recognition of the disease, prevention and control, treatment of carriers, prophylaxis and all practical points including the smaller details, such as the articles required, detailed instructions in the preparation of material, and the investigations to be made by the field workers.

The author has had a varied experience in preventive medicine and he has written a manual that is thoroughly practical as well as authoritative.

FRANCIS M. MUNSON, M. D.

The Faith, the Falsity, the Failure of Christian Science: By Woodbridge Riley, Ph. D., Frederick W. Peabody, LL.B., and Charles E. Humiston, M. D., Sc.D. New York, Fleming H. Revell Co. 1925.

This work is divided into three parts, the first by a psychologist, the second by a member of the Massachusetts Bar, the third by a Professor of Surgery, University of Illinois. It is a most

profound study of the origin and doctrines of Christian Science. There is no trace of an appeal to the public—rather is this book written for the student of abnormal psychology and distorted metaphysics.

Mrs. Eddy's early life and training are reviewed in detail, and the various influences which were to have so profound an effect in her career are carefully analyzed. If the reader needs any proof that Christian Science is far from being a new tenet, he may find it in this volume. Every inconsistency of utterance, every instance of gross commercialism on the part of the founder of this cult of the neurotic, is outlined with the utmost clarity.

The first named author undertakes a psych-analysis of Mrs. Eddy. The accuracy of the results to be obtained by psychanalysis of this sort is always more or less open to question, but it makes most interesting reading. It is a matter of regret to the reviewer, that this book will appeal in its style and content, only to those who need not be convinced that Christian Science is a false doctrine,—the rank and file, who deserve protection from the unscrupulous will neither read it nor understand the scepticism of the medical profession.

E. A. FICKLEN, M. D.

Intravenous Therapy, Its Application in the Modern Practice of Medicine: By Walton Forest Dutton, M. D. Illustrated. Second revised and enlarged edition. Philadelphia. F. A. Davis Company. 1925.

The publication within a year of a second edition of Doctor Dutton's book is an index of its popularity and merit. The book is thorough, complete and authoritative in every sense of the word. Part I discusses the general technic of intravenous therapy and describes the various procedures with pains-taking detail. Part II treats of intravenous medication as applied to various diseases. It is an excellent work on a most important phase of modern medicine.

FRANCIS M. MUNSON, M. D.

PUBLICATIONS RECEIVED.

P. Blakiston's Son & Company, Philadelphia: "Potter's Compend of Materia Medica Therapeutics," by A. D. Bush, B. S., M. D. "Mouth, Throat, Nose, Ear, and Eye," by Thomas H. Odeneal, M. D. "Headache," by Dr. Thomas F. Reilly.

F. A. Davis Company, Philadelphia: "Ears and the Man," by Annetta W. Peck, Estelle E. Samuelson, and Ann Lehman.

Paul B. Hoeber, Inc., New York: "Chronic Disease," by E. Bach, M. B., B. S., D. P. H., and C. E. Wheeler, M. D., B. S., B. Sec.

Richard G. Badger, Boston: "Practical Helps in the Study and Treatment of Head Injuries," by Adolph M. Hanson, M. D.

Lea & Febiger, Philadelphia and New York: "Modern Medicine," edited by Sir William Osler, Bart., M. D., F. R. S. Volume II.

Miscellaneous: "Ophthalmic Neuro-Myology," by G. C. Savage, M. D., LL.D.

Reprints.

"Some Cancer Facts and Fallacies," by Fred. L. Hoffman, LL.D. "Radium (Mesothorium) Necrosis," by Fred L. Hoffman. "The Cancer Problem of Canada," by Fred. L. Hoffman, LL.D. "Southern Health and Welfare," by Fred L. Hoffman, LL.D. "On the Causation of Cancer," by Fred L. Hoffman, LL.D. "Cancer and Civilization," by Fred L. Hoffman, LL.D.

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APRIL, 1926

No. 10

TONSILLOMYCOSES.

ALDO CASTELLANI, M. D.,

Professor of Tropical Medicine, Tulane University of Louisiana,

NEW ORLEANS.

For some years I have called attention to the comparative frequency of diseases of the tonsils due to the higher fungi, or mycetes, both in tropical countries and in the temperate zone. Jointly with Dr. Mackenzie Douglas and with Dr. T. Thomson, of London, I recently described several cases occurring in England. It may perhaps be of interest to deal again with the subject. Tonsillomycoses may be divided into two groups: (a) chronic tonsillomycoses; (b) acute and subacute tonsillomycoses. Chronic tonsillomycoses are well known, and have been studied by a number of observers. Acute tonsillomycoses have attracted so far little attention.

CHRONIC TONSILLOMYCOSES

Chronic tonsillomycoses are generally due to fungi of the genus *Nocardia* (*Actinomyces*, *Streptothrix*) *Leptothrix* and *Vibriothrix*. It may perhaps be of advantage to give a few mycological data about these genera, all belonging to the order *Microsiphonales*, before giving the clinical description of the conditions they are associated with.

Microsiphonales Vuillemin 1912—Definition: Hyphales with the mycelium composed of fine bacilli-form hyphae, usually 1 micron or less in diameter, generally

gram-positive, when young and without distinct nuclei. Parasitic on man, animals and plants, or saphrophytic.

Remarks—This is a most interesting order, as its members are nearly always mistaken at first sight for bacilli. Hence the description of bacilli as the cause of so many fungal diseases due to these organisms.

One form of division into families is as follows:

(a) *Nocardiaceae* Castellani and Chalmers, 1918.

Synonyms—*Actinomycetes* Lachner-Sandoval, 1898; *Trichomycetes* Petrusky, 1903.

Definition—*Microsiphonales* with a mycelium.

Type Genus—*Nocardia* Toni and Trevisan, 1889.

(b) *Mycobacteriaceae* Miede, 1909.

Definition—*Microsiphonales* without a mycelium.

Genus 1—*Mycobacterium* Lehmann and Neumann, with the tubercle bacillus as a type.

Genus 2—*Corynebacterium* Lehmann and Neumann, with the diphtheria bacillus as a type.

Most authorities place the *Mycobacteriaceae* under the *Schizomycetes* (bacteria).

Family *Nocardiaceae* Castellani and Chalmers, 1918.

Synonyms—*Actinomycetes* Lachner-Sandoval, 1898; *Trichomycetes* Petrusky, 1903.

Definition—Microsiphonales with a mycelium.

Type Genus—*Nocardia* Toni and Trevisan, 1889.

Classification—Until quite recently all the species of this order were considered to belong to one genus, *i. e.*, *Nocardia*, Toni and Trevisan, 1889; but Pinoy has made a subdivision, separating certain species into another genus, which he calls *Cohnistreptothrix* Pinoy, 1911. In doing this, he points out that the original discoverers of actinomycosis, *viz.*, Harz and Bollinger in 1877 and Rivolta in 1878, thought that they were dealing with one organism, but when cultures were attempted it became apparent that more than one organism was im-

of gelatine cultures into the peritoneal cavity of guinea-pigs produced actinomycosis. This form is commonly called *Nocardia israeli* (Krause, 1896). Wright maintains that this organism is the true cause of actinomycosis and that *N. bovis* is merely a contamination, but this is not generally accepted.

There are, therefore, two distinct organisms which can cause actinomycosis in man and oxen, *viz.*, *N. bovis* (Harz, 1877) and *N. israeli* (Krause, 1896), but the difference between them is considerable; and therefore Pinoy has separated off the latter and its allies from the former and has founded the new genus *Cohnistreptothrix* Pinoy, 1911. The name is derived from the fact that in 1874 Cohn described a fungus in lachrymal concretions under the term *Streptothrix Foersteri*, which was considered to be a *Nocardia* and is now one of the species of Pinoy's *Cohnistreptothrix*. These two genera are distinguished as follows:

(a) Grows aerobically, easy of cultivation, and producing arthrospores; Genus 1, *Nocardia* Toni and Trevisan 1889.

(b) Grows best anaerobically, but can often grow aerobically, difficult of culture, and not producing arthrospores: Genus 2, *Cohnistreptothrix* Pinoy 1911.

The various species of these two genera may be found in Castellani and Chalmers' *Manual of Tropical Medicine*, 3rd edition.

A few words may be added on certain filamentous vegetal organisms on the classification of which there is much discussion, *viz.*, organisms of the genus *Leptothrix*, of the genus *Cladothrix*, of the genus *Vibriothrix*.

Genus Leptothrix Kutzing, 1843—Definition: Filamentous fungi with long, very thin mycelial threads, with no capsule or only a very delicate one; non-branching non-septate, generally non-cultivable.

Type Species—*Leptothrix maxima* Miller.

The following species have been described:

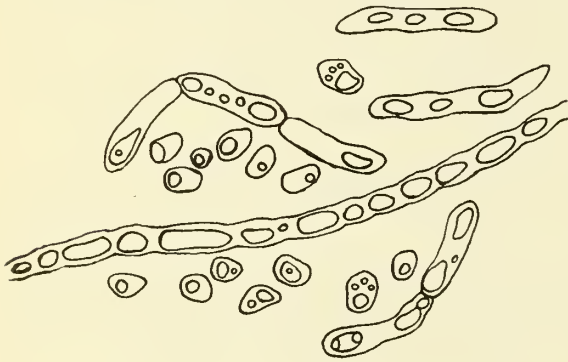


Fig. 1—*Monilia tropicalis* in the lesions

plicated. Thus Bostroem isolated a parasite site which grew aerobically, producing a dry membrane on the surface of broth and capable of growth at 20° C. on gelatine, but growing better on potato at 37° C. and forming chains of arthrospores. Inoculation into animals was, however, negative. This form is commonly called *Nocardia bovis* (Harz, 1877).

Wolf and Israel, on the other hand, obtained a parasite which only grew anaerobically and was not capable of growth at ordinary European air temperature. In broth it formed small granules or scales which fell to the bottom of the tube. These cultures often contained club-like forms, and the branching filaments broke up into bacillary or coccal-like forms. Inoculation

Leptothrix maxima Miller 1882.

Synonym—*L. buccalis maxima* Miller. Long thin filaments, unsegmented, or with very long segments. When treated with iodine and dilute sulphuric acid gives a blue granulose reaction. Has not been cultivated.

Leptothrix innominata Miller, 1882.

Morphologically identical with *L. maxima*, but when treated with iodine and dilute sulphuric acid does not give a blue reaction. Has not been cultivated.

Leptothrix racemosa Miller, 1882.

Filaments somewhat thicker than those found in the two preceding species. On staining shows a peculiar beaded appearance. Has not been cultivated.

Leptothrix placoides Dobrzyński.

Very long thin filaments, Gram-positive, non-motile. Gelatine liquefied. Growth on agar very slow; produced very hard granular colonies. Isolated from human mouth by Dobrzyński.

Leptothrix filiformis Flexner, 1896.

Synonym—*Bacillus* (*Leptothrix*?) *pyrogenes filiformis* Flexner, 1896. Isolated by Flexner from a rabbit. Is non-motile, of difficult cultivation, pathologic.

Leptothrix vaginalis Donne, 1885.

Found in vagina of women and animals.

Genus *Cladothrix* Cohn, 1875.

Definition—Filamentous fungi with mycelial threads very long, thin, showing pseudo-branching. The only well-known species is *Cladothrix dichotoma* Cohn.

Cladothrix dichotoma Cohn, 1875.

Long, thick mycelial threads straight or slightly undulating. They are not dichotomous, as the name would suggest; it is merely a case of pseudo-branching. The organism can be cultivated on ordinary laboratory media, forming on agar a brownish, wrinkled, tough, membranous layer,

very adherent. The medium may become stained, slightly brownish. The organism is found often in waters. Chalmers and I found it, or a very similar species, in an ulcer of the foot in association with many other organisms.

Genus *Vibriothrix* Castellani, 1917.

The mycelial articles are of very different shape; bacillary, vibrio-like, spirillum-like, at times club-ended. Globular or pear-shaped bodies of very variable size may be present. Gram-negative, not acid-fast. The organisms belonging to this genus are generally motile. Cultivable on ordinary media.

Type Species—*Vibriothrix zeylanica* Castellani, 1910.

Synonyms—*Spirillum zeylanicum* Castellani, 1910; *Vibrio zeylanicus* Castellani, 1913; *Bacillus zeylanicus* Castellani, 1913; *Vibriothrix zeylanica* Castellani 1917, *Spirillibacillus zeylanicus* Castellani, Spagnolo, and Russo, 1918.

Remarks—Very polymorphic organism, vibrio-like, bacillus-like, and undulating forms being often found in the same preparation. Very small, medium size, and occasionally large roundish bodies are at times observed, and club-like forms may also be present.

The organism is motile, Gram-negative, not acid-fast. Easily grown on ordinary media. On potato the growth is often of a reddish color. In broth there is often a pellicle; preparations from the fluid medium generally show a predominance of vibrio-like or bacillary forms, while in the pellicle, long undulating forms are often found. On MacConkey's medium the colonies are white, and somewhat resemble those of the typhoid-dysentery group. The organism does not ferment any of the usual laboratory carbohydrates or alcohols; glucose, levulose, galactose, maltose, lactose, saccharose, mannitol, dulcitol, raffinose. There is, in fact, frequently a production of alkalinity. Milk is not clotted and is rendered

alkaline, and certain strains after several weeks may induce a certain degree of peptonization. The great majority of strains are non-pathogenic to rabbits and guinea-pigs.

The germ was first isolated by me from cases of dysenteric enteritis in Ceylon, and has recently been observed by Spagnolo, Russo, Taylor, Douglas, Peruzzi, and Ghiron, in Europe.

The germ is found in great abundance in a number of cases of dysentery, while it seems to be rare in other conditions; it is very doubtful, however, whether it can really become pathogenic, as I found it also in cases in which the typical Shiga-Kruse bacillus was present. It may, perhaps, be considered to be a so-called "noso-

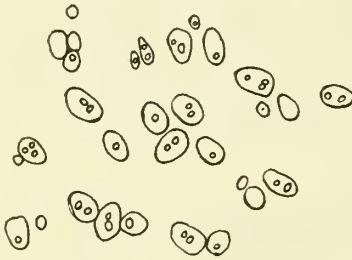


Fig. 2—*Monilia tropicalis* from a culture.

parasite" similarly to what is the case with certain species of proteus found in cholera, in typhus fever and other conditions.

An organism very similar to *Vibriothrix zeylanica* has been found in cases of granular mycosis of the tonsils.

GRANULAR MYCOSIS OF THE CRYPTS.

The affection, which is not new, but which is little known, runs a chronic course and is not painful. The patient often does not come to consult the doctor because of a sore throat, but because of the unpleasant odor of the breath. On examining the throat small whitish-yellowish spots will be seen on the tonsils; these spots are in reality the surface portion of the granules contained in the crypts, and may be extracted with more or less ease. These bodies when crushed emit a very offensive odor; under

the microscope they are seen to consist of masses of nocardia-like organisms, at other times of masses of leptothrix and vibriothrix; in certain cases both nocardial fungi and leptothrix are seen as well as various bacteria, and even protozoa such as spirochaetes amoebae and flagellates. The Nocardia fungi present are very difficult to grow. After several years the masses in the crypts may become calcified, and real calculi may be formed, which sometimes form the starting point of some very severe inflammation.

Illustrative Case (London)—Mrs. N., European, aged 28, married, very good general health, does not complain of sore throat, but is greatly distressed, suffering from severe foetor oris, which is apparently the cause of some estrangement with her husband. On the surface of the tonsils several whitish-yellowish spots are seen. On further examination one finds out that they are small nodules easily removed from the crypts. The microscopical examination shows masses of a filamentous fungus. Attempts at cultivating it failed. All the nodules were extracted and applications of glycerine of borax ordered. The result was very satisfactory.

TONSILLO-ACTINOMYCOSIS.

Primary actinomycosis (nocardiasis, cohnistreptothricosis) of the tonsils is rare. Most of the cases are of the yellow or white type; generally only one tonsil is affected. The tonsil is much enlarged and contains one or several small abscesses which on bursting discharge pus containing the typical yellow or white granules due to fungi of the genus *Nocardia* and *Cohnistreptothrix*. In the tropics, I observed a case with black granules due to *Nocardia nigra*. Perry and Potter have recently thoroughly investigated a case of tonsillo-actinomycosis in England.

ACUTE AND SUB-ACUTE TONSILLOMYCOSES.

Acute and subacute tonsillomycoses are in my experience comparatively common.

The following is an aetiological classification of these conditions:

(1) Due to fungi of the genus *Monilia*, tonsillomoniliasis.

(2) Due to fungi of the genus *Saccharomyces*, tonsillo-saccharomycosis.

(3) Due to fungi of the genus *Cryptococcus*, tonsillocryptococcosis.

(4) Due to fungi of the genus *Oidium*, tonsillo-oidiosis.

(5) Due to fungi of the genus *Willia*, tonsillo-williasis.

(6) Due to fungi of the genus *Hemispora*, tonsillohemisporosis.

Without entering into too many botanical details, it may be of practical advantage to give briefly certain characters of the above genera.

Genus *Monilia*, Persoon, 1797—The original definition by Persoon is "Stipitata aut effusa byssoidea, fila moniliformis articulata," and Saccardo and other botanists state that these fungi are characterized by the sporophores being simple or sub-simple, and producing by construction at the extremities a chain of large lemon-shaped conidia, often provided with a disjunction apparatus. No asci and no ascospores are present. The general tendency at the present time, however, thanks to the work of Pinoy and Vuillemin, is to extend the term "Monilia" so as to include all those organisms of the family Oosporacea Saccardo, 1886, the vegetative body (thallus) of which in its parasitic life (in situ, in the lesions) appears as a mass of mycelial threads and free budding forms, some of the mycelial filaments being long and branched, and of rather large size, and often presenting arthrospores. In the saprophytic life (cultures on the usual solid laboratory media) mostly roundish or oval budding yeastlike cells are seen, while mycelial filaments are very scarce or absent, and when present they are rather short and consist only of a few short articles. *Monilia* fungi very often ferment glucose and other carbohydrates with production of gas. From a practical point of view these fungi

are characterized principally by the following features: In their parasitic life in the human lesions the vegetable body (thallus) is composed of mycelial threads of rather large size showing arthrospores and numerous free, oval, or roundish budding yeast-like elements; in cultures, especially on solid media, mostly roundish or oval budding cells are seen, while mycelial filaments are scarce or absent. Asci and ascospores are absent.

It must be noted that not rarely, also in the lesions, only yeast-like forms are found.

The classification of the monilias has been the subject of much confusion. Morphological grounds do not suffice for a classification, but by means of their biochemical reactions a fairly satisfactory classification has now been reached. By means of the sugar reactions it is possible to divide the species of *Monilia* into groups: by the use of the following carbohydrates: glucose, levulose, maltose, galactose, saccharose, lactose, inulin.

1. *Balcanica group*—Gas produced in glucose only. Principal species: *Monilia balcanica* Cast. *Monilia parabalcanica* Cast.

2. *Krusei group*—Gas produced in glucose and levulose. Principal species: *Monilia krusei*, Cast. *Monilia parakrusei*, Cast. *Monilia castellanii* Re.

3. *Pinoyi group*—Gas produced in glucose, levulose, maltose. Principal species: *Monilia pinoyi* Cast. *Monilia nabarroii* Cast.

4. *Metalondinensis group*—Gas produced in glucose, levulose, maltose, and galactose. Principal species: *Monilia metalondinensis* Cast. *Monilia pseudometalondinensis* Cast.

5. *Tropicalis group*—Gas produced in glucose, levulose, maltose, galactose and saccharose. Principal species: *Monilia tropicalis* Cast. *Monilia metatropicalis* Cast.

6. *Guillermondi* group—Gas produced in *glucose*, *levulose*, *saccharose* and *raffinose*. Principal species: *Monilia guillermondi* Cast. *Monilia pseudoguillermondi* Cast.

7. *Macedoniensis* group—Gas produced in *glucose*, *levulose*, *galactose*, *saccharose* and *inulin*. Principal species: *Monilia macedoniensis* Cast. *Monilia macedoniensoides* Cast. *Monilia chalmersi*, Cast.

8. *Pseudotropicalis* group—Gas produced in *lactose*, and other *carbohydrates*. Principal species: *Monilia pseudotropicalis* Cast.

9. *Pseudolondinensis* group—Gas produced in *dextrin* in addition to other *carbohydrates*. Principal species: *Monilia pseudolondinensis* Cast. *Monilia pseudolondinoides*, Cast. *Monilia africana* Macfie.

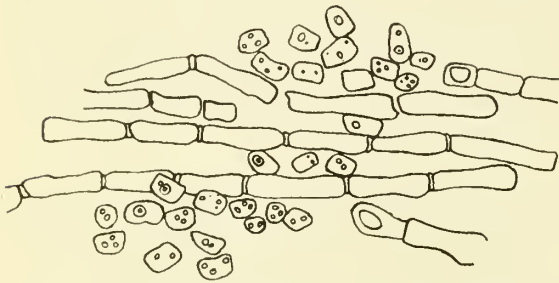


Fig. 3—*Oidium asteroides*: from glucose-agar culture.

10. *Zeylanica* group—No gas produced in any sugar. Principal species: *Monilia zeylanica* Cast. *Monilia zeylanoides* Cast. *Monilia macroglossiae* Cast.

It is important to note that some monilias after a few transplantations lose some of their fermentative characters or these may become altered. Hence in certain cases the determination of species is possible only when using recently isolated strains.

Genus *Saccharomyces*, Meyen—The characters of these fungi are identical with those of the genus *Monilia*, except that asci and ascospores are present in old cultures.

Genus *Oidium*, Link (sensu stricto)—This genus is morphologically closely allied

to *Monilia*, but mycelial threads are much more abundant both in the lesions and in the cultures, and budding yeast-like cells are rare. Fungi of this genus may occasionally induce acide fermentation, but never produce gas. There is no doubt that that original trush fungus, *Oidium albicans* Robin, 1895, is not an *Oidium* but a *Monilia*.

Genus *Willia* Hansen, 1904—*Saccharomycetaceae* with ascospores of a peculiar bowler-hat like shape. Fungi of this genus as a rule do not cause alcoholic fermentation, but often produce various ethers, the cultures often presenting a pleasant fruity odor.

Genus *Hemispora*, Vuillemin—The mycelium is very abundant. Some mycelial hyphae becomes differentiated, forming terminal ampulliform structures called "protoconidia." The protoconidium after a time divides into several segments called "deuteroconidia," which are the true reproduction spores.

TONSILLOMONILIASIS.

The onset is generally abrupt with general malaise, fever, and difficulty in swallowing. On inspection of the throat, in most cases, the tonsils are seen to be covered with creamy-white patches which at times extend to the soft palate, the pharynx and the larynx. Diphtheria is often suspected, but the microscopical and cultural examination of the patches clears up the diagnosis. In other cases the clinical appearance is that of follicular tonsillitis. The prognosis is generally favorable, but not always. In a case in Ceylon the fungal infection spread to the bronchi and lungs and a severe mycotic bronchopneumonia developed. The treatment consists in local applications of glycerine of borax, and, most efficacious, a carbolic or a chlorine spray. Small doses of phenazone or aspirin may be given internally.

Illustrative Cases: Case 1—On August 5, 1921, Pensioner N. (Ministry of Pensions Hospital, Orpington) reported himself to the medical officer in charge, suf-

TABLE I—SHOWING CHARACTERS OF VARIOUS MONILIAS

	Glucose	Levulose	Maltose	Galactose	Saccharose	Lactose	Mannite	Dulcite	Dextrin	Raffinose	Arabinose	Adonite	Inulin	Sorbite	Starch	Glycerine	Inosite	Salicin	Amygdalin	Inosulcite	Erythryte	Gelatine	Serum	Litmus Milk	Color of growth on glucose agar	Remarks
<i>Monilia zeylanica</i> , Castellani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	Yellowish	
<i>Monilia zeylanoides</i> , Castellani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	Produces no discoloration of lead agar.
<i>Monilia (cryptococcus) macroglossiae</i> , Castellani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	Produces black discoloration of lead agar.
<i>Monilia balcanica</i> , Castellani	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia parabalcanica</i> , Castellani	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	White	
<i>Monilia krusei</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia parakrusei</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	White	
<i>Monilia (cryptococcus) Castellani</i> , Re	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	Yellowish or brownish	
<i>Monilia pinoyi</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia naboroi</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	White	
<i>Monilia metalondinensis</i> , Castellani	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia pseudolondinensis</i> , Castellani	G	G	G	0	0	0	0	0	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia alba Castellani</i>	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	White	
<i>Monilia pseudolondinoides</i> , Castellani	G	G	G	0	0	0	0	0	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia africana</i> , Macfie, 1921	G	G	G	0	0	0	0	0	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia albicans</i> , Robin	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia tropicalis</i> , Castellani	G	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia metatropicalis</i> , Castellani	G	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia rhoi</i> , Castellani	G	G	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia guillermondi</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia pseudoguillermondi</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia macedoniensis</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	White	
<i>Monilia macedoniensis</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia macedoniensis</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	White	
<i>Monilia chalmersii</i> , Castellani	G	G	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	O	Dark Brown	

C—Clot; G—Gas; S—slight; O—negative result, viz., non-production of gas in sugar media, or of clot in milk, or of liquefaction in serum and gelatine; +—positive result.

fering with tonsillitis with temperature 102° F., rapid pulse and prostration. On the tonsils and fauces there was a white, membrane. Neither in the direct smear nor on the culture were diphtheria bacilli found. In the direct smear, made at the bedside, were a large number of *Monilia*. From cultures on Löffler's medium and glucose-agar, *Monilia* was grown at 37° C., and isolated in pure culture. The patient made a good recovery after the exhibition of a chlorine gargle.

Biological Reaction—The *Monilia* isolated gave the following reaction: (1) Glucose: Acid and Gas (2) levulose: A and G; (3) maltose: A and G; (4) galactose: A and G; (5) saccharose: nil; (6) lactose: nil; (7) inulin: nil; (8) litmus milk: nil.

The *Monilia* biologically corresponds to *Monilia metalondinensis* (Castellani, 1916).

Intravenous inoculation of isolated *Monilia*. An emulsion of the *Monilia* was made from a glucose agar slope and 1 c.c. of a white opaque emulsion was injected by Dr. Mackenzie Douglas, pathologist to the Hospital into an ear vein of a rabbit. In five days' time the animal died and cultures of the *Monilia* were obtained from the heart blood, lungs, liver, spleen and kidney.

Naked-eye appearance of the organs: In the lungs there were areas of congestion but there was no pneumonia. Both kidneys were greatly enlarged. The capsules stripped readily and showed the surface white and granular. On section the cortex was whitish. This was due to white specks, none larger than a pin's head, closely set together. There were a few discrete specks in the medulla which otherwise showed little change to the naked eye. There was no change of note to the naked eye in other of the organs.

Microscopical appearance of the kidney: Microscopic sections showed the *Monilia* scattered throughout the substance of the kidney, but mostly in the cortex. A few lay

singly but for the most part they were small groups and surrounded by small round cells. The glomeruli were not greatly affected. The convoluted and other tubules were distinctly degenerated and many of them crushed owing to the presence of groups of *Monilia*. The collecting tubules were less affected, but in their lumen were many red blood corpuscles and small white cells. The interstitial tissue was not increased. Between the tubules, however, especially in the medulla, there was a considerable amount of homogenous matrix, staining pink with eosin. In the medulla the groups of *Monilia* were confined mainly to the periphery. In the clusters there was no caseation, no increase of fibrous tissue and there were no giant cells present.

The organism isolated from the heart blood of this rabbit was injected in a similar manner into another, and in the same manner the second rabbit died in five days. At the autopsy the naked-eye appearances of the organs were in every way identical with those described above, as were also the microscopic pictures of the kidneys. The same *Monilia* was isolated from its heart blood and from the organs.

Case 2.—Cingalese girl, aged about 11, admitted to the Infectious Disease Hospital of Colombo in 1910 with the diagnosis of diphtheria. There were white patches on the tonsils, vulva and soft palate. The temperature was rather high (102° F.); the pulse frequent and of low pressure. There was swelling at the angle of the jaw. The child developed symptoms of bronchopneumonia and died three days after admission. Anti-diphtheria serum was given twice by the physician in charge of the hospital. The microscopical and bacteriological examination of the patches for the Kleb-Löffler bacillus, carried out with the usual technic, serum-media, etc., being used, remained negative. No bacteria of any kind were seen in the specimens directly taken from the patches, but numerous mycelial and conidial elements of a fungus were

present. On serum and glycerine agar media no colonies of diphtheria or other bacteria. The fungus had all the biochemical characters of *Monilia tropicalis* Cast.

Case 3.—A young European lady, aged 22, became suddenly ill with sore throat at one of the Colombo hotels. Her medical attendant suspected diphtheria, and called me to see her in consultation. When examined her temperature was 101°F., pulse 98; she complained of difficulty and pain in swallowing, both tonsils and vulva were covered with white creamy patches. Preparations made from the patches revealed an enormous number of yeast-like organisms and a few cocci, while no bacilli of any kind was present. This, of course, was sufficient to exclude diphtheria. On glu-



Fig. 4—*Willisia* ascospores.

cose agar tubes a fungus grew in pure culture with all the character of a *Monilia*. This monilia rendered milk slightly acid, and then decolorized it completely; it did not liquefy serum or gelatine. On serum it induced a narrow zone of black discoloration all round the growth.

Case 4.—A young gentleman attached to one of the Embassies in London. Abrupt onset, fever, severe pain in swallowing, creamy white patches developing very rapidly on the tonsils, uvula and soft palate. The practitioner in charge was in doubt whether it was diphtheria or Plaut-Vincent's angina, and called me in consultation. Smears showed absence of spirochaetes and bacilli; instead a very large number of yeast-like cells were present. The cultural examination showed absence

of the diphtheria bacillus; instead a monilia was grown with all characteristics of a *Monilia metalondinensis*.

TONSILLO-OIDIOSIS.

The clinical symptoms are identical with those observed in tonsillo-moniliasis. The oidia so far found in these cases are *Oidium matalense* Castellani and *Oidium rotundatum* Castellani.

Illustrative Cases. Case 1.—European, aged 25, has been several years in Ceylon. In November, 1914, was taken ill with severe sore throat, difficulty in swallowing, and high fever (104°F.). When seen by me twelve hours after onset, both tonsils were covered with a diffuse white exudation, but not the uvula. The microscopical examination and bacteriological examination showed absence of the diphtheria bacillus, while a fungus was grown with the botanical characters of an oidium. Further investigation showed it to be very similar to *O. matalense*.

Case 2.—A young English planter, while in a nursing home in London November, last, where he was treated for chronic malaria, complained suddenly one morning of sore throat with difficulty in swallowing; temperature 101° F. The examination of the throat showed the typical picture of an ordinary follicular tonsillitis. The microscopical and cultural examinations, however, showed presence of an oidium: *orotundatum*.

TONSILLO-WILLIASIS.

The clinical symptoms are identical with those of tonsillo-moniliasis.

Illustrative Case.—An Indian girl, aged 14, in England for her education got suddenly ill at the end of October, 1922, with high fever, severe sore throat and difficulty in swallowing. When I saw her both tonsils and the uvula were covered with creamy white patches. Microscopically no bacilli of any kind were present; instead

numerous fungoid elements and a few cocci could be seen.

A cultural investigation was carried out; it was negative for *Bacillus diphtheria*. A fungus was grown with the general characters of the genus *Willia*. A determination of species was not attempted.

The patient got rapidly well on a treatment consisting of a local spray of 1 per cent. carbolic acid, painting with glycerine of borax, and internally a sodium calicylate mixture.

TONSILLO-HEMISPOROSIS.

The clinical symptoms are somewhat different from tonsillo moniliasis. The onset is acute, but the general and local symptoms do not disappear so rapidly, the patches are not creamy, they are often greyish or greyish brown, or greyish-yellowish, and are very resistant to treatment. The fungus found is a *Hemispora*, usually *Hemispora rugosa* Cast.

Case 1.—European planter, admitted to the Kandy Hospital on May 2, 1913. The illness had started two weeks previously. Temperature on admission 101° F. Complained of severe pains in throat and difficulty in swallowing. Flushed face; felt extremely weak and exhausted. Voice thick and nasal. Swallowing painful and difficult. Fluid regurgitated through nostrils. There was a profuse flow of saliva. The muscles of the neck were rigid, submaxillary glands enlarged and painful. The patient was unable to open the mouth wide. Tongue thickly coated and dry; soft palate swollen. Greyish membranes were present on the left tonsil, left anterior pillar and soft palate. Diphtheria antitoxin (2,000 units) was injected the same day by the attending physician into the flank and spray of hydr. perox. prescribed. During the next four days the general condition improved, but the whitish-greyish membranes in the cleft between the left tonsil and the left anterior pillar were still very evident. Nine days after admission

there was still a small whitish patch visible, but the patient felt quite well and was discharged the following day. In smears made from swabs sent to me for examination no bacilli were seen, a few cocci were present, and numerous large mycelial segments of a fungus. Serum tubes and glycerine agar were inoculated as usual, and gave the presence of mycelial threads; also several sugar agars. The serum and glycerine agar tubes did not show any growth of the diphtheria bacillus; instead there was a growth of a fungus with a peculiar crinkled surface which I had found previously, in 1909, in a case of bronchitis. Being uncertain of its classification, I placed it temporarily in the genus *Monilia*, and called

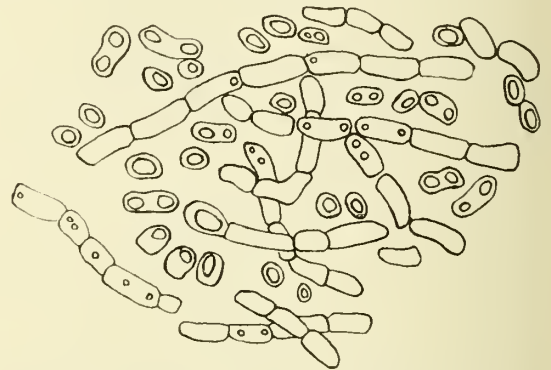


Fig. 5.—*Oidium rotundatum* from a culture.

Monilia rugosa. It was later sent to Professor Pinoy, of the Pasteur Institute, who, after a long botanical investigation, came to the conclusion that the organism belonged to the genus *Hemispora*. The correct name of the fungus became therefore *Hemispora rugosa* Castellani.

Case 2.—Mrs. N. B. came to consult me in September, 1921. She was complaining of sore throat which had begun three weeks ago and she had been treated with various gargles. There was a large greyish-yellowish patch on the right tonsil. The microscopical and cultural examination revealed the presence of hemispora. The local condition healed after repeated applications of iodine. It is interesting to note that soon

after, she developed signs of bronchitis and the same fungus was found in the sputum.

Case 3.—A young English lady, married, came to consult me in London in May 1925. A few months previously while in the East she had a severe sore throat which the local practitioners thought might be diphtheria, but no serum was given. After the acute symptoms disappeared, a greyish-whitish patch remained on the right tonsil. This was still present when the lady came to consult me, and I isolated from the patch *hemispora rugosa*.

A very interesting feature of the case was the following: When she came to see me, she complained of severe discomfort and discharge from the vulva. An examination of her genital organs revealed a greyish-brownish patch on the inner surface of the right labium somewhat similar to that present on the tonsil. From the patch the same fungus (*H. rugosa*) was grown. Local application of diluted tincture of iodine cured the condition.

RESUME AND CONCLUSION.

Tonsillomycoses or affections of the tonsils due to fungi higher than bacteria (mycetes) are not, in my experience, very rare. I have seen cases in tropical and subtropical countries and also on the continent of Europe and in England. They may be caused by a variety of fungi, mostly fungi of the genera *Monilia*, *Oidium*, *Hemispora*, *Nocardia*. They may be clinically separated into two groups: chronic tonsillomycoses, acute tonsillomycoses. Chronic tonsillomycoses have been known and studied for many years, but the subject of acute tonsillomycoses has not so far received much attention in medical literature. The subject is, however, important from a practical point of view, as acute tonsillomycoses may at times clinically simulate diphtheria, Plaut-Vincent's angina and follicular tonsillitis.

LITERATURE.

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THREE CASES OF GAS-BACILLUS INFECTION.*

WITH LABORATORY TECHNIQUE.

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SHREVEPORT, LA.

It is not my purpose in this paper to deal, in detail, with the treatment of this dangerous infection, but merely to report three cases, which came under my observation, in the North Louisiana Sanitarium, although in the surgical services of others, in a comparatively short space of time. The three cases were under the care of three different surgeons, were given first aid by three different local practitioners and, although two hailed from the same parish, they really came from different localities. All three evidently had the infection before arrival at Shreveport, as amputations became necessary on the 1st, 3d and 4th days, respectively, with well marked clinical signs in each case.

The first case, J. W. S., hailing from the Parish of Lincoln, was admitted Dec. 23, 1924, with a history of having sustained a fracture and extensive lacerations of musculature of leg, by getting it caught in a large belt in mill machinery. The parts had been cleansed as well as possible by the mill physician, who hurried him over to our hospital; upon his arrival the same day, the surgeon deemed it safe and wise to attempt to save the limb—judgment which would have been fully justified had not this virulent infection made itself plainly evident at the first change of dressings through a window in the plaster-of-Paris cast. After consultation, an amputation was performed high up on thigh, the wound being left entirely open and treated along modern approved methods. The following laboratory details were carried out, viz.:

Dec. 26. Culture showed positive for gas bacillus of Welch; on litmus-milk or "brom-cresol purple," a typical yellow stormy coagulation appeared; on 30th, a small rabbit was inoculated, from the whey; killed in 15 minutes, and incubated for 6 hours, a bubble was found in liver; incubation of cultures from heart and liver for 24 hours, showed positive for the Welch bacillus. On Jan. 1, patient developed a lesion on other leg, cultures from which revealed streptococcus viridans. In spite of the open treatment, thorough

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drainage, the use of stimulants, two blood transfusions and special care, the patient succumbed on Jan. 14th, due, we thought, to showers of septic emboli, as he had presented symptoms of involvement of both lungs, at separate times, and blood cultures showed streptococcus viridans.

The second case, T. W., came from Red River Parish, having sustained a compound fracture of both bones of leg by being run down by an automobile on Jan. 27th. An attempt was made to save the limb by thorough cleansing, approximation of lacerated parts and the free use of Carrel-Dakin's solution. On the 29th, due to suspicious local signs, cultures were taken and reported positive for gas bacillus of Welch, as well as presence of streptococci and staphylococci. The same typical stormy coagulation was again noted. Amputation at lower third of thigh was performed and wound treated by open method. Although convalescence was rather tedious and a reamputation of protruding bone became necessary, after all infection had subsided, the patient left the hospital in good condition on March 7th.

The other case, P. E., also from Red River Parish, but from a different locality than previous case, was admitted with a compound fracture of forearm on Jan. 11th, 1925, with a history of having sustained a shotgun wound the day previous. Emergency aid was rendered by local physician and he was hurried in to us. This case is reported last of the three, as no bacteriological work was requested, but the diagnosis made in a rather unique way, viz: by the X-ray film, which I herewith present. It was our intention to apologize for this and to state that I would not urge dependence on it, in doubtful cases, until my attention was called to the article in *Journal of A. M. A.*, 1919, 72:407, wherein Dr. Frederick Christopher, U. S. Army, writing from France on "The Early Diagnosis of Gas Gangrene," says that this is a helpful means of arriving at an early diagnosis. He says that Morgan and Vilvandre have demonstrated the presence of gas that was entirely unsuspected until the X-rays revealed it during routine examinations for pieces of metal or fractures. The X-ray appearance of the gas is usually that of: (1) Bubbles in strings; (2) broad cast; (3) in a layer under the skin; (4) with a cloud-like outline to the shadows; or, (5) as a striation.

This case is unusually interesting, because of the fact that he not only got over the gas bacillus infection, by an early amputation and open treatment, but, through a misunderstanding, the routine administration of prophylactic antitetanic serum was neglected and he developed a marked case of tetanus, from which he also recovered, through the heroic use of the serum. He returned

later for re-amputation of the protruding bone and now has a satisfactory stump.

These three cases, admitted into a private general hospital, in a period of five weeks, are interesting in view of the statement by Barney and Heller in *Archives of Surgery* (4:170-84, 1922) that "occurrence in civil life is very uncommon, only 175 cases reported to 1915"; I might add that we had none before these three and have had none since.

Numerous strains of gas-producing organisms have been reported, varying from four to fifteen, according to different authors. At least four different specific sera have been used, some being monovalent and others polyvalent; in this connection, Lawrence and Niehaus, writing in the *Medical Times* (1919, 47:274), advise the early use, in suspected cases, of the polyvalent serum of Leclainche and Vallee; this to be followed by a culture and report to determine the further treatment—very much as we do when suspicious of diphtheria. However, as stated above, it is not our intention to go into the treatment of this infection, which is more in the province of the surgeon; but, we hope, by this short paper, to cause all to be on the lookout for this virulent condition, have early laboratory investigation and be prepared to institute thorough treatment before it is too late.

(For the details of laboratory technique, mentioned above, we are indebted to Mrs. E. Lengsfeld, Technician, North La. Sanitarium, Shreveport.)

DISCUSSION.

Dr. C. W. Duval (New Orleans): I think this group of spore-bearing anaerobes is responsible for more pathological conditions than we have realized in the past. Post-traumatic tissue invasion is, of course, the more common role seen for *B. aerogenes capsulatus*; however, as a terminal invader of the tissues it is far more frequent, so often occupying the clinical field at death. Here it should be mentioned that *B. aerogenes* and other members of this group are constantly passing through the alimentary tract, and are even regarded by some authorities as one of the

normal intestinal flora. This would explain the organism's secondary and terminal role in other infections. *B. aerogenes* septecemia is not an uncommon condition following trauma and primary infections of the pelvic organs, more especially the uterus. I have seen a number of puerperal sepsis cases in which the *B. Welchii* played the prominent role. Dr. Herold has pointed out the danger of septicemia from *aerogenes* infected wounds, all of which goes to show that we must not consider too lightly the pathogenic role played by members of this important group of anaerobes.

Dr. A. A. Herold (closing): I appreciate Dr. Duval's discussion and I quite agree as to the great prevalence of the anaerobic organisms referred to, especially in the gastro-intestinal tract.

In conversation, recently, at home, I was told of a case of gas bacillus infection of the kidney, the patient recovering. The diagnosis, in this instance, was confirmed by careful laboratory technique.

OBSERVATIONS ON THE DIAG-
NOSIS OF DISEASES OF THE
PANCREAS.*

J. H. MUSSEY, M. D.,
NEW ORLEANS.

The diagnosis of pancreatic disease is attained with considerable difficulty owing to the depth of the organ within the abdomen. Because of this and because of the failure of the pathologist to study carefully the gland at autopsy, the statistics of the frequency of pancreatic disease as contrasted with disease in other organs are very misleading. Pancreatic disease occurs with much greater frequency than clinical and autopsy records would lead one to believe. It is the failure of the clinician and the pathologist to recognize the lesion that results in such a few cases of pancreatic disease being recorded, whereas the organ is in reality fairly frequently diseased.

Before touching upon the diagnosis of pancreatic disorders more in detail, I should like to mention two factors in the anatomy and physiology of the pancreas that are

of importance in diagnosis and that are not generally known. In the first place, the duct of Wirsung is usually considered the only duct of importance for the discharge of the external secretion of the pancreas. However, in a goodly number of cases Opie has shown that the large tributary duct, the duct of Santorini, may be the main excretory channel of the gland. In the second place, for many years it has been taught, following the teaching of Bayliss and Starling, that secretion from the pancreas was largely controlled by secretin, a product of the duodenal mucus membrane. Recently McClure (1) has shown that food stimulates the flow of pancreatic juice so that there is very distinct variation in the enzymic concentration of the several enzymes after the ingestion of either protein, carbohydrate or fat. Even more positive and direct are the studies of Silverman and Denis (2) upon an individual with a duodenal fistula. They found that the ingestion of egg albumen provoked the most notable increase in the concentration of the pancreatic enzymes.

GALL-BLADDER AND PANCREATIC DISEASE.

It is advisable to emphasize how closely related are gall-bladder and pancreatic disease. There are two theories as to the genesis of acute pancreatitis. The one theory explains the mechanism of the production of the disorder on the influx of bile into the pancreatic duct when a small calculus in the ampulla of Vater acts as a ball-valve, turning the bile into the duct by occlusion of the opening of the papilla into the duodenum. The other theory forcibly and scientifically advanced by Sweet is that acute hemorrhagic pancreatitis develops as a result of extension of the inflammation from infected biliary passages to the pancreas through the lymphatics. No matter which theory holds true, one of the most outstanding pancreatic disorders is usually the direct result of liver and bile duct disease.

*Read before the Louisiana State Medical Society, New Orleans, April 21-23, 1925.

1. Am. Jour. Med. Sci., 1924, 167, 649.
2. Arch. Int. Med., 1925, 35, 357.

In chronic pancreatitis it is nowadays very generally held that the etiological factor is in the majority of cases directly related to disease of the gall-bladder and ducts. For example, Mayo says that 81 per cent of the cases of chronic pancreatitis are associated with disease of the gall-bladder and its tributaries. Looking at the question from a different point of view, Piersol and Bockus (3) use the fact they have recently shown to be true, that there is a marked reduction in the amount of pancreatic enzymes in cholecystitis, as further corroborative diagnostic evidence of the presence of this latter disorder.

The gall-bladder is also incriminated in diabetes, a disorder of the islands of Langerhans, of as yet unknown pathogenesis. Eustic (4) recently reported 36 cases of so-called alimentary glycosuria, 15 of whom showed evidences of cholelithiasis and of these, six subsequently developed symptoms of diabetes mellitus. More recently Jones et al. (5) have stated definitely that they believe that cholelithiasis is one of the most important etiological factors in diabetes mellitus. Joslin has long been of such an opinion. It can thus be seen from this brief survey that the gall-bladder and bile ducts are responsible in a large number of cases for the production of the acute and chronic inflammatory lesions which are the most prevalent of pancreatic affections. Diabetes, a disease which is usually classified as a disorder of metabolism, has as its outstanding histo-pathological lesion changes in the cells of the islands of Langerhans. The responsibility for these lesions rests in a goodly number of instances upon pre-existing gall stones.

In discussing the three most prevalent diseases of the pancreas, namely acute hemorrhagic pancreatitis, chronic pancreatitis, and carcinoma, I will not attempt to

detail the history, laboratory and physical examinations, but will merely attempt to offer a few suggestions in the diagnosis which I believe to be of value and to touch upon a few discrepancies in the ordinary teachings.

Acute pancreatitis of the hemorrhagic type is a condition that is met with from time to time and rarely diagnosed. The classical picture is that of an acute overwhelming fulminating abdominal catastrophe, yet probably 50 per cent of the cases do not represent such a picture. Just as frequent, if not more frequent, are the cases of mild pancreatic necrosis in which rapid recovery is the rule. Substantiation of this statement may be seen in the frequency with which patients with acute severe attacks of pancreatitis give a history of previous similar mild attacks, usually diagnosed as gall stone colic, and with which patients operated upon for presumed cholelithiasis are found to be free of gall-bladder disease. Pain is a symptom of great value, undoubtedly, and this pain is of such severity that morphin will fail to control it and yet, despite this, pain of great severity or pain of any degree is frequently wanting. Waring and Griffiths (6) in an analysis of 16 cases, found it present in only a little over half (56.2 per cent). The examination of the patient yields some information which is of value if properly interpreted. In the first place, there is usually marked tenderness in the epigastrium just above the navel and if palpation is performed carefully with the finger tips, this tenderness is found to run transversely across the upper abdomen equally on both sides of the midline. Secondly, the absence of pronounced rigidity is a negative sign of value. There does not exist the pronounced evidence of peritoneal irritation that occurs in the usual acute inflammatory lesions within the abdomen, at least in the early stages of the trouble and even in the late stages it is not as severe as one would be led to suspect from the other symptoms. It

3. Arch. Int. Med., 1925, 35, 204.

4. New Orleans Med. and Surg., Jour., 1923, 75, 449.

5. Arch. Int. Med., 1925, 35, 315.

6. Brit. Jour. Surg., 1924, 11, 476.

is also to be noted if the patient is seen relatively early that a distinct sense of resistance may be felt on palpating deeply over the pancreas which later on may become an actual tumor mass, palpable if muscle spasm if not too tense.

The laboratory examinations are valuable in a measure. Glycosuria, if found, is at least suggestive in a patient known to be previously sugar free. Recently I have had the opportunity of seeing two cases of acute pancreatitis in whom the blood sugar was high. One of these patients never had a glycosuria during the time she was under observation, but in the other subsequently the amount of sugar in the blood passed the figures for the kidney threshold and sugar appeared in the urine. A high blood sugar might be a finding of value if looked for routinely in questionable cases in which the diagnosis might presumably be acute pancreatitis.

CHRONIC PANCREATITIS.

What has been previously said holds true in regard to the chronic form of pancreatitis: it is much more frequent than the unfrequent diagnosis of such a condition would indicate. This statement is made despite the fact that surgeons are wont to palpate a hard indurated pancreas at the time of operation for bile duct disease and say that chronic pancreatitis exists. Incidentally this diagnosis made at the operating table is frequently incorrect. Deaver regards the swelling of the head of the pancreas in these cases as being due to an inflammatory exudate which is rapidly absorbed when the primary cause in the bile passages is properly corrected. Whether the incidence of chronic pancreatitis is frequent or infrequent is more or less of an academic question. It is not possible to concede much practical importance to a chronically diseased pancreas in the production of symptoms which may require a physician's service. It is indeed a rare patient for whom it is necessary to order treatment directed towards the correction of pancreatic de-

fects. This may be the result of our failure to recognize cases of pancreatic indigestion. If it is conceded that such cases are organic rather than functional in character, then most assuredly the condition is rare, or rarely develops with any severity, because it is extremely unusual to see either in clinic or ward an emaciated patient with the large, bulky, fatty stools of pancreatic disease, findings that develop late in the disease and which are so characteristic that they can certainly not be overlooked nor misdiagnosed. If early cases of chronic pancreatitis are overlooked, the blame should rest more on the profession as a whole rather than the individual practitioner because no method has been evolved which can be used satisfactorily, whether it be examination of the duodenal contents or the stool, or more elaborate functional tests, with a minimum amount of equipment and in a relatively short time, so that it is available for clinical use. Some years ago it was the custom to determine pancreatic activity by the examination of the stools. The presence of excessive fat and undigested meat fibres was considered to show insufficiency of the organ. More recently the methods of choice in the diagnosis of pancreatic disorders depends upon some modification of Einhorn's original methods of studying the duodenal contents, which permit of greater simplicity or else of greater accuracy, but in the latter case complicating the procedure even further. Only a short time ago Bassler (7) has brought out another modification which seems much simpler and much more adaptable to clinical procedures than any that have as yet appeared or have been tried by me.

In the diagnosis of chronic pancreatitis, the history is of great importance, as it is in so many other chronic disorders, whether it be of the heart, the kidney or the lungs. Frequently it is only by careful questioning and evaluation of the subjective symptoms that one is able to secure a history, at no times typical, as is that of

7. Arch. Int. Med., 1925, 35, 162.

duodenal ulcer, which tells of occasional attacks of mild jaundice, with rather vague epigastric pain, located to the left of the midline and referred to the left scapular region, but without any relation to the ingestion of food. Obtaining a history of this character from an individual in whom it is impossible to demonstrate gall-duct involvement, it is reasonably safe to hazard the presumptive diagnosis of chronic pancreatic disease and when this is done to study the duodenal contents for the presence or absence of enzymes and their fluctuations, if it is possible to make a fractional analysis of the pancreatic enzymes. Even if the enzymes are found to be markedly depressed by the analytic method, it is impossible to say that definite pancreatic disease exists. There may be merely a functional disturbance of the pancreas secondary disease of the bile passages. However, no hard and fast line can be drawn between functional and organic disturbances. It is a problem difficult of solution to decide if a disturbance of function of an organ is due to organic disease of that organ, but it is at least playing a conservative role to say that the majority of functional disturbances demonstrated by various methods are due to organic disease of the viscus in question.

CANCER OF THE PANCREAS.

The greatest number of cases of cancer of the pancreas involve the head of the gland. The symptoms that arise are the result of pressure upon nearby structures by the neoplasm. Growth is in the direction of the bile ducts and consequently the most characteristic symptom of the disorder results, namely, severe, persistent, unabating jaundice. With this there frequently is associated pain as a result of pressure upon the solar plexus and at times digestive disturbance from pressure on the duct of Wirsung sufficient to exclude the external secretions of the organ from the intestines. Where the syndrome of jaundice and epigastric pain develops and a palpable gall-bladder is demonstrable, it is always wise to recom-

mend exploratory operation, because a stone in the common duct produces exactly the same symptoms many times and there is no way in which the two conditions can be absolutely differentiated. It is therefore advisable to tell the patient that in all probability operation will do very little for him but that there is a possibility that the symptoms may be caused by a stone which can be readily removed.

CONCLUSIONS.

Statistics as to the frequency of pancreatic disease are misleading and do not represent the true incidence of lesions of this gland. Disease of the pancreas is rare, but not as rare as we are led to believe. The diagnosis of pancreatic disease is difficult and can be made only after tedious and laborious study of the patient's symptoms, a careful physical examination and the proper laboratory tests.

DISCUSSION.

Dr. Allan Eustis (New Orleans): There is no doubt that a diagnosis of pancreatitis is one of the most difficult we have to make. I am also firmly convinced that it is much more common than text books and most of the literature would lead us to believe. I am very glad to hear this paper, but I have little to say regarding acute pancreatitis except to emphasize what Dr. Musser has already said about its relationship to gall bladder disease, having seen two cases of acute hemorrhagic pancreatitis following acute septic gall bladder. It must be borne in mind that every gall bladder operation is a potential pancreatitis.

But when it comes to the chronic process, I would like to say a few words. The dominant symptom in chronic pancreatitis is the progressive loss of weight, which is due to poor digestion of all the food stuffs. Another symptom due to this lack of function is the enormous stools these cases have. They will come complaining of diarrhea, but a close examination of the stool will reveal not a diarrhea, but a soft, fatty stool, and the quantity of the stool in proportion to the food injected is considerably above normal. The normal individual on a Schmidt diet will pass a total dried residue from the rectum in 24 hours, of 54 grams, while the dried residue from an individual with absence of pancreatic secretion will weigh 354 grams, seven times as much. When a patient comes to you with diarrhea and you find there are large stools, you should immediately consider the possibility of chronic pancreatitis.

Another symptom is stomatitis, the frequency of that struck me many years ago and I recall a report that Thomas Brown made in 1901, in which he called attention to the absence of pancreatic juices in sprue, while we recognize stomatitis as an almost constant symptom of sprue. I recall now one patient, who died, who came complaining of stomatitis and progressive loss of weight, with large stools. She was operated on with the hope that the gall bladder was back of it, and that probably, by draining the gall bladder, we might be able to arrest the pancreatitis. At operation the pancreas could scarcely be felt, at all, and was displaced by a narrow strip of tissue. This is one of three cases of pancreatitis that have been confirmed at operation, or autopsy, in which stomatitis was present, but is quite a frequent phenomenon in clinical chronic pancreatitis.

DIAGNOSIS AND TREATMENT OF MAXILLARY SINUSITIS*

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After fourteen years of work and observation as a physician I am thoroughly convinced that sinusitis as a foci of infection has not received the attention it should have by the internist and men in general practice; especially is this true of the maxillary sinus.

The rhinologist has accumulated a very extensive literature around this subject, both in this country and in Europe. So many authors have contributed to it that there must be many who doubt whether anything really fresh or important remains to be said. Yet I hold to a firm belief, based upon experience, that no small part of what is written requires ruthless revision in the light of our modern methods of inquiry, conducted by our instruments of precision in the hands of one with a good knowledge of anatomy, its anomalies and abnormalities. The wealth of teaching in text books is too often impersonal and represents rather a legacy flowing from one's ancestors than a fortune newly won by hard endeavor. The heritage in respect to sinus

disease is heavy enough, but not all the securities are worthy of their face value.

The maxillary sinus is present at birth as an out-growth of the middle meatus. At that time it is about the size of a small bean. Logan Turner says, "associated with the enlargement of the maxillary bone by the deposition of cancellous osseous tissue between its palatal and orbital surfaces there is a slowly progressive absorption of the same on the medial nasal aspect of the maxilla. In this way the sinus gradually increases in size extending outward into the body of the upper jaw and reaching its maximum dimensions about the twenty-fifth year, after the eruption of the last permanent molar tooth." The antrum develops rapidly and is about half its normal size at seven and one half years. It may become infected very early in life. I have seen pus evacuated from it between the third and fourth years. The floor of the antrum is relatively high in early life, as it barely reaches the attachment of the inferior turbinate. However, even at birth we can open and drain this sinus, if we slightly elevate the point of the instrument and keep close under the attachment of the inferior turbinate. I will not tire you with a review of the anatomy of this sinus, but wish to state that, after a study of four hundred wet specimens with Hirsch of Vienna, I am thoroughly convinced that no cavity in the human body is subject to so many anomalies and abnormalities. We found however, in each case that it would have been easy to enter the antrum close up under the inferior turbinate about the junction of its anterior and middle third.

The lining mucous membrane of the maxillary like other accessory sinuses, is composed of ciliated epithelium, the motion wave of the cilia being always directed toward the ostium of the sinus and therefore, under normal conditions it is capable of self drainage. However, one can readily understand how this sinus with its normal ostium always a little

*Read before the North Mississippi Six Counties Medical Society.

higher than its floor, when in the upright position, will empty itself better while the patient is lying down or the head inclined to the opposite side. This accounts for the fact that often with infection of the sinus we do not find pus in the middle meatus at early morning examinations, but will often find it in the afternoon after the patient has been several hours in an upright position.

We know that under normal conditions we find menageries of germs in the mouth, about the teeth and in the tonsils, but this is not true with the sinuses. Torne has demonstrated that the healthy sinuses of cadavers, which had not been dead over two hours were, without exception sterile. He also has proven after extensive work that the normal secretion of the sinuses possesses a strong bactericidal power. We can see from the above that we have two very good reasons for the normal sinus being sterile. First, by the action of the cilia of the mucosa, which continually waves toward the sinus ostium; second, by the secretion of the glands situated in the mucosa, which possess a decided inhibitory power to the further growth of the invading germs. Both of these conditions must be overcome before infection of the sinuses can occur. I think that sinus infection is the result of direct bacterial invasion, but I doubt if it ever happens, unless due to infection about the teeth, until the vitality of the mucous membrane is first lowered by some general systemic disease. A careful history will nearly always bear out the above statement. A large number of organisms are responsible for antrum infection. Most cases follow influenza, "cold" in the head, or abscessed teeth. It was formally thought that every case of antral empyema was directly due to dental infection. Now we know that only twenty per cent of this disease comes from infected teeth. I have just stated that about eighty per cent of antral diseases come as a complication of some systemic disease. Now I want to state

that infected antrums from any source are a foci of infection for many systemic diseases or symptoms of systemic diseases. The complications and sequellae of this disease may affect almost every organ and tissue in the body. In the respiratory system the most frequent infections are bronchitis and asthma. The purulent type of sinusitis is often responsible for bronchitis and in asthmatics we more often find the non-suppurative or hyperplastic type. These patients are treated for abdominal trouble, due to gastric disturbances associated with this disease. It is often the focus of infection for "rheumatism" with its complications of cardiac and kidney disease. Skillern in a recent article, said, "Slight but persistent rise in temperature; unnatural stiffness in muscles and joints; vague gastric disturbances; nervous and mental phenomena; flushing of the face and head and cardiac irregularity; skin infections; inanition; loss of appetite and weight and sudden feelings of weakness with general perspiration; it requires careful and painstaking examinations positively to exclude sinus infection."

A diagnosis of this disease would more often be made if we always had the classical symptoms of 'cold in the head'; neuralgic pain in the region of the antrum and tenderness on pressure as is often found in acute infections of the sinus. However, we must remember that such symptoms are suggestive of periostitis, tertiary syphilis or a malignant growth of the antrum.

The proper examination in the chair with a good head mirror, together with a good transilluminating outfit in a dark room will nearly always make a diagnosis of this disease. If one has any doubt about it, this can be settled by the proper use of the needle and syringe. The x-ray is a valuable adjunct in diagnosis of sinus disease, but not necessary for diagnosis of disease of the maxillary sinus. Owing to the close anatomical relations of the different ostia of the anterior group, the maxillary, anterior ethmoidal and frontal sinuses, all of

which communicate with the middle meatus, it is necessary to make a very careful rhinoscopic examination to be of any value. It is always necessary to use some shrinking solution for a careful examination of the nose. I prefer a spray of one half per cent cocain solution. This I find does the work well without the toxic effect we are so liable to get from three per cent to five per cent solutions recommended by text books. I like it better than adrenalin, because we do not get the swollen, turgescent after-effect that we get a short time after the use of adrenalin. In two or three minutes after the spray the nose is ready for examination. If we look in the nose and find pus far back at a low level in the middle meatus we suspect the maxillary sinus. If the pus is carefully removed by a pledget of cotton or an applicator, or if we do not find any, then have the patient bend the head well forward with the suspected cheek turned uppermost and maintain this position for at least four or five minutes. If we find pus in the middle meatus after this posture, either by anterior or posterior rhinoscopy, we can say the patient has disease of the antrum. With infection of the maxillary sinus posterior rhinoscopy does not show pus high up in the middle meatus as we expect to find it with frontal and anterior ethmoid disease.

TRANSILLUMINATION TESTS.

I consider a good dark room and a Cameron light a valuable diagnostic aid in this work. If the patient has a dental plate be sure it is removed. Place the light in the mouth and have the patient close the lips firmly around it. The crescentic illuminated zone in the region of the lower eye lids is of more diagnostic value than the light showing through the cheek above the antrum. We should see this crescent above the lower lids in every case if both maxillary sinuses are negative. If a small rubber tube is placed over this light, excluding the rays except at the end, which is placed over the antrum while the patient's mouth is open we get a good

transillumination in the mouth. If the sinus is negative. I am inclined to think the latter method a more reliable test. If there be any doubt about the diagnosis, place a small pledget of cotton, saturated with a five per cent solution of cocain close up under the anterior end of the inferior turbinate and one over the top of same. After ten minutes mop parts with fifty per cent alcohol. With a large needle three inches long, that will fit a Luer syringe, go into the antrum, making the puncture close up under the inferior turbinate; quickly inject four or five c.c. of sterile distilled water in the antrum and then suck back, so that a sample of contents may be obtained. In this way we not only determine whether or not we have an infection of the antrum, but by laboratory reports we can know the type of infection the patient has.

TREATMENT.

I do not think we should ever attempt to diagnose or treat diseases of the antrum by needle puncture and large irrigation. This is a painful, dangerous procedure from which several deaths have been reported. With a cavity full of pus and a normal ostium at a higher level than the needle puncture, how in this manner can we hope properly to clean and drain it. Too, what surgeon do you know who would expect an abscess to get better filled with any of the many solutions used in irrigating a maxillary antrum? Text books tell us to puncture and irrigate daily for two or three weeks then if they are not better to operate. I want to say as a rule they will not be better; however, some of them will improve, not because of the treatment, but in spite of it. If we expect these cases to get well promptly, they must be operated on promptly, giving the sinus good ventilation and drainage. Good drainage is certainly just as necessary here as for an abscess at any other place in the body. I seldom advocate or think it is necessary to do a Caldwell-Luck, Denker or the Cowper operation for a cure of this

disease. They are all easy, but look somewhat like a radical procedure for the surgeon and to my mind they certainly are a radical and often unnecessary procedure for the patient. Some of the un-toward sequelae of the Caldwell-Luck and Denker operations are devitalized teeth, anaesthesia of cheek, neuralgia in the infra-orbital region, stenosis of tear-duct with epiphora and osteomyelitis of the superior maxillary.

Objections to the Cowper operation: First, often we have to sacrifice a tooth for this operation; second, many cases have very thick cancellated bone between the apex of tooth root and the sinus floor; third, the direct communication of the sinus with the mouth, through the process of mastication, gives a chance for reinfection at any time.

Good aeration and drainage will cure ninety per cent of maxillary sinus disease. The other ten per cent will require the removal of polyphoid hypertrophies and badly diseased mucosa. A diseased antrum should be operated on as soon as the diagnosis is made. The operation may be done under either local or general anaesthetic. If a general anaesthetic is used we should be sure to pack firmly the posterior nares. In either case the suction apparatus with a special tip is indispensable. A large Eustachian catheter makes a very good suction tip for this work. If you are reasonably sure that you are not dealing with a chronic condition with polyphoid hypertrophy the following operation should be done. Remove a small piece of the lower border of the inferior turbinate, then with a round, slightly curved antrum chisel, six mm. in diameter, placed close under the attachment of the inferior turbinate near the junction of its anterior and middle third, a slight tap with a mallet will carry it into the antrum and leave a hole large enough to introduce a Pierce antrum rasp, or better if the patient has a large nose and antrum, a Hajek punch. With these instruments the opening can be made the full length of the antrum and level with the

floor of the nose. The antrum and field of operation should be thoroughly cleaned by suction and the antrum lightly packed with a strip of iodoform gauze. The pack should be removed within thirty-six to forty-eight hours, and if necessary the wound cleaned with sterile normal saline and suction. At this time with the Holmes naso-pharyngoscope sterilized in alcohol we may be able to inspect part of the antrum. If we find some part of the lining mucosa very much thickened and diseased we should use a small pledget of cotton applied on an aluminum applicator, which we can easily bend at the proper angle and thus apply to the part a ten per cent solution of nitrate of silver. Then with a small syringe armed with a silver canular, bent at about the same angle of an Eustachean catheter, we should instill into the sinus daily about two c.c. of twenty per cent neo-silvol. I have used five per cent mercurochrome in many of these cases, but think the neo-silvol more effective and not so disagreeable on account of the stain.

All maxillary sinus infections except those containing polyphoid hypertrophies will get well under the above treatment in from ten days to three weeks, and certainly with very little pain and discomfort to the patient. In some cases we will find the floor of the antrum much lower than the floor of the nose; where this is true suction will prove a great aid in our treatment by thoroughly cleaning the sinus each day before instilling the neo-silvol.

We should sacrifice as little of the inferior turbinate as possible, but if we find the antrum filled with polyps, it will be necessary completely to remove its anterior third; then with a large opening in the antrum and properly shaped curets, we shall be able to remove the polyps and most of the diseased mucosa. Any diseased tissue left may be treated with ten per cent nitrate of silver and the aluminum applicator as described above. We should also utilize the instillation of neo-silvol in these cases.

Let us reserve the Caldwell-Luck and Denker operations for the badly diseased, very irregular antrum and those with some evidence of bone necrosis.

SUMMARY.

First. In diseases of the maxillary sinus we have too often followed the beaten paths of our predecessors rather than adhering to the surgical principles taught us in regard to treating infections at other places in the body.

Second. Infection of the maxillary sinus is an heir to many complications and responsible for many symptoms of general systemic diseases. The diagnosis is often overlooked on account of its vague symptoms.

Third. By a careful examination with the proper equipment one should always make a diagnosis of antrum disease.

Fourth. In spite of its many anomalies and abnormalities it is always possible to gain entrance to the antrum through the nose close up under the inferior turbinate.

Fifth. The needle puncture and large irrigation should be discarded both for diagnosis and treatment of the antrum infection.

Sixth. Nearly all cases of maxillary sinus infection will rapidly get well with very little discomfort to the patient during treatment, if a large opening is made under the inferior turbinate, giving a chance for good aeration and drainage, and followed by the use of suction and daily instillation of twenty percent neo-silvol.

Seventh. In long standing cases of antrum infection, with badly diseased, thickened mucosa, or following the removal of polyps, a ten percent solution of nitrate of silver applied with cotton on the properly bent aluminum applicator is the best treatment, and this can best be applied following examination with the Holmes' nasopharyngoscope.

COLOR ACUITY: ITS IMPORTANCE IN THE EARLY DIAGNOSIS OF THE DISEASES OF THE CONDUCTING PATHS AND CENTERS AND DISEASES OF THE NEURO-EPITHELIUM.*

A PRELIMINARY REPORT.

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The author makes a routine color acuity test, upon all patients in conjunction with visual acuity tests as follows: After recording the amount of the manifest refraction, patients are required to determine the color of test objects placed six (6) meters in front of them in a good light.

If a red test object of 2 m. m., and a green one of 5 m. m., can be discerned, the color acuity for red and green are considered normal. A blue test object of 7 m. m., placed 15 C. M., eccentric to the point of fixation, if recognized is considered normal.**

The color acuity threshold is determined by diminishing the distance between the patient and the test object, *e. g.*, blue 5/6, red 4/6, and etc.

When the color acuity threshold is below 6/6 for any of the colors, peripheral fields and central field studies are made.

Studies of the first hundred cases furnished considerable data, which is being tabulated with a view of standardizing the test, and will be reported later.

Three cases of especial interest will be cited:

Case No. 1. C. H. C. (male), age 44, visual acuity O. U. 20/30. Color acuity red (O.U.) 15/20—refraction under the influence of a cycloplegic showed compound hyperopic astigmatism. R. O. U., plus .50 sphere combined with plus .50 cylinder at ax .90 equaled O. U. 20/20. A plus

*Read before the Orleans Parish Medical Society, Oct. 26, 1925.

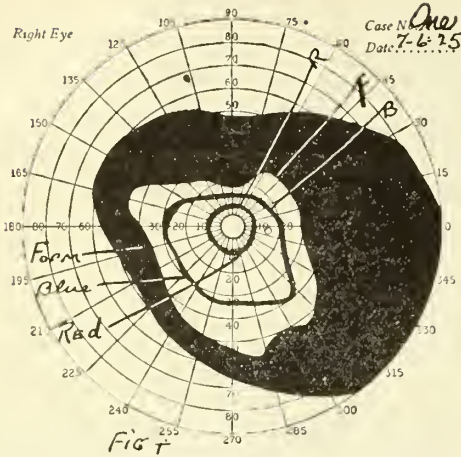


Figure No. 1-A—Concentric contraction plus unequal defects. Typical in optic neuritis.

one sphere was added for near. The fundus was free from pathology. Tension with Schiottz tonometer was 18 m.m. Perimetric visual field studies (Case No. 1, figure No. 1) demonstrates a concentric contraction plus unequal defects and is the type of contraction found most typical in optic neuritis.

Chronic hyperplastic sphenoiditis was diagnosed and confirmed by radiologic examination made by Dr. Amadee Granger, of New Orleans, whose report follows:

Record 14907 "shows a chronic sphenoiditis and posterior ethmoiditis with hyperplastic changes in the right side. The left maxillary sinus is slightly dense. Most probably from thickened mucosa. Dr. J. R. Hume, with whom I am associated, did a bilateral ethmo-sphenoidectomy. Figure No. 2 shows the remarkable gain for form and color made sixteen (16) days following operation."

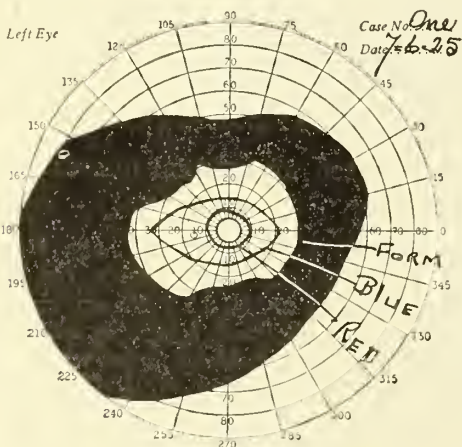


Figure No. 1-B—Concentric contraction plus unequal defects. Typical in optic neuritis.

Case No. 2. Miss A. G. A., age 28, visual acuity O.U., 20/20, color acuity (red) 12/20. Fundus negative. Visual fields are of the concentrically contracted type both for form and color as demonstrated in figure (3), which is a classic of primary optic atrophy, it will be observed how blue and red conform to form and green being absent. Were they not absolute evidence that the papillo-macular bundle was functioning normally in each eye, optic atrophy would have been diagnosed instead of chronic hyperplastic sphenoiditis, glaucoma of course being eliminated. The diagnosis was further confirmed by radiologic examinations and Dr. Hume's bilateral ethmo-sphenoidectomy.

Figure No. 4, A and B, made twenty-one (21) days following the operation shows a field of the concentrically contracted type plus unequal defects, both for form and colors, it will be observed that green has returned and red had increased, which they would not have done in any

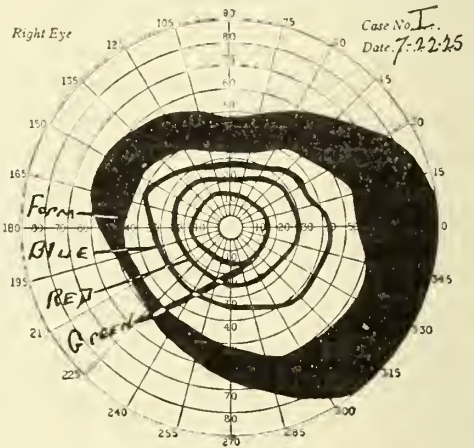


Figure No. 2-A—Concentrically contracted field usually found in atrophies of the optic nerve.

of the atrophies. The radiograms in this case were made by Dr. Leon Menville of New Orleans.

Fig. 4, C. & D., made 72 days following operation, is self-explanatory.

Case No. 3. I. G. (made), age 29, visual acuity O. U. 20/, color acuity (red) O. U. 15/20. Fundus negative. Peripheral fields again demonstrate the contracted type plus unequal defects. Chronic hyperplastic sphenoiditis was again diagnosed and confirmed by methods similar to those used in case No. 2. The patient unfortunately did not return for further study.

It will be observed in all three cases central vision was normal, and the peripheral field studies were all of a marked concentric contraction type both for form and color. The latter undoubtedly would have been

overlooked had not a color acuity test been made. Most of the diseases of the conducting paths and centers as well as the diseases of the neuro-epithelium can be studied long before symptoms are revealed, and many cases of blindness prevented.

The simplicity of the test should commend it to medical examiners in schools, industrial plants, life insurance companies, and medical officers on recruiting duty in the Army and Navy.

Studies of diseases of the conducting paths and cents and of the neuro-epithelium and most especially those diseases of the visual pathway, behind the eye ball, are to an ophthalmologist using an ophthalmoscope, nothing more than a pathologist gazing through his crystal at a pathological field in the background of a living eye.

We then must necessarily conform to the studies of Peters, with the perimeter for

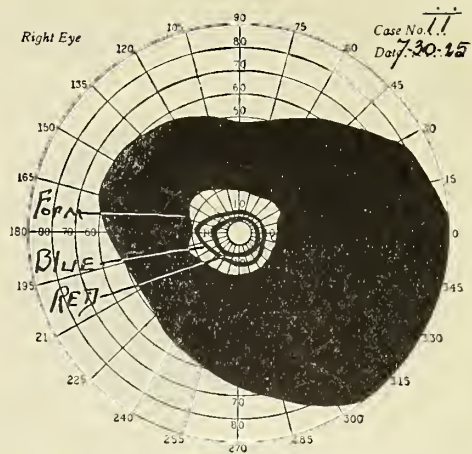


Figure No. 3-A—A classic of primary optic atrophy.

DISCUSSION.

Dr. W. R. Buffington (opening): I am sorry there are not more of the Eye, Ear, Nose and Throat men here tonight to discuss this paper because this is one dealing with the so-called "border-line" case: these cases belong not only to the eye man, but interest the nose and throat men as well. This work Dr. Brown is doing is very instructive! it is work we all ought to do in a most painstaking manner.

In sinus disease especially, there is sometimes marked failing of vision. In the contracted fields Dr. Brown showed us there are many things to be considered. The markedly contracted fields he gave with 20/20 vision with corresponding contraction of form, and color would appeal to me as

not being field of optic atrophy, but fields of glaucoma. One of the earliest things to be lost in optic atrophy is color—particularly red and green. There are so many things that enter into the field of vision. We ought to know exactly un-

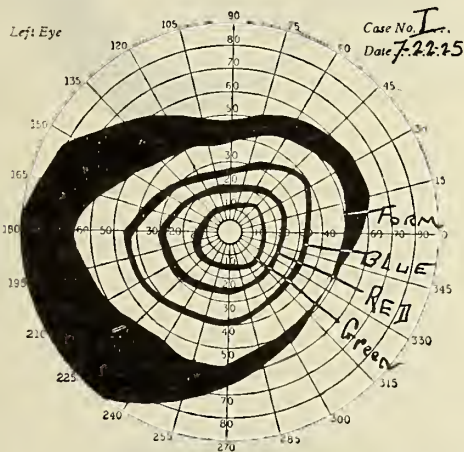


Figure No. 2-B—Concentrically contracted field usually found in atrophies of the optic nerve.

the methods so valuable in the early diagnosis of such diseases. It is, of course, impossible to make perimetric field studies upon all patients. However, the authors method of using the color acuity test will very effectively separate the sheep from the goats, and permit us to make greater use of the knowledge contained in Peters' book.

**Reference—The Principles and Practice of Perimetry, by Luther C. Peters, 1923.

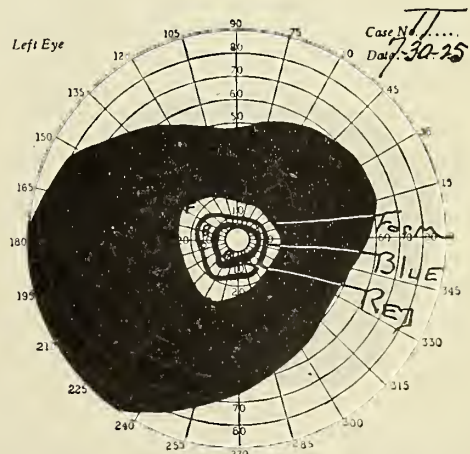


Figure No. 3-B—A classic of primary optic atrophy.

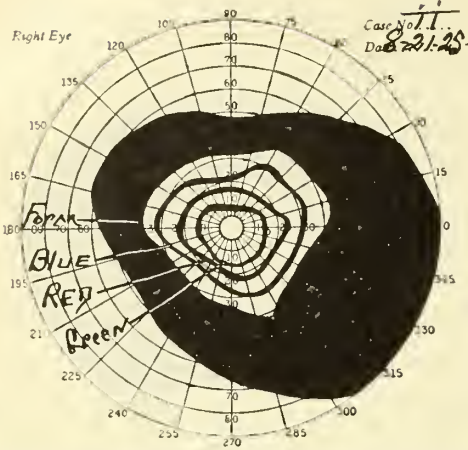


Figure No. 4-A—Shows a marked gain for form and red, green has returned.

der what conditions tests were taken. These are the things that will influence color perception and color field: intensity of the stimulus, the intensity of illumination; saturation of color, accuracy of fixation; background color and character, and errors of refraction.

Let us take error of refraction first. High myopic for instance of 15 or 20 diopters, would show markedly contracted field of vision. It would be impossible for us to say whether the contraction was due to the myopia itself or to some serious pathological condition behind it.

If you take a field of vision with a southern exposure at 1 o'clock on a clear, dry winter day, and then take that same field of vision at 3 o'clock there will be a difference in the field of vision—red, blue and green—at least from 15 to 25 degrees. Think of that. At 1 o'clock you take the field of vision; take that field three hours later and there can be 15 degrees of variation. That is an important thing. If our visual fields are to

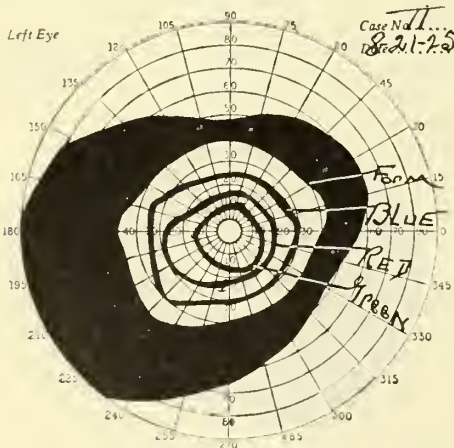


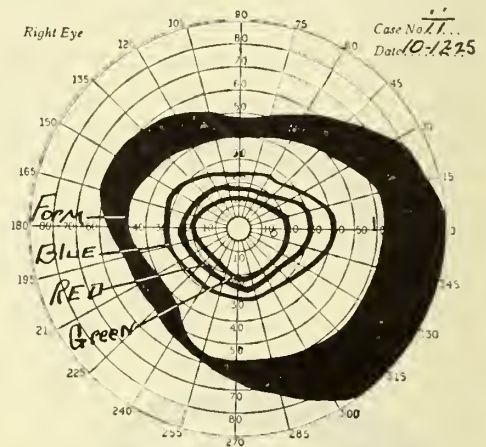
Figure No. 4-B—Shows a marked gain for form and red, green has returned.

be of any value—we must take all these things into consideration. We must have a uniform method which could be taken as a standard:

1. Southern exposure
2. Clear day
3. About 1 o'clock

Saturation of color can make 10 or 15 degrees difference in the amount of perimetric vision. When we take down the field of vision we should say what was the refractive index, what was the stimulus and background, the size of the object we were using—whether movable or stationary.

Intensity of illumination or stimulus can be sufficient as to make blue, red, and white coincide. Think of that enormous variation due to two factors alone in measurement of one field.

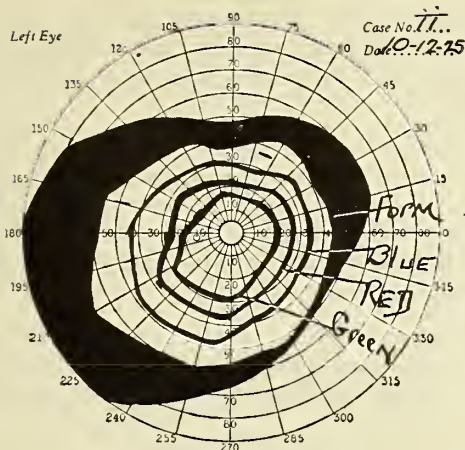


Case No. 2—Figure 4. C.

Dr. Monte Meyer: Dr. Buffington is certainly right when he says how difficult it is to take uniform accurate fields of vision, not only for form but colors as well. A field to be accurate must be taken fairly quick before the eye fatigues and with an understanding co-operation between the examiner and the examined. Fields must be taken several times on the same patient under the same conditions of illumination and then a mean taken.

Most authorities agree that with the way we usually take fields, the periphery of the retina is for practical purposes color blind. In a normal field, green has the smallest limitation, then red, and blue. The fields may interlace or even interchange within certain limits and still be considered normal fields due to change in the illumination.

Color has three distinct characteristics: namely (1) hue or color depending on the wave length of the light producing it; (2) Intensity (bright-



Case No. 2—Figure 4. D.

ness or luminosity) ;(3) saturation which increases in proportion as the amount of admixed white light decreases. An eye with normal color sense sees the spectrum in rainbow grouping from red to violet. The change from one color to another is effected by a change of hue and brightness there being no neutral shades.

Rapid decrease of color perception is as a rule always indicative of optic nerve disturbances that will lead to blindness if not checked by removing the cause. Disturbance in the perception of blue is due to a lesion of the percipient elements if the retina (rods and cones) as in choroiditis, retinitis, retinal detachment and hemeralopia. Disturbance of red and green perception is due to a lesion in the conducting elements (the optic nerve itself or surroundings).

Dr. Leon White of Boston first called attention to the relation of ethmoiditis and sphenoiditis and the sudden loss of central vision. His results with operative procedures upon the diseased sinuses were remarkable in restoring the lost

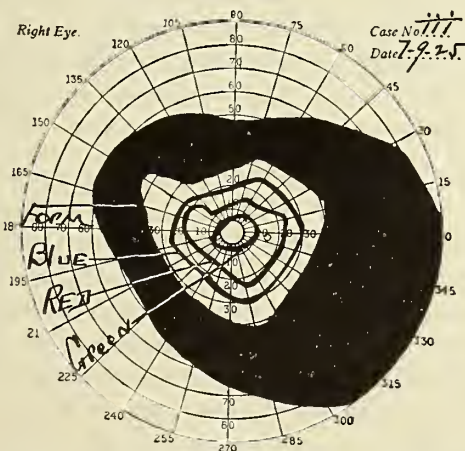


Figure No. 5A—Concentrically contracted type plus unequal defects.

vision in a short time, and naturally they have been duplicated all over the world.

This subject of color disturbance and its causative factors is comparatively a recent advance in the field of ophthalmology and Dr. Brown's test is a very simple one, and should be tested out by numerous investigators to see if they secure the same results.

Dr. M. Earle Brown (closing): Dr. Buffington has described many of the imperfections of the older instruments being used even at this day for making perimetric studies of peripheral visual fields, the field studies shown tonight were all made at 9 o'clock in the morning, but whether at 9 o'clock in the evening or at the zero hour, in the Arctic or the Tropical zones, by using artificial illumination with a day light filter, uniform illumination can be constantly obtained.

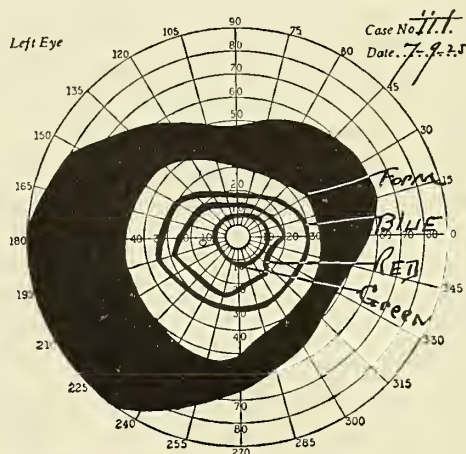


Figure No. 5—Concentrically contract type plus unequal defects.

We agree with Dr. Buffington "that peripheral field studies will have a different interpretation, in the hands of some observers," however, the difference can only be due to improper technic provided that imperfections of instruments light and etc., of course having been overcome. "Thoroughness always brings good returns and indifference is paid in its own values."

The change in the color intensity of the stimulus from light exposure and the ravages of time, can be eliminated by using the Hidelburg papers, and renewing same when necessary.

We certainly cannot agree with Dr. Buffington's interpretation of the field projected this evening as Case No. 2 figure No. 3 A & B, which he believed to be one of Glaucoma. A glaucomatous field is recognized by, (1) Early loss of the nasal field: (2) In sector like defects of the superior or inferior nasal Quadrants: (3) In en-

largement of Mariottes blind spot (Bjerrum's sign.) (4) In concentric contraction of form and colors: (5) In Preservation of central vision for form and colors with contracted peripheral fields to a small area: (6) In almost complete loss of peripheral field with preservation of a small temporal area and a small central island or total loss of central vision: (7) Seidel's sign: (8) Elliot's sign: (9) Roenne's step. Tension with Schiotz tonometer was normal, there was no pathology in the fundus as previously stated and there were no clinical symptoms, which definitely eliminated glaucoma.

Dr. Meyers in speaking of the difference in the wave lengths of colors explains why a test object of 2 mm. for red, and 5 mm. for green, and 7 mm. for blue was used. It is exceedingly difficult to believe like Dr. Meyer that "The colors observed peripherally are centrally observed, that colors cannot be seen peripherally." The behavior of colors centrally differ from the periphery e. g. centrally red is seen best, then green, then blue. Peripherally, blue is seen best, then red and lastly green.

I have shown you gentlemen three cases of Chronic Hyperplastic Sphenoiditis, diagnosed from ophthalmological studies and confirmed by radiological observations and surgical treatment. Nothing having been said about clinical symptoms. Case No. 1 suffered from headaches for several years finally having to resort to opiates for the relief of pain. Case No. 2 suffered from violent headaches for the past ten years both patients are free from pain and have gained in weight following operative treatment.

That color acuity is diminished before visual acuity, is the truth and must prevail. That perimetric studies are essential in the practice of ophthalmology is granted, there remains only the technic of the color acuity test to be explained. Color acuity is governed by four factor.

- A. Illumination (natural and artificial.)
- B. Environment.
- C. Preexposure.
- D. Intensity of the stimulus.

Natural illumination cannot offer uniform illumination at different times of the day or season.

Artificial illumination shows many variations in colors without daylight filtration.

Environment of surrounding field, color of background, clothing and etc.

Pre-exposure—stimulation of the retina to a gray the same brightness of the colored stimulus.

Intensity of Stimulus depends upon the illumination, the size of the stimulus, the hue of the color employed and the angle subtended by the test object.

Experiments were made with 3 m.m., and 4 m.m., red stimuli in cases where artificial illumination was used without daylight filters. An exhaustive study of colors can be obtained by referring to the original papers of Feree & Rand and Dr. Peters text book.

I wish to thank Drs. Buffington and Meyers for their masterful discussion of this paper, and Dr. A. C. King, who colored the lantern slides.

MERCUROCHROME IN SURGERY.*

SYDNEY W. JOHNSTON, M. D.,

VICKSBURG, MISS.

Mercurochrome-220, the disodium salt of dibrom - oxy - mercurifluorscein was developed by Drs. Young, White and Swartz in 1919 after a three year study of the different dyes, looking forward to a more effective urinary antiseptic. The drug in a 2% solution is a very powerful germicide and is rapidly supplanting iodine in injuries of the skin and in preventing infection in any superficial wound. It leaves a deep and almost permanent bright red stain which is to its advantage since it shows the amount of surface covered by the application. It does not burn nor irritate an abrasion nor the skin, as iodine does, thus affording a wonderful antiseptic for large raw surfaces which otherwise would have been very painful with the application of any other antiseptic. Its effectiveness of course is due to the large amount of mercury which it holds, being about 26%.

In my paper today I am not going to discuss the use of mercurochrome as a local application in the treatment of wounds, but will devote the space to the intravenous use of mercurochrome in septic conditions. Dr. Young and his collaborators have shown that a 1% and even stronger solution of mercurochrome can be given in-

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

travenously with no serious effect and acting upon this we have treated in the last ten months approximately 100 cases by the intravenous use of a 1% solution of the drug.

Probably the most striking results occurred in a series of infections which occurred in our hospital early in July. There were operated upon on July 6th and 7th, six fairly clean abdominal cases. The morning of July 7th it was reported to me that two of the patients operated on, on the morning of July 6th had very high temperature, about 106. We did everything possible for them but both died the following day which was less than 72 hours from the time of the operation. The afternoon of July 7th the third case operated upon on the afternoon before developed a temperature of 106. I gave her 20cc. of a 2% mercurochrome solution intravenously. The following morning her temperature dropped to normal and she made an uneventful recovery. On July 8th the three cases operated on on July 7th developed a temperature of 106 and each was given 20cc. of 1% mercurochrome. Within eight hours the temperature was down to less than 100 and all three cases made an uneventful recovery. The organism that caused the infection was found in the blood of all the cases and resembled very much the *Kleb-Loeflus* bacillus. The infection was traced to our sterile nurse in the operating room who at the time was suffering with a severe post nasal catarrh. One of the cases that died was given 100,000 units of diphtheria antitoxin but with no result. There can be no doubt that all six of the cases would have died had we not used mercurochrome.

We have treated only one case of puerperal septicaemia, that being a young woman 33 years of age who had been ill about two weeks when she came to the hospital. She was having high temperature and rigors every three or four hours. She was given 15cc. of 1% mercurochrome and in less than 24 hours her temperature

dropped to normal and remained so during the balance of her stay in the hospital.

We have treated more cases of pyelitis with mercurochrome than any other class and our results have been very gratifying though not as remarkable as in the above mentioned cases. A white man age 40, who gave a history of having chills and fever for six or seven months and who had taken about eight ounces of quinine with no result came to us in November 1924. He had a blood count of 18,000 and a cystoscopic examination showed pus discharging from the right ureter. He was given 20cc. of 1% mercurochrome which was repeated every third day until he had taken three injections. He left the hospital perfectly well and when we heard from him some two months later he was still improving and had had no more rigors or fever. We have treated about 40 additional cases with good results. I want to mention the illness of my own child, a little girl age 6. She was taken ill with an abscess of one of her molar teeth and 36 hours later developed a severe case of pyelitis. Her temperature ran very high, her blood count was 20,000. We were afraid to give her mercurochrome on account of a valvular heart lesion which she has, but about the 6th day her condition was so much worse, we gave her 10cc. of $\frac{1}{2}$ % mercurochrome. She made an uneventful recovery and on the 4th day her blood count was normal.

Our next type of cases was gonorrhoeal arthritis in which we have had excellent results. A negro man age 28, was brought to the hospital on a stretcher. His right knee being swollen to about three times its normal size. He was very toxic, giving a history of being in bed for three weeks, gradually growing worse. We gave him 30cc. of a 1% solution which was followed by the most severe reaction that we had ever had. He was badly salivated, developed diarrhea which in a day or two got worse. However his temperature dropped to normal and on the 5th day he left the hospital walking. He is now mak-

ing a crop and his right knee is no larger than his left. We have treated about 5 cases of gonorrhoeal rheumatism, two with fairly good results and three with perfect cures. We have used mercurochrome in one case of typhoid which was accompanied at the onset with a severe pyelitis. She was given two doses of 20cc. of 1% mercurochrome four days apart. The blood count which was about 18,000 dropped to 5,500 four days after the second dose. She recovered after a very stormy and prolonged illness lasting more than two months. I do not think it helped the typhoid any though it cured her pyelitis. Dr. Gus Street reported to me that he used mercurochrome in a case of typhoid in which the disease was aborted, the patient's temperature dropping to normal on the 17th day. We have only been able to use mercurochrome in two cases of pneumonia both of which recovered. In one case of mastoiditis with brain improvement, we gave mercurochrome with no results, the patient dying after a prolonged illness. In a case of acute peritonitis following a ruptured pus tube, death occurred after an injection of mercurochrome. In neither case was death due to the drug. We have had good results in gonorrhoeal cystitis.

In this condition we always instill $\frac{1}{2}$ ounce of 2% mercurochrome into the bladder accompanying it with 20cc. of a 1% intravenous. We have had excellent results in all our cases.

Summing up the results we feel that mercurochrome occupies a field equally as useful as arsphenamine. The critics who base their unfavorable comments on mercurochrome on the assumption that it is impossible for such a small amount of mercury in the large amount of circulatory blood to be effective, forget that arsphenamine in equally as weak a solution kills the trypsin, a fact admitted by every one.

In all cases we had rigors and temperatures varying from 102-104 following

the injection, the rigor usually coming on in less than thirty minutes after the injection. Dr. Young thinks this reaction is beneficial and I believe that in those cases where we had the greatest reaction, we had the best results. Until some one finds a more satisfactory germicide than mercurochrome, I shall certainly continue to use it in all septic cases.

EVIDENCES OF HYPOPHYSEAL DYS-FUNCTION, WITH LANTERN SLIDES.*

I. I. LEMANN, M. D.,
NEW ORLEANS.

In these days of unlimited romancing in the field of endocrinology, when detail men and commercial manufacturing firms undertake to instruct us in the wonders to be expected from the use of their products, it is wise to keep our feet on firm ground and to differentiate between what is firmly established and well proven and what is highly speculative. The wonderful advances in our knowledge of disturbed function of the thyroid, the pancreas, the suprarenals, the parathyroid and the pituitary glands may lead us to hope for still greater developments in the future.

Modern conceptions of hypophyseal dysfunction date to the eighties of the last century when the great French clinician, Marie, published his first observations upon the relation of acromegaly to pituitary disease. Since that time a great many investigations have been made by various experimental methods and a very great deal has been added to our knowledge of the disturbed function of this body. Much is still unknown and many apparent contradictions still exist in the results obtained by various investigators. The problem has been attacked not only by attempts

*Read before the Orleans Parish Medical Society, December 14, 1925.

to correlate definite clinical pictures with definite pathological anatomical findings but also by injection of extracts, by feeding pituitary substance, by transplantation of the pituitary and finally by extirpation. I shall exhibit to you presently a series of slides illustrating the clinical syndromes which we have come to know are associated with definite damage to the pituitary. Injection of extracts would seem to show that the anterior lobe is "relatively speaking inactive" (Cushing), while the extracts of the posterior lobe, as is well known to you, exhibit marked pressor effects and bring about uterine, vesical and intestinal contractions. Feeding of the pituitary substance to animals has yielded only uncertain information. Crowe, Cushing and Homans have shown that the life of animals after total hypophysectomy could be prolonged by immediate reimplantation into the cerebral cortex of the excised gland. Cushing and his associates demonstrated after extirpation of the hypophysis the following:

- I. Cutaneous changes and adiposity.
- II. Disturbances of body temperature.
- III. Disturbances of growth.
- IV. Mental changes.
- V. Alterations in carbohydrate tolerance.
- VI. Changes in urinary secretion.
- VII. Secondary changes in other ductless glands.

They found that hypophysectomy in adult dogs deprived of all but fragments of the anterior lobe produced a syndrome with adiposity, increased sugar tolerance, lowered body temperature and reversible sexual changes. When the operation was done in puppies it caused a similar syndrome with a persistence of sexual infantilism and additional skeletal undevelopment and evident psychic disorder. As we shall see this latter corresponds to the syndrome in the human known as the

Frolich type. It has been shown that by experimental removal of the entire hypophysis that the organ is essential to life. Removal of the anterior lobe is equivalent to total hypophysectomy. Removal of the posterior lobe in which is included the greater part of the pars intermedia has no early nor late result. I call your attention to the apparent discrepancy between this statement and one previously made, namely that the extract of the anterior lobe is without effect, whereas the extract of the posterior lobe is very potent. Our knowledge of the pathological physiology of the pituitary may be diagrammed in somewhat the following fashion:

- I. Overfunction (Anterior Lobe?) Hyperpituitarism, acromegaly, gigantism).
- II. Underfunction. Dystrophia adiposogenitalis.
 - A. Anterior lobe deficiency.
 1. Disturbance of growth (skeletal defects).
 2. Development of obesity (hypophyseal fat dystrophy).
 3. Genital hypoplasia (infantile genitalia).
 4. Temperature anomalies (hypothermia).
 5. Cachexia hypophyseopriva (apituitarism).
 - B. Posterior lobe deficiency.
 1. Hypotension.
 2. Increased sugar tolerance.
 3. Diminution of basal metabolism.
 4. Asthenia.

I shall now have thrown on the screen a few pictures illustrative of some of the clinical entities. The first pictures that I show you illustrate acromegaly. I call your attention to the characteristic thickening of the soft parts of the face and the enlargement of the extremities. The sec-

ond slide shows a patient before and after the development of the disease. Both of these pictures have been taken from Cushing's monograph. The next slide, also from Cushing, illustrates a pituitary giant. I show you next the pictures of a young woman whom I saw some fifteen years ago and whose case Dr. Van Wart and I reported at that time. She was twenty-four years old. Her complaint was of headaches from two weeks to six months apart. She had been well until she was seventeen years old. At that time she had to stop school on account of her health. She had previously stood well in her classes. She was sent home from boarding school because she was nervous. Soon after coming home she became well and was able to work. It was apparently a very slight illness and the fever was always below 102° . There was no delirium. Troublesome eye symptoms were the first to attract attention. Then followed the headaches which had become more intense every month. They lasted usually twenty-four hours but once she had a headache that lasted two or three weeks. During that time she seemed to be in a deep sleep but was not entirely unconscious and could be roused though she could not always speak. Of this attack she recalled nothing. As you see she was very much emaciated. There was complete absence of all secondary sexual characteristics. You will note the absence of axillary and pubic hair and of all mammary development. The uterus was rudimentary. The visual fields showed large scotomata and a hemianopsia for red. The radiographs of the long bones showed failure of ossification of epiphyses. This patient is a good example of the so called Lorain type of dyspituitarism.

The next slide I show you is taken from the Iconographic de la Saltpetriere. It shows two girls, sisters, one fifteen years and five months, and the other twenty years and six months. They have also the long slender trunk, the lack of axillary and

pubic hair and of mammary development. They, too, belong to the Lorain type.

This colored boy whom I saw at the Charity Hospital who seems to be about twelve years old was really thirty-one years of age. You will note the same characteristics that I have pointed out in the previous slides. Until the age of twelve he was just like any other boy. At that time he suffered from what was said to be neuralgia and kidney trouble. He had bad attacks of blind staggers and then was confined to bed for three months. The vision was gradually lost over a period, the length of which the patient did not know definitely. He had been in an institution for the blind for several years and was stone blind. A skiagraph of the sella turcica which I now throw on the screen shows definitely a shadow mass filling the larger part of the sella turcica.

This white boy who was admitted to Touro last year was also apparently about the age of ten or twelve but was actually twenty-six years of age. He had had spells of sickness ever since he was eight years of age. He did not remember any of these spells except one when he was seventeen years old. He was then in his second year of high school. He went to bed and was there four weeks with weakness and terrible headaches. After four months he went back to school and continued for about a year when he had to give up his training. For two years prior to the time that I saw him in 1924 he had been free of attacks of headaches. You will note that he has the appearance of a bright alert boy about twelve years old. He has no axillary or pubic hair and the genitals are small. The eye grounds were reported by Dr. Feingold as normal and the visual fields as apparently normal but not perfectly dependable. The X-ray examination of the sella turcica showed a destruction of both anterior and posterior clinoid processes and apparently calcification of the outer limits of a tumor. Dr. Isidore Cohn has estimated

from the radiographs that the skeletal development of the patient is that of an individual from thirteen to fifteen years of age. Dr. Van Wart reported his intelligence as that of a boy of ten years.

I show now a slide of the condition described as Frohlich's syndrome. This man was twenty-seven years old although he has the height and general appearance of a boy about ten to twelve. You will note his adiposity in contrast to the slender types I have shown. He has the sexual infantilism that they exhibited.

The next slides taken from Cushing's book show the girdle distribution of the fat in cases of pituitary obesity.

The young lady whose pictures I show you now is thirty-one years old. When she consulted me in March of this year, at which time these photographs were taken, she weighed 307 pounds. She had always been stout and had weighed 223 pounds at thirteen years of age. She had not weighed since because of her sensitiveness upon the point. She had not a single complaint. She had never had headaches. She had not menstruated since an attack of influenza in 1918. Prior to that time she had menstruated very regularly. She was very active and had never been sleepy during working hours. You will note in addition to the obesity, which in her case is general, a hypertrichosis of the face. An X-Ray of the sella turcica which I now throw on the screen shows nothing especially abnormal unless it be that it is somewhat small. The visual field of the right eye was reported by Dr. Feingold as apparently normal. He found, however, that the left eye presented a marked defect in the lower nasal quadrant with a projection of the defect upward and to the temporal side. He considered that the field defect in the left eye pointed to an affection of the chiasm at the upper temporal aspect on the left side. I show you now a projection of the visual field of this left eye. A glucose tolerance

test was carried out with the following result: 100 grams of glucose were given on a fasting stomach. The blood sugar rose from a level of 106 mgs. per 100 c. c. of blood in the fasting state to 190 mgs. one-half hour after the glucose meal; fell to 160 mgs. after one hour, to 114 mgs. after two hours and to 80 mgs. after three hours. There was no sugar in the urine at any time. The form of the curve is normal though the level to which the blood sugar rose is abnormally high. Under medication with thyroid substance and pituitary substance this patient has gone down in weight over one hundred pounds, so that last month she weighed 194 pounds. I am showing you on the screen a picture of her at present.

The question of the relation to diabetes insipidus to pituitary disease is one still open for debate. "Camus and Roussy came to the conclusion that the lesion which determines whether or not a polyuria develops is in no way connected with the hypophysis. In five of their cases in which an intense polyuria developed the hypophysis was unaffected. Total hypophysectomy performed without injury to the base of the brain is not followed by polyuria. Previous removal of the hypophysis does not prevent the development of polyuria if during the second operation the optocephalic region is injured." "Superficial lesion of the base of the brain often involving only the surface and produced involuntarily in the removal of the pituitary body is followed by polyuria." On the other hand there is the strong clinical evidence of the control of the polyuria in diabetes insipidus of pituitrin. I have had in the past year the experience of following a case of diabetes insipidus in the wife of a colleague in whom we have had most gratifying results from pituitary injections. This lady, thirty-one years old, began in January 1925 to have an abnormal thirst although prior thereto she would drink very small amounts at a time. At first her abnormal thirst was

taken to be an indication of pregnancy, especially as the menstruation which had been previously more or less free and of five or six days' duration was in January very scant and of only one day's duration. I may say parenthetically that later developments showed that she was not pregnant. The increasing thirst continued together with a tremendous diuresis so that by the middle of February 1925 when I first saw her she was passing three or four gallons of urine in twenty-four hours. She was at that time in a most distressing condition. Her sleep was badly disturbed. She would drink two or three glasses of water at a time and would hardly have time to get to her room and in bed before she would have to go out to urinate and to get more water. The effect of pituitrin was prompt and magical. By the injection of from one-half to 1 c. c. two or three times in twenty-four hours we have been able to keep her comfortable. The effect of an injection lasts at least four or five hours. An attempt was made to use pituitrin by spray in the nose. While this afforded some relief from the urinary stand point, it caused so much local disturbance in the nose that it had to be abandoned.

CUTANEOUS REACTIONS AS AN AID TO DIAGNOSIS.*

ALBERT W. PIGOTT, M. D.
 OXFORD, MISS.

Cutaneous reactions as a means of ascertaining immunity to certain infections, and diagnosing the presence of others as well as testing the susceptibility of the individual to various organic substances, have of recent years, come to be recognized as playing an important role in medicine.

Von Pirquit, in 1900 discovered that the application of tuberculin to the abraided

surface of the skin caused a characteristic local reaction in tuberculous infants and no reaction or a very slight one in healthy infants. From that time there has been a constant advancement of the use of the skin test in diagnosis until today it no longer occupies a place in experimental medicine but may be, and is, used successfully by the general practitioner. With the modern development of biological and pharmaceutical houses the various sera and extracts are available to anyone desiring to take advantage of these reactions. The tests can easily be carried out in the office or home.

For the sake of convenience and brevity in this discussion the cutaneous reactions are divided into three groups: (1) those ascertaining immunity to certain infections; (2) those aiding in the diagnosis of disease and (3) those determining the susceptibility of the individual to various proteins.

In the first group we find the Schick test for immunity to diphtheria and since its introduction in 1913 it has proven a great blessing to the profession and to the laity. The test not only affords a means of finding those naturally immune to diphtheria, which is from fifty to sixty per cent of the entire population, but it is also useful in controlling artificial immunity in the susceptible. A brief review of the technique of this test might not here be amiss. 0.2 cc. of diphtheria toxin so diluted that this amount contains one fiftieth the minimum lethal dose for the guinea pig is drawn into a hypodermic syringe. The toxin may be obtained from biologic supply houses in packages containing a small amount of the toxin and sufficient sterile salt solution to make the required dilution when they are mixed. It should be freshly diluted and must not be used after twelve hours. Clean an area of the skin of the forearm with alcohol, draw the skin tight and inject the toxin into the skin, not through it. A white wheal-like swelling

*Read before the North Mississippi Six Counties Medical Society, Holly Springs, Miss., November 18, 1925.

appears if the injection is correctly made. A like amount of the dilution which has been heated to seventy-five degrees Centigrade is injected into the other arm as a control. No reaction occurs in those immune to diphtheria but in those not immune a distinct red spot appears at the site of the injection of the unheated toxin within twenty to thirty-six hours. This is followed by induration, reaching its height about the fourth day. The Schick test is very reliable if the proper toxin be used and if the reaction be correctly interpreted.

Another immunity reaction is the Dick test for immunity to scarlet fever, introduced by G. P. and Gladys Henry Dick of Chicago in January 1924. This test proves that fifty to sixty per cent of the population have a natural immunity to scarlet fever. The toxins used in this test are found in the filtrates of hemolytic streptococcus and it is also possible to confer artificial immunity by injecting the same toxins. The test is carried out in the same way as the Schick test for diphtheria and the dose is one skin test dose which is contained in 0.1 cc of the standardized toxin.

Of the skin tests aiding in the diagnosis of disease I wish to discuss first the tuberculin reaction for tuberculosis. There are several methods by which this reaction may be obtained but I will outline only the two most commonly used. (1) The hypodermic injection. After first determining the patient's normal temperature variations, Koch's Old Tuberculin is used in successive doses, three or four days apart, of one one-hundredth, one-tenth, one, two and five milligram. A negative result with the largest dose is considered final. The reaction is manifested by fever within eight to twenty-four hours after injection and a rise in temperature of one degree F. is accepted as positive. There is some danger of lighting up a latent process with this method. (2) The Von Pirquet test. This is the most widely used of the tuberculin tests. Two small drops of Old Tuberculin

are placed on the skin of the front part of the forearm about two inches apart and the skin is slightly scarified, first at a point midway between them then through each of the two drops. A flat end tooth-pick makes a good scarifier. Just sufficient pressure to remove the epidermis is used, care being taken not to draw blood. In ten minutes wipe off the excess of tuberculin. No bandage is necessary. A positive reaction is shown by a papule with a red areola appearing in twenty-four to forty-eight hours. The papule is in marked contrast to the red spot in the control area.

These tests have great diagnostic value in children, especially in those under three years of age. They often show positive in adults that are apparently healthy and are likely to be misleading. However negative tests are very helpful in deciding against tuberculosis.

Noguchi has introduced a cutaneous test for syphilis by injecting a preparation called luetin which consists of ground cultures of *treponema pallidum* sterilized and preserved with trikresol. This preparation is now on the market and may be secured through any pharmacy. A small drop of luetin is injected into the skin (not under it) of one arm. A drop of the preparation minus the *treponema* is injected into the other arm for control. A positive reaction consists of an inflammatory induration, papule or pustule usually occurring within forty-eight hours though it is sometimes delayed three or four weeks. The test is positive in tertiary, latent and hereditary syphilis but is usually absent in primary and early secondary cases. Compared with the Wassermann reaction it is more constant than the Wassermann in tertiary and latent syphilis while the Wassermann is more constant in the early cases. Unlike the Wassermann reaction the luetin reaction persists until a cure is effected. Unfortunately luetin produces the typical reaction in non-syphilitics who are taking iodids or bromids so evidently the test needs

further study before the results can be accepted with confidence. If this test can be perfected it will prove a blessing to the practitioner for it will offer a means of clearing up those puzzling cases of late syphilis that give negative or atypical Wassermann reactions.

Hypersusceptibility: Such conditions as asthma, shock following the administrations of antitoxins and therapeutic sera, the urticarias and diarrheas which occur in some people following ingestion of certain foods, etc., can be ascribed to hypersusceptibility. By a simple skin test it is now possible to recognize the hypersusceptibility of an individual to any particular substance such as the pollen of plants, dandruff and serum of animals, drugs and articles of foods. This consists of applying an extract of the substance to an abrasion of the skin as in the Von Pirquet test or by injecting it intradermally as in the luetin test. In injecting the extract care should be taken not to get it under the skin as dangerous symptoms might be provoked in an extremely sensitive individual. The extracts can easily be made by extracting the substance desired with decinormal sodium hydroxide. A convenient way to conduct the test is to place the substance that is to be used on an abrasion of the skin and add a drop of decinormal sodium hydroxid and gently mix and rub into the skin. A positive reaction is evidenced by a redness and swelling. Several substances may be tested at the same time in different areas of the skin surface. A long list of pollens, dandruff and other substances especially prepared for the tests, are available commercially. Drugs may be tested in ten per cent solutions. Horse serum hypersensitiveness is best recognized by injecting intradermally 0.2 cc of a one to ten dilution of normal horse serum in saline solution.

ADDRESS AT THE FAREWELL DINNER TO RETIRING INTERNES OF THE TOURO INFIRMARY, ON SATURDAY, JUNE 20, 1925.*

RUDOLPH MATAS, M. D.

Chief, Surgical Division, Touro Infirmary.

NEW ORLEANS.

"Perhaps it may turn out a Sang,
Perhaps turn out a Sermon."
Burns.

Mr. Toastmaster; my dear Internes:

In compliance with the wishes of our worthy Superintendent and very good friend, Dr. Spelman, I am here, as the Senior Member of the Surgical Staff, to contribute to the memories of this occasion by giving you such advice as my long experience, as a member of this staff and as a teacher and student of medicine, may have taught me should profit those of you who choose to hear it. In assuming the pretentious role of Mentor, which is so often presumed to be the prerogative of age, ('O, how comely is the wisdom of old men!')(1) I am fully aware that advice differs from all other things of value, in that everyone is willing to give it away and that few are willing to take it, even on these liberal terms. Again, I am reminded of one of the maxims of an old, rather cynical but keen sighted philosopher(2) "that we may give advice which may be wise, but we cannot inspire the conduct or give the wisdom to profit by it." On the other hand, our worthy Supervisor, who has given proof that he is learned in script other than that which pertains purely to hospital administration, retorts, as fitting this occasion, "That in a multitude of counsellors there is safety"(3) and, again, quoting the highest authority, commands,

*The substance of this address was originally prepared for and delivered to the medical class of Tulane University on the occasion of the first student body assembly, Sept. 29, 1924, in which the President of the University, Dr. Dinwiddie, and the Dean Dr. Bass, participated. The address was never published. With some modifications, it has been adapted to the present occasion.

(1) Eccl. xxv; v.

(2) La Rochefoucauld.

(3) Prov. xi; xiv & xxiv; vi.

“Give here your advice and counsel.”⁽⁴⁾ What then can I do but bow to such a command and admit, as one who has your interest at heart, “that the mouth of the wise is in their heart”⁽⁵⁾ Therefore, in humble imitation of the great apostle, I say unto you, as Paul said unto the Corinthians, “And herein I give my advice.”⁽⁶⁾

But what advice can I give that may profit you on this occasion? My vision goes back very clearly to my student days, when my term of service as interne of the Charity Hospital (we were undergraduate ternes then) was coming to a close and I wondered what would be the end of the great adventure in which I had embarked, when I matriculated as a student in the medical school of Tulane University. Four decades and more have elapsed since that momentous period and, if I have survived the stress and strain of an arduous professional life, and if, in spite of my faults and shortcomings, I have the honor to be here addressing you today, it is due to at least four things: First, a robust inheritance for which I can never cease to thank my honored parents; second, tenacity of purpose, without obstinacy; third, a supreme and unalloyed love of my profession, and, fourth, an unlimited and unquenchable ambition to be worthy of its mission! These are what may be termed the intrinsic, inherited, or innate qualities to which I owe largely whatever success I may have attained in my vocation. To these, however, I must add the inspiration and example of the good men and women of superior mould who, recognizing early in my life the honesty of my purpose, stimulated me with their encouragement and supported me with their counsel and the warmth of their friendship. You will pardon this allusion, which may appear egotistic, but which is meant solely to justify, in a manner, my interest in answering the question which is most pertinent to this occasion. What are the conditions that make for success is the study and practice of medicine?

It is said that Sir Astley Cooper, one of the greatest surgeons and most accomplished gentlemen of his generation, was in the habit of addressing the candidates for membership in the Royal College of Surgeons of England, of which he was President, somewhat in the following words: “Gentlemen, you are about to enter a noble and difficult profession; your success in it depends upon three things: First, a good and thorough knowledge of your profession; second, an industrious discharge of its duties; third, the preservation of your moral character. Without the first, *knowledge*, no one can wish you to succeed. Without the second *industry*, you cannot succeed. Without the third, even if you do succeed, success can bring you no happiness.” These wise and pithy words epitomize all that is essential to success in the practice, not only of medicine, but of any other profession or vocation. And, as these conditions for success are essential to attain the goal of your ambitions in the profession you have chosen as your life work, it is only right that you should, at the very inception of your careers, begin to make them the chief objective of your endeavors. These conditions, however, presuppose other elementary qualifications, which must be borne in mind at this formative stage of your careers. It is *now*,—at the very start of your professional life,—when your minds are still plastic, most impressionable, most receptive and most susceptible to your environment, that you need most guidance. It is probable that, with many of you, your individuality, your attitude of mind, your special aptitudes, or your deficiencies and your habits, have already become clearly discernible; but, even so, there is an immense territory in your minds which remains unexplored; vast areas of unknown potentialities, still buried in the depths of the unconscious, that remain to be sounded.

(4) Judges xx; vi.

(5) Eccl. xxvi.

(6) ii Cor. viii; x.

It is just now, when you are about to test the value of your scholastic and practical professional training, by launching upon your own responsibilities as independent practitioners, that guiding posts, signs and warnings, will help to keep you in safe paths and save you from losing yourselves in uncharted and dangerous byways. It is at this stage of the journey that you are most likely to profit by the experience of the wayfarers who have long traveled the same road.

Many and precious are the lessons that I learned through hard and bitter experience, either through lack of counsel or through disregard of it,—advice which, if heeded, would have saved me from immense suffering, discouragements and lasting disappointments. But I shall not drift too far along this tempting channel, for I am reminded that time is fleeting and that I must confine myself to what I have learned is essential, as the residue of my experience.

In 1869, fifty-five years ago, Sir James Paget,⁽⁷⁾ one of the most illustrious names in the history of British surgery, in answer to the question, "What becomes of medical students?" (propounded by one of his predecessors⁽⁸⁾ many years before) traced the careers of 1000 pupils whom he had taught in the previous fifteen years at St. Bartholomew's hospital, London. Of the 1000, only 24 achieved distinguished success; 18 attained considerable success; 507 attained fair success, that is, made a decent living but worked hard to get it; 124 did very poorly indeed; 56 failed utterly; 96 abandoned the profession; 41 died while pupils; 87 died during the first twelve years of practice, and 21 perished from diseases due to their calling.

The conclusion is that only 8.5 per cent. of a medical class will attain eminence or achieve considerable success; that 50 per cent. will make a decent living, but it will be bought by strenuous effort; that 18 per cent. will do very poorly indeed or will fail

utterly, and that nearly 10 per cent. will abandon practice.

My distinguished friend, Dr. John Chalmers Da Costa⁽⁹⁾ forty-six years later, in commenting on Paget's figures, wrote in 1915:

"I am disposed to think that Paget's figures would apply today; that about the same proportion would fail; about the same proportion will abandon the profession; most of them will feel a lack of public understanding, will be denied public appreciation, will pass lives made of laborious days, which know no 8-hour law, and of disturbed nights, each of which may be a continuous performance; will do much good, for which they will obtain small reward and little praise, and will die worn out, long before the period allotted by the Psalmist. In using the term success, which many, no doubt will attain, I do not regard it as synonymous with wealth. Some men are so busy making money that they have no time to study, to observe, to think. The rich man who has brought no honor to the profession is not a real success. He has lost more than can be paid for by wealth. He may be scheduled as a successful man, but he himself knows that he has failed. 'He that maketh haste to be rich, shall not be innocent,'—to quote Captain Cuttle, 'In the proverbs of Solomon you will find them 'ere words, and when found, make a note of'."

Again, quoting from DaCosta:

"It is discouraging to think of so many failures and so few successes. Some of the failures would have succeeded in another occupation, and when they entered medicine spoiled a good business man, lawyer, broker or farmer. Some would have failed in anything, because of temper or mental inaptitudes or futilities, cowardice, stupidity, laziness, mendacity, dishonesty, disloyalty or jealousy. Many such men began the study, as Richard Carstone did in

(7) Selected essays and addresses, edited by his son, Stephen Paget. London. 1902.

(8) Abernathy (1764-1831), who, it is said, upon entering the anatomical theatre for one of his introductory addresses, looked around at the crowd of pupils and exclaimed, as if with pain and doubt, "God help you all. What will become of you?"

(9) Trials and triumphs of the surgeon. N. Y. M. Jour. Apr. 10, 1915. One of the most brilliant, witty and thoughtful essays ever contributed to medical literature. No one at all interested in medicine, or in surgery, especially, can fail to read this incomparable document without intense enjoyment and profit.

Bleak House, because it would do 'as well as anything else.' Some, most worthy men, fail because of pure ill luck and are elbowed out of every opening and never gain credit for any of the good things they do."

Continuing in his inimitable way, DaCosta says:

"Some years ago, after reading Paget's figures, I undertook an investigation as to why men leave the profession, as so many do. I found the reasons various. Some complained they got no help from the profession. Such men are like an electric button and won't do any work unless they are pushed. Others groaned that they had no pull, evidently believing that their great abilities would have burst into effervescence had a kindly bar-keeper been adjacent to open them. Others asserted that they were persecuted. As a matter of fact, when a man becomes an embodied grievance there is generally something wrong with him. Some did not reach the top because there was no elevator and they were too lazy to climb there. They preferred sitting at the bottom and complaining. Such men work like a sun dial on a dark day, and move like a glacier. Some failed because what they did not know about medicine would populate a colossal morgue; some, because they were so busy attending to other people's business they could not find time for their own work."

The reason for all this is that youths know little or nothing of their own minds. Their real fitness or unfitness for a given profession is only discovered after they have plunged into it too far to retrace their steps and make their way back to safety. Again with DaCosta:

"When we think of how many men fail, we naturally wish that there was some infallible method by which we might recognize the unfit when they seek to begin study, or at least very early in their student days. To do so would be good for medicine and for the men themselves, such men are not labeled like reserved seats, or brandy bottles, or boxes of cigars. To make a mistake and admit the unfit man, would wrong medicine and the man. To make a mistake and exclude the fit man, would wrong the man and medicine."

Now, I say that the trouble in handling such men is a trouble in eugenics. It begins at birth,—it begins long before birth; it begins in the ancestral traits of the germinal cells. It is largely a problem of heredity which is at present insoluble and, for present purposes and the conditions existing in our social organization, utterly unfathomable. All that we can do is to require certain proofs or tests of common intelligence, of capacity for remembering or acquiring facts and for school training, or a certain amount of preparatory knowledge that is indispensable for some understanding of the things that are peculiar to medicine.

Up to the recent past, the tests that we have had to depend upon largely, are examinations. These, however, are only tests of the student's memory of facts and to some extent also for his attention. But they are no tests of the man himself. They tell nothing of his judgment, tact, energy, enthusiasm, idealism, reason, powers of observation (which are so essential to the medical man). "They tell us nothing of the man's temperament, his disposition, his honesty, loyalty, courage, truthfulness or capacity to grasp the real problems of professional life. Memory for facts means little, the other things mean nearly all."

Again, quoting the picturesque and vivid language of DaCosta:

"The graduate is like a sausage; that is, he is whatever comes out of the machine. I submit it that the purity, flavor, healthfulness of sausage depend upon what goes into the machine. Seasoning won't do everything, although some teachers agree with Sam Weller's friend, the meat pie man, who said it was 'all in the seasoning'."

This is the great problem that is now confronting the world's educators, who are entrusted with responsibilities of educating and training the professional man, and who realize that the most urgent need of the moment is a test, a means, by

which a man's fitness for his specific and lifelong vocational career may be determined before he is admitted within the gates of the temple in which he is to worship for the rest of his days. We have advanced far enough in our methods of teaching medicine to know that at the end of a certain period of probation we may be able to place some valuation upon a man's intelligence, his interest and his aptitude for progress in the pursuit of his professional career. But this is information that is, at best, limited to certain qualifications and is obtained too late to save the student who has failed, from great economic loss in time, money and disappointment. Yet, even then, in spite of the discouragement attending such a discovery, it is a boon to the student to be spared further losses and fruitless endeavors and to be given an opportunity, though belated, to display whatever he may have in other directions. The conditions now existing in medical education,—the exacting entrance requirements, the graded courses, the limitation of the number of matriculants who may be admitted into the schools, the development of laboratories in which the teacher comes in individual contact with the pupil, and in which an opportunity is given to become familiar with the student's personality and, to a considerable extent, with his character,—are all tending to a more discriminate selection of the candidates for the medical profession, and are conducive both to the elimination of the undesirable and the conservation of the fit.

But far and above all the opportunities given to the observer of the present day for the proper gauging and prognosticating the future career of the individual student, is the record of his conduct and work and the stamp left by his personality in the hospital. It is the experience of the junior and senior interne years (now postgraduate) that is most likely to forecast the story of the future. It is in the hospital, with its daily and hourly contacts with his Chiefs

and his environment, in the discharge of his duties at the bedside and elsewhere that the real make-up of the man is revealed. His mental attributes, his inclinations, his earnestness, his knowledge, his industry, his honesty, his temperamental and innate traits, his personal characteristics,—in fine, his character,—or the lack of it,—and his prospects, are all projected and made manifest to all who care to know him, by the time he has completed his term of service.

In this way, we dare say that if a comparative estimate of the number of failures, so depressingly numerous in Paget's time, could be contrasted with the qualifications of the graduates of American and British medical schools of the present day,—even since DaCosta's pungent criticism in 1915, the number of failures would have appreciably diminished and the proportion of professional successes would have notably increased. There is no doubt that men who go through the prescribed courses in modern medical schools,—in this country, at least,—have infinitely better prospects for success and usefulness than were given their predecessors. However, no matter how thorough may be the process of selection or how vastly superior the technical equipment and the conditions which surround the medical students of today, the conclusion reached by Sir James Paget more than half a century ago remains as true now as it was then, and will probably continue to be for generations to come. And it is this chief conclusion that I wish to impress upon you today,—namely: "Nothing is more certain than that the *personal character*, the very nature, the will, of each student, has far greater force in determining his career than any help or hindrance whatever. That any student may draw from his daily life a very likely forecast of his life and practice, for *it will depend upon himself, a hundredfold more than on circumstance*. The time and the place, the work to be done and its re-

sponsibilities, will change, but the man will be the same, excepting in so far as he may change himself."

This is a fundamental truth that no thoughtful teacher can fail to recognize as indisputable. But, granting all this and that the man himself, through his congenital or inborn qualities, is the chief arbiter of his own destinies and the greatest determining factor in his success or failure, it is none the less true that intellectual and other habits acquired by the student in the early formative periods of his life and through his environment at school, his associations at college or university, profoundly modify his course for better or worse in his later life.

To sum up then: What is it that makes most for success in life and for the pursuit of happiness in the vocation which you have chosen for service to yourselves and to your fellows? What is it?

In its essence, it is all reduced and compressed in one word,—and that word is *Character*; and by character we mean the sum of all those traits which a man displays in his mental makeup that stand for the principles of right living. I again lay stress upon this word, because of its supreme significance at this period of your lives and at a time when you will be beset by innumerable temptations of the most alluring kind, that will be put in your path to clog your footsteps or lead you into thorny roads, which will tear your flesh, yet hold you in embrace, and from which you will find it difficult, if not impossible to extricate yourselves.

Remember that *character* is what a man is, not what reputation considers him. *Character is one's intrinsic value*, not his value in the market of public opinion. It is not learning; it is worth. "Character is greater than intellect. How many brilliant intellects about us are besmirched by faults and vices so gross that they have fallen from their high estate and now none

so poor to do them reverence." Someone has said, "everyone is in duty bound to aim at reaching the highest standards of character; not to become the richest in means, but in *spirit*; not the greatest in worldly position, but in *true honor*; not the most powerful and intellectual, but the most *truthful, upright and honest*."

One thing is certain, and that is, no man can be in any professional, civic, or ethical sense a good doctor unless he is also a *good man*. But, apart from all abstract questions of what constitutes individual morality, and without discussion of the fundamental qualities of respectability and decency, which presumably come with a healthy, clean inheritance to every individual, it is especially important that a student of medicine should be told, or at least warned, that if there ever was a necessity for holding and living up to a clean moral code, such an appeal could at no time be more opportune than it is at the present moment. Under the stress of contemporary social unrest and the tendency to the radicalism, skepticism and iconoclasm that everywhere prevail; with the social strata honeycombed with the all-pervading spirit of graft, and in the presence of an aggressive competition in an overcrowded profession (there are 148,665 M.D.'s in the United States and dependencies, according to the Directory of the American Medical Association, 1925); and, again, with the unavoidable infiltration of our ranks with a large percentage of moral defectives, perverts and degenerates, fastened as parasites on our professional body and breeding the foul saphrophytes known as the quack, the shyster, the grafter, the fee splitter, and so many other disgusting variety of the genus, flourishing in every rank of society,—we have reason to seize the *first* opportunity and *every* opportunity to warn and prepare you for your unavoidable contact with these pestiferous evils.

The Scriptures have declared: "That whatsoever a man soweth, that shall he

also reap." "Wherever you sow a thistle or a thorn, you will also reap thistles and thorns; wherever a wind is sown, a whirlwind will be reaped, while the sweeter seeds sown by others, will be yielding to others sweeter fruit."

I have referred to *character* as the keynote to success in life, and I mean this for you, young men, who are aspiring to be practitioners in medicine. Few, if any of us, can hope to attain a perfect character, but each should aim at the ideal and, at least, endeavor to cultivate the good that is in him, and seek to control or suppress the evil tendencies that are inherent to all flesh. The traits of a perfect character, as they have been drawn up from the sum of human experience by high authority,⁽¹⁰⁾ are stated to be: (1) *Fortitude*; valiant, steadfast, and uncomplaining. (2) *Courage*; with a stout heart. (3) *Heroism*; faithful unto death. (4) *Contentment*; sunshine of the soul. (5) *Ambition*; looking to the heights. (6) *Perseverance*; unceasing effort. (7) *Self-respect*; standing upright. (8) *Purity*; with clean hands. (9) *Self-control*; holding a tight rein. (10) *Self-reliance*; trusting one's self. (11) *Unselfishness*; large hearted. (12) *Obedience*; loyalty to duty. (13) *Sympathy*; the friendly hand. (14) *Consecration to duty*; self devotion. (15) *Usefulness*; good for something. (16) *Industry*; never idle. (17) *Truthfulness*; straightforward and honest. (18) *Courtesy*; the true gentleman. (19) *Comradeship*; a fellow feeling. (20) *Amiability*; gentleness. (21) *Patriotism*; love of country. (22) *Justice*; rendering what is due. (23) *Patience*; the gentle conqueror. (24) *Temperance*; within bounds. (25) *Imagination*; pictures of the mind. (26) *Habits*; beaten paths. (27) *Fidelity*; holding fast. (28) *Determination*; accepting responsibility. (29) *Hopefulness*;

faith and enthusiasm. And the sum of all these traits is *Character*."

Some time ago, many of us were impressed by an extraordinarily beautiful moving picture which was exhibited in this city under the title of *The Ten Commandments*. This remarkable production was designed to awaken and rekindle the slumbering fire of righteousness in the weakening hearts of the men and women of the modern world. Whether the tablets of the law were inscribed by the lightning of Jehovah amid the thunder of Sinai, or whether they can be traced to human origin, is not for us to question. Suffice it, that the decalogue remains an inspired and imperishable code for the moral guidance of mankind. To obey and observe the commandments and live up to them, depends upon the conscience of the individual, the living spark of which is embodied in the word, *Character!* It is this thought that has prompted me to dwell upon this spiritual and fundamental phase of your careers.

"Take these thoughts with you for the year;
Go down the Valley with your brothers
And work them out in life."

And now, my dear internes, all my friends, and especially to those who have so deeply attached themselves to my affections for their unfailing helpfulness, faithfulness, earnestness and cheerfulness in the discharge of their duties in the service of this generous and merciful institution, I would commit you to your future with the heartiest "God speed" and wish and hope of your chiefs that the new paths you are about to tread may lead to the summit of your aspirations, to your happiness and glory.

Then let us be up and doing
With a heart for every fate.
Still achieving, still pursuing,
Learn to labor and to wait!"

(Psalm of Life.—Longfellow)

(10) See James T. White: *Character lessons in American Biography*. Nat. Cyc. Am. Biog., Index and Conspectus, N. Y. 1906.

THE CHOICE OF AN ANESTHETIC*

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In the choice of an anesthetic one is sometimes helped by a previous history to avoid the drug, which has made the particular patient sick on a previous occasion.

Generally speaking when nitrous oxide-oxygen alone is sufficient for the surgical procedure it is by far the most likely to give freedom from after-sickness. It provides no such immunity when ether has to be added in the course of the operation.

Short operations under ethyl chloride are rarely followed by sickness or nausea of any length of time, though they often are by headaches.

So far as the anesthetist's part is concerned in preventing nausea, during anesthesia the following rules will help:

1. Maintain free mouth breathing.
2. Avoid cyanosis.
3. Prevent swallowing of mucus or blood in operations when this enters the mouth.
4. Keep the amount of anesthetic given within the lowest limit compatible with perfect anesthesia.
5. Do not let the patient regain consciousness before he is back in bed, and see that he is moved gently. When in bed the patient should lie partly on his right side with head on pillow till consciousness has fully returned, after this the Fowler's position can often be adopted with advantage.

Patients who breathe through the nose under the anesthetic and particularly those with posterior obstructed nasal passages are more liable to nausea and vomiting than those to whom the mouth is kept well open throughout anesthesia. These

patients with deficient nasal air passages and high pharyngeal vaults are more likely to suffer from nausea after ether. I believe that a combination of anesthetics are safer and better than any one agent used alone.

I am partial to the *Gwathemy* Apparatus put out by the Foregger Company of New York. I believe its advantages over the Clark, McKesson, Heidbrink, Ben Morgan and other machines on the market is its simplicity and sight feed and can easily be checked up at a glance.

Its principles are as follows:

- "1. There must be absolutely regular flow of gas at any rate desired without the necessity of frequent valve manipulations.
2. The flow of the gasses must be rendered visible so that their proportions can be approximated at a glance.
3. An efficient method of adding ether vapor, gradually yet rapidly up to any amount, that even an extreme case may require, must be available.
4. The face piece must be so modified as to be absolutely air tight, and practically self retaining."

The advantages of nitrous oxide-oxygen anesthesia has over ether, are no nausea and vomiting, less shock and fall of blood pressure, it should be the anesthetic of choice in all emergency operations. All minor operations can be done successfully under nitrous oxide-oxygen anesthesia, and in fact any operation by the addition of ether vapor, if the patient is not sufficiently relaxed.

In any operation over 1 hour the addition of ether is necessary, and in fact the administration of nitrous oxide-oxygen without the use of ether in long operations is dangerous.

That nitrous oxide-oxygen needs reinforcing is shown by the fact that ether

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containers are attached to all makes of apparatus.

Unquestionably the patient's condition is better after the administration of nitrous oxide-oxygen with small amount of ether (1 to 4 drams) than when saturated with ether.

We can abolish the use of ether, and get the same relaxation by using magnesium sulphate with morphine as a preliminary. By this method we obtain a safer form of anesthesia, with equally good relaxation and with less nausea, vomiting and depression. 1/8 gr of morphine in 1 or 2 cc of a 25 0/0 solution of chemically pure mag Sulp. 1 Hypo of this mixture will relieve pain from 10 to 30 hours as compared with 2 to 4 hours with sterile water.

All alcoholic and hysterical patients are best anesthetized with nitrous oxide-oxygen as they take ether badly. I have administered nitrous oxide-oxygen successfully in thyroid, acute and chronic appendicitis, hernia, gall bladder, hysterectomy and many other operations.

In conclusion nitrous oxide-oxygen is the anesthetic of choice in the hand of an experienced anesthetist, and by the addition of small amount of ether vapor can be used in most abdominal surgery. Ethylene because of its explosive nature is not as safe as nitrous oxide-oxygen. Ethylene in the presence of oxygen forms an explosive mixture when brought in contact with a free flame. Several explosions have occurred from a static spark resulting from contact. The odor is usually considered to be unpleasant. At the present time it seems the most important advantage in this form of anesthesia is an advertising one. Patients want the newest.

Ethyl chloride is a very dangerous anesthetic and should be administered only by persons who have been carefully trained. The slight amount of comfort obtained for patients is purchased at too high a risk unless given by a skilled anesthetist.

Ether in long operations produces a certain amount of nausea, vomiting and shock. It is possibly more used than any anesthetic today. Chloroform has practically given way to ether. It is still used in obstetrics. It should not be given in acute sepsis, particularly of the abdomen because of the risk of acidosis. The Gwathmey apparatus is used in most of the large hospitals, and in my opinion is the best on the market today. In choosing an anesthetic the following points should be considered:

- (a) The safety to life.
- (b) The condition for which the operation is to be performed.
- (c) Careful history and physical examination of the patient.
- (d) The surgeon's likes and dislikes.
- (e) The length of operation and the anesthetic that will give the patient the less shock and nausea.
- (f) The applicability of other anesthetics to the patient, whose size, age, habits of life and conditions at the time of operation must be considered.

No set rules can be laid down for the selection of the anesthetic, for the method of its administration or for the time of changing from one anesthetic to another. This must be learned by experience and the anesthetist must know the physiological effect and the dosage of each drug that is used.

References: Anesthesia by James Taylor Gwathmey, M. D., 1925.

INSULIN AND DIABETES MELLITUS.

H. L. RUSH, M. D.,
MERIDIAN, MISS.

Since the discovery of insulin, diabetes has probably been subjected to more intensive study than has been accorded it during any other period of its long history. Clinicians have long recognized the extent of the menace that this condition represents. Besides the death of a small army of persons each year from diabetes, there is a further great army of otherwise healthy persons who are incapacitated by it.

STATISTICS.

Statistics reveal the fact that in Boston and New York, one death in sixty is due to diabetes. Tuberculosis as a cause of death has dropped from first to fourth place and diabetes has risen to tenth. In the registration area of the United States in the last forty years there has been a change from 2.8 to 16.1 in the death rate from diabetes per hundred thousand of population, while the death rate from all causes has fallen steadily during this period.

HISTORY.

A review of the literature reveals the fact that the word diabetes has undergone many changes of meaning. The disease was known to Celsus. Aretaeus first used the term diabetes, calling it a wonderful affection, "Melting down the flesh and limbs into urine." It was first employed simply to denote polyuria. In 1679, Willis described the sweet taste "As if there had been sugar and honey in it," but Dobson in 1776 demonstrated the fact that the sweetness was due to the presence of sugar. Nearly twenty years later Frank differentiated between diabetes mellitus and diabetes insipidus.

Von Mering and Minkowski showed many years ago that extirpation of the pancreas in dogs was followed by glycosuria.

It was known that the islands of Langerhans in the pancreas show pathologic changes in persons dying of diabetes mellitus. It had already been shown by previous investigators that when the ducts of the pancreas are tied off the acinous tissue degenerates more rapidly than does that of the islands of Langerhans. With this in mind Banting conceived the idea of preparing an active extract of the islet tissue. Insulin was the result.

ETIOLOGY.

There are several theories as to the origin of diabetes. There are those who believe that clinical diabetes invariably arises on a basis of pancreatitis, and that the fundamental defect is a consequent inability to utilize carbohydrate. Glycosurias of non-pancreatic origin are in a class apart, having no relation to true diabetes. They base their view on the evidence that histologic examination has shown morbid changes in the islands of Langerhans in patients dying of diabetes; and that characteristic features of the disease can be reproduced in animals by excising the pancreas. Few, if any, at the present day, will deny that defects in the functions of the pancreas play an important part in the pathology of diabetes; the only question is whether they are the primary and the essential basis on which the disease develops, or whether they may, in some cases at least, be secondary and supervene in the course of the evolution of the final condition.

Others, including Cammidge, believe that "Diabetes mellitus is a symptom complex characterized by an excessive production of sugar which originates in a variety of ways and develops along converging lines to a common final stage in which all the metabolic functions of the body, including sugar utilization, are more or less disorganized." Clinical diabetes is probably not of constant pathology or etiology. It may be a symptom complex originating in various ways, and eventually giving rise to a progressive deficiency of the pancreatic internal secretion if the primary cause is not

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

controlled. Many of the functions of the body have been found to represent the outcome of an interplay of antagonistic actions resulting in equilibrium. This is exemplified in the almost constant composition of the blood, despite the additions and withdrawals to which it is continually subjected. Howard has conducted experiments showing that a thyroid-epinephrin combination promotes the breaking down of glycogen into sugar, and that a parathyroid-insulin combination has an opposite effect. Nichols and McCann found that insulin and epinephrin had opposite effects on the blood sugar. Burn has shown an antagonism between the hormones of the posterior lobe of the pituitary gland and insulin. Clinically, epinephrin and pituitary extract are employed to counteract the effects produced by the introduction of an excess of insulin into the circulation. Moehlig and Ainslee very recently have demonstrated by experiments that posterior pituitary extract injected into normal rabbits produces as a rule a slight rise in blood sugar, and that the same when injected simultaneously with insulin prevents the fall produced by the latter. Weinberger and Holzman have reported a small series of cases in which they cite a reduction in blood pressure produced by the administration of insulin, and suggest the hypothesis of an antagonistic action between the hormones of the pancreas and suprarenal glands. All of this tends to show that there is possibly some co-operative way in which the special organs are concerned to cause the familiar insulin effects. Clinical experience has taught that certain cases of diabetes are benefited much less by insulin than are others, even when conditions as to diet, age, and general health are taken into consideration.

It is possible, therefore, that diabetes may arise from other causes than pancreatitis, even if we agree to define diabetes as a condition in which an insufficiency of the pancreatic internal secretion is associated with defects of metabol-

ism. I agree with Cammidge, and it has been my experience, that the cases of diabetes that we see today can be divided roughly into two classes: 1. A rapidly developing form of diabetes, encountered in young people, probably due to an absolute deficiency of the pancreatic internal secretion. 2. The more slowly progressing types seen especially in the later years of life, in which an intermittent glycosuria becomes persistent and secondary disturbances of metabolism gradually develop.

USE OF INSULIN

Although scarcely three years have elapsed since insulin came into use, its value in diabetes has become thoroughly established clinically as well as experimentally. It has been found to be of inestimable value in the control of serious acidosis, in the treatment of diabetic coma, and as a prophylactic in surgical procedures. It has restored health and strength to those who were helpless previously, and prolonged life and made it much more enjoyable. However, it should be borne in mind that insulin, apparently, does not cure diabetes. It is a much debated subject as to its possibilities. Some believe that insulin merely supplies something that is lacking in the diabetic patient, and that cessation of insulin treatment leaves the patient in the same condition as he was before. They have reported cases to prove that the carbohydrate tolerance was not raised. Others, however, are of the opinion that some patients show improvement in tolerance following a period of insulin treatment. I have in mind a young man whose daily dosage of insulin has been reduced from 65 units to 10 units during a period of six months. Naturally one would expect recuperative powers to be greater in youthful patients than in the old, but unfortunately, young persons with diabetes are notoriously unreliable in respect to diet.

Insulin should not be given indiscriminately to all cases of glycosuria. We must recognize that there are cases of renal glycosuria which are not diabetes at all and do not need insulin. Furthermore, diet alone is sufficient for a large proportion of diabetic patients in advanced life, and insulin is not needed. Its administration may become a necessity that extends not merely over days or weeks but even over years without interruption. Therefore, the necessity of introducing the hormone into the body becomes a problem of real seriousness.

COMPLICATIONS WITH INSULIN.

Naturally we are all familiar with the classical signs and symptoms of overdose with insulin which means depletion of the immediately available carbohydrate, and promptly relieved by sugar intake. These include pallor, rapid pulse, dilatation of the pupils and profuse sweating which are indications of discharge of sympathetic impulses. But there is another condition, more in the nature of an end result, which has attracted some attention among the profession and considerable concern among the patients. I have reference to generalized edema following desugarization of the urine with insulin therapy. Gibson and Larrimer have recently reported five cases seen in their clinic. I have had three cases during the past year in which this annoying effect of insulin control was observed, and in each instance the administration of potash salts or large doses of calcium caused a disappearance of the edema. The phenomenon is an extremely interesting one and I do not know that anyone has explained it satisfactorily. It may be possible that the patients who react in this manner are those who are undernourished and that the edema is of the same character as that which we used to see in patients who were treated by badly adjusted dietary methods before we had insulin. Some have suggested that the edema induced by insulin is due to incomplete removal of proteins

or other substances from the insulin at the time of preparation. Others hold that it is due to an increased affinity of the tissues for water due to dehydration of the tissues by the polyuria. John recently reported a case in which diabetic coma was complicated by acute retention of urine associated with low carbon dioxide values and edema of the tissues. It may be possible that the edema is due to a combination of these factors producing a faulty salt metabolism, the chief factor being the cation sodium.

CASE REPORT.

I present the following case report to illustrate this condition: S. E., a girl, aged 23, weighing 124 pounds, was admitted to the infirmary January 28 in a condition of diabetic coma due to discontinuance of insulin treatment and abandonment of proper diet. The breath had a heavy odor of acetone and the respiration was labored. Blood sugar content was 330 mg. per hundred cc. Blood pressure was 93 systolic and 55 diastolic.

Consciousness was restored in thirty-six hours following the administration of glucose and 185 units of insulin during this period. She then received an average daily dose of 50 units of insulin for six days: at the expiration of which time, February 5, the blood sugar returned to 135 mg. per hundred cc., and the urine became sugar free. Insulin-Lilly, H-20, was used throughout. There immediately developed an extensive edema of the feet, ankles and face. There were no insignificant cardiac or renal disturbances, and the urine was free from acetone and diacetic acid at the time the edema developed. 10 grains each of potassium bicarbonate and potassium chlorid were given with meals and salt withheld as recommended by Gibson and Larimer. Within 2 days the edema had apparently entirely disappeared and there has been no recurrence. The patient was discharged February 10, receiving 35 units of insulin daily and on a diet of carbohydrate, 49 gm., protein, 73 gm., and fat, 160 gm., totaling 1928 calories.

CONCLUSIONS.

1. Evidence suggests that clinical diabetes is not a disease of constant etiology or pathology, and that it may arise as a symptom complex from other causes than pancreatitis.

2. Insulin should not be used indiscriminately in all cases of glycosuria.

3. Generalized edema occasionally occurs following desugarization of urine with insulin.

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THE SIGNIFICANCE OF EARLY DIAGNOSIS OF DIVERTICULUM OF THE ESOPHAGUS.*

CASE REPORT.

A. L. LEVIN, M. D.

NEW ORLEANS.

In presenting this subject, I have in view the message delivered by Dr. Chas. H. Mayo at a meeting of the Southern Surgical Association in 1922 at Memphis, Tennessee. He then remarked, "Diverticulum of the esophagus, a disease of adult life, is more common than generally realized. If it was regarded as not uncommon, those causing symptoms might be discovered early when the sac is small, or at least before it becomes intrathoracic." Such advice was intended for all students of medicine. The case to be reported was overlooked for at least four years, probably for a longer period. Judging from the history of the case, the trouble existed probably in a minor degree for eight years, became aggravated in the past four years, worse for one year and intolerable for the past six months. Evidently, little attention was paid to two outstanding symptoms, namely: dysphagia with a sensation of a choking lump in the throat and regurgitation of food for hours, mostly at night,

which caused insomnia and exhaustion. A review of the literature on the subject will probably be of interest.

Before the use of the X-rays, facilities for recognition of an esophageal diverticulum were lacking. Bell in 1830, Rokitsansky in 1884, Kluge in 1850, Zenker and Ziemssen in 1881, describe the classification and surgical treatment of esophageal diverticulum. The true esophageal diverticulum was first described by Ockonomides, (1882). There has been practically no pathological anatomical research work done. Ockonomides described the post mortem of an 83 year old woman. It was 8½ cm. above the cardia with a constricted opening and a protruded sac of 6 cm. diameter. Bresch dissected a 67 year old man with a pulsion diverticulum 3 cm. above the cardia, whose walls contained muscle fibres, but was not adherent to any place. Przewaski found diverticula seven times in the lower third of the esophagus, all of which were entirely free from adhesions. Virchow found one post mortem case which showed a diverticulum immediately above the cardia. Bychowsky was the first to diagnose a case of epiphrenic diverticulum. This was the only case for a long time and it was mentioned in all text books as a new form of disease. Fourteen years later, Dr. Spivis of Central America diagnosed it as spasm of the cardia and dilatation of the esophagus. In 1894 Kemperer reported a doubtful case; later on, the report of Zweig's case was a traction diverticulum, 27 cm. from the teeth. The patient had tuberculosis and was treated by artificial pneumothorax. Prior to 1917, there had been 25 cases of this condition diagnosed in the Mayo Clinic, while in that year there were 10 more. The German article on this subject for 1924 mentions that so far a total of 21 cases have been described.

Definition. Diverticulum means a circumscribed dilatation.

Occurrence. It is more common in men than women, the ratio being about four to one, and in those who have artificial teeth.

*Read before the Orleans Parish Medical Society, New Orleans, December 14, 1925.

Classification and causative factors. Diverticula are divided into pulsion and traction diverticulum, according to the factor causing it, pulsion or traction. Zenker's pharyngoesophageal diverticulum is the type. It is usually called by the name of the part in which it is found. It occurs most frequently at the entrance to the esophagus between the pars obliqua and pars fundiformis. They also occur along the whole esophagus between its beginning and cardia, and are called epibronchial or epiphrenic, according to their position above the bifurcation of the trachea, or above the surface of the diaphragm. The

None of these forms should be confused with the true pulsion diverticulum. Both forms have characteristic properties in common, such as distance from the teeth, and the occurrence over a smooth annular muscle capable of spasmodic contraction over the cardia and over Killion's esophageal mouth. It seems very probable that the pressure of food upon a congenitally weak part of the muscles causes a rupture between two layers when the muscle is spastically contracted and a mucous "hernia" is produced, which is gradually enlarged by pulsion. Small diverticula may consist of mucous membrane, while larger



Fig. 1. Aesophageal Diverticulum immediately after barium was given.

epibronchial diverticula, located in the middle part of the esophagus are traction or traction-pulsion diverticular; they are caused by external tension, such as adhesion of surrounding tissue which have shrunk away and formed a pouch at the point of adhesion. Pressure from within later on enlarges the sac, so that it becomes a traction-pulsion diverticulum. Inflammation of lymph glands will often act as a factor. Secondary pulsion diverticula may develop from any scar tissue in the esophagus wall which may present a locus minoris resistentiae. In organic stenosis, a diffuse dilatation of the esophagus usually develops.

ones also have muscular tissue in their wall. The increase in size of the sac is also caused by the negative pressure on the inside of the thorax. Another favorable condition for the beginning of such a diverticulum is the swallowing of large insufficiently chewed chunks of food by toothless individuals and rapid eaters. A diverticulum breaks through the posterior wall of the esophagus and presents a mouth and a sac. The sac can only increase in size towards the right, the back and below, because the vertebral column is behind and the heart and the aorta are in the way in front and to the left.

Size. The volume of the sac varies from 100 to 300 c.c. Reichman reported a case with a volume of 500 c.c.

Symptoms. The history is usually one of long existing trouble, and the phenomena are at first those of irritation, later on of stenosis and finally pressure symptoms develop, when it becomes a serious sickness. At first, the patient may present symptoms of cardiospasm. After some time, the patient has occasional difficulty in swallowing. He feels as if a mouthful of food lodges in the esophagus, pain may be present. The dysphagia increases and regurgitation of food or vomiting ensues. The food is

ation, which is quite a serious matter. Rectal feeding may be employed, nourishing liquid food in small quantities should be given. Washing of the esophagus is a good palliative measure.

Case Report. The following case came under my observation October 20, 1925. C. K., male, age 64, retired merchant.

Chief complaint. For the past 4 years he noticed that often he has difficulties in swallowing food, that he had to take water frequently with meals. The condition became aggravated during the past year. He began to suffer with choking spells which would come on mostly towards evening or sometimes at night; that after taking food, he experiences a feeling as if the

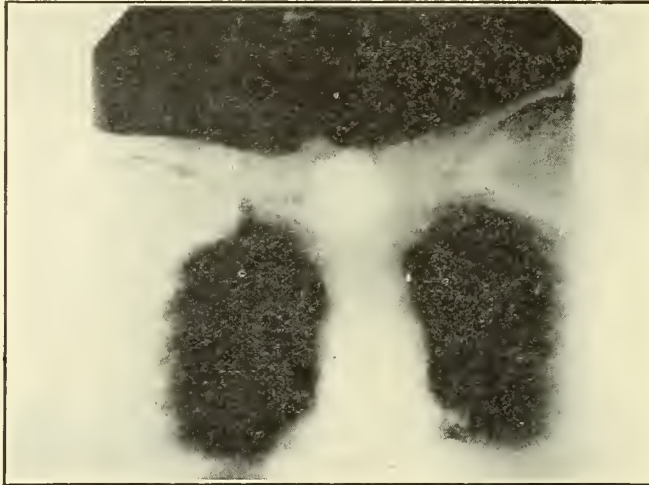


Fig. 2. Aesophageal Diverticulum, 3 to 6 hours retention.

usually the kind eaten hours or days previous. Gastric and cardiac disturbances with insomnia cause loss in weight and general weakness.

Diagnosis. A history of that kind is sufficient evidence to suspect a diverticulum of the esophagus. The radiologist in this instance is 100% perfect.

Treatment. Bassler writes as follows with regard to treatment: "Small diverticula which cause no trouble might best be left untreated. When they are large enough to cause symptoms, they are operable cases." Feeding through a tube may be practiced as a preparatory step to oper-

ation, which is quite a serious matter. Rectal feeding may be employed, nourishing liquid food in small quantities should be given. Washing of the esophagus is a good palliative measure.

Previous personal history. Eight years ago, he suffered from a nervous breakdown following the death of his wife. He recovered after a rest of two months. From that time on, he began to suffer with indigestion manifested in the following manner: Pain in the lower abdomen off and on, cramplike in character, which would last for about 24 hours. Chronic appendicitis was suspected. Four years ago, he suffered an attack of acute abdominal pain with temperature. He was admitted to a local hospital where an X-ray

diagnosis of chronic cholecystitis probably with stones was made. Surgical intervention was advised, but he refused. Several years ago, he developed precordial pain and slight dyspnea on exertion and was treated for heart disease for over one year.

Family history. Father died at age of 67, mother at age of 72; cause of deaths not known. Three brothers. One died at age of 11 from dysentery, one died at age of 45 from cancer of throat, one died at 57 from stomach trouble. Two sisters living; three dead, causes unknown. His first and second wives died of cancer of the uterus and breast.

History of present illness. In the last several months, his throat condition became intolerable; he could not sleep on account of vomiting quanti-

pecially on deep inspiration. Spleen not palpable. G-U system not examined. Patellar reflexes normal. (Urinalysis)—Spec. gr. 1008, acid reaction, cloudy, straw color, faint trace of albumin, no sugar, no indican, no bile, no blood. Microscopically—innumerable pus cells, epithelial cells, no casts. Gastric lavage was attempted but tube could not be introduced further than 18 inches. Vomited egg eaten the day before. Several days later, another attempt was made to enter the stomach but was unsuccessful. A week later a third attempt was made and at this time the tube entered the stomach. A quantity of fermented food was obtained. HCL was strongly positive. A diverticulum of the esophagus was suspected the first day of the examination and an X-ray was made immediately. The report is as follows:

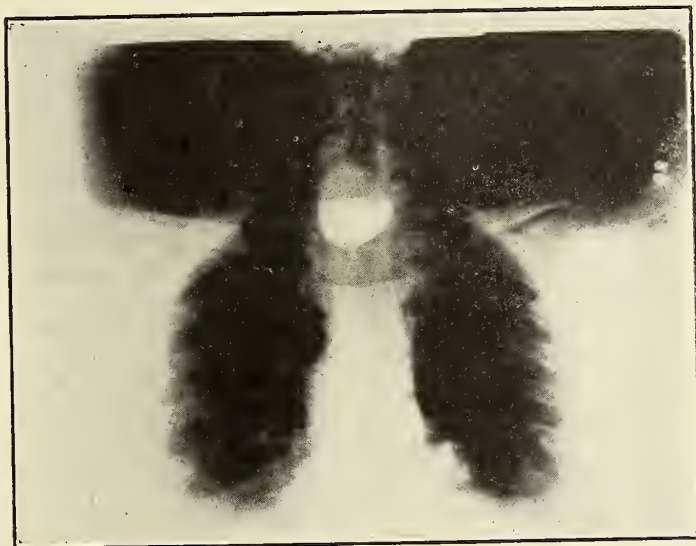


Fig. 3. Aesophageal Diverticulum, 4 days retention.

ties of tenacious mucus mixed with food. He would suffer from this more at night than during the day. He was treated for indigestion for one year and was getting constantly worse. He started to lose weight from lack of sleep and lack of nourishment and was in constant fear of choking to death.

Physical examination. Well nourished and well developed, weighing 202½ lbs. General condition good, skin clear. (Head and Neck—Artificial teeth, negative otherwise. Glands not palpable. (Circulatory system)—Pulse regular, good volume but easily compressible. (Heart)—Definite cardiac enlargement both ways, sounds are weak and distant, no definite murmur. B. P.—S. 120, D 80. Chest normal in shape. Lungs, moist rales of both bases. Abdomen—No sensitive areas, no palpable tumor. (Liver)—Palpable edge, es-

Esophagus—There is a large pear shaped diverticulum of the esophagus at the level of the 7th cervical vertebra. Its position is in the midline posteriorly. The lumen opens into the esophagus at the upper point of the diverticulum.

Stomach—Filled normally under fluroscope.

Duodenum—Filled and emptied normally.

Caecum—Normally filled. A large irregularly filled appendix is noted, tender on palpation.

Colon—Spastic.

Conclusion. Diverticulum of the esophagus.

Patient was put immediately on liquids. The regurgitation of food, the choking sensation and vomiting of mucus ceased. A small thread was swallowed and it passed through the intestinal

tract in four days. Dr. Rudolph Matas was called in consultation to consider the advisability of surgical intervention. Esophagoscopy was done by Dr. Lynch with the following results: The esophagoscope entered the sac which looked granular and red. There were evidences that the sac is adherent to outside structures. The esophageal opening could not be easily located.

Blood Chemistry: Total N.P.N. 35.1; U.N. 17.5; C. 1.5; Uric Acid, 4.2; Dextrose 106. Blood count: R.B.C. 5,200,000, whites 7,960; differential: N. 63, S. L. 30, L. L. 7, E. O.; P.S.T. 1-25%, 2-25%.

A second X-ray was made with the following report:

The barium meal was administered to the patient and opposite the upper dorsal vertebrae, a large saculation is observed in the esophagus which retains a large quantity of the barium. A. P. and lateral views of the chest present barium shadow in the esophagus, approximately the size of one dollar and the esophagus below this point appears normal. Marked hypertrophic arthritis is observed in the spine.

Conclusions: Diverticulum of the esophagus, with marked barium retention. Hypertrophic arthritis of the spine. Additional fluoroscopic examination will be made with tube in place. Barium is still retained in the diverticulum of the esophagus after four days interval.

The history and the stomach tube gave the real clue to the true nature of the trouble in the above case. The X-ray was a confirmative step. Surgical treatment of the case is contemplated. At present, treatment consists of nourishing liquid food in small quantities, but often. The silk thread is probably of some value. The liquid nourishment enters better the esophagus along the silk thread. It was introduced mainly as a guide for the surgeon. He is perfectly comfortable; the regurgitation of food has ceased entirely, not even mucus is brought up. He sleeps all night. Following this plan of treatment, a second X-ray was made which shows definitely that the sac is smaller. The patient is so satisfied with this plan of treatment that he is questioning seriously the advisability of undertaking such a serious operation.

Conclusions. The lessons drawn from this case are:

(1) The importance of listening carefully to the patient's history of the development of his illness.

(2) The significance of adopting the use of the stomach tube more often.

(3) The vital importance of intelligent co-operation of the radiologist.

(4) Great emphasis should be laid on the value of esophagoscopy as an important diagnostic agent.

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DISCUSSION.

Dr. S. K. Simon (New Orleans): The X-ray has proved to be the greatest asset in the diagnosis, not only of diverticula of the esophagus, but of the entire gastro-intestinal tract as well. In the light of radiological findings in this field, diverticula of the alimentary tract, in fact, have been found to be of common occurrence. Diverticulosis of the stomach is rare, but the frequency of diverticula in the duodenum has been recounted and summarized in a recent article by Case and others. Again, in the large bowel multiple diverticula are by no means uncommon. A very excellent presentation of the last named type was given at the recent meeting of the Louisiana State Medical Society. The small di-

verticula of the large bowel play a minor role in clinical medicine, and are the outcome as a rule, of a prolonged state of constipation with the resulting strain upon the bowel wall. The larger diverticula of the bowel, such as the Meckel type, are probably always congenital in origin.

In the esophagus, as Dr. Levin states, there are two forms. (1) The form known as pressure diverticula. This arises at the junction of the esophagus with the pharynx, and occurs most commonly in males. In the advanced stages, the diagnosis of this type is not difficult. In most instances a tumorlike body makes its appearance on either side of the neck, gradually enlarges and may eventually reach considerable size. The original cause lies in a congenital weakness of the muscular stricture of the parts. As the individual advances in age, the weakened area dilates progressively under the pressure of respiratory strain. Excessive strains such as cough, playing of wind instruments, etc., hastens the development of the diverticulum. In many instances, the newly formed sacs never reach large size, and often remain unnoticed by the patient. Of course, when the diverticulum becomes tumorlike in dimension, and produces definite symptoms, as in Dr. Levin's case, they become decidedly pathologic. Their size may so increase that they subsequently obstruct the esophagus by pressure from behind. Apart from this possibility, the regurgitation of the swallowed food, the fetid odor of the breath, etc., are symptoms commonly noted, as brought out by Dr. Levin.

(2) The traction diverticulum which occurs usually at the level of the bifurcation of the bronchi. This is produced by the cicatrization of bronchial glands, as a result usually of tuberculous infection. The scar tissue results in traction upon the esophageal wall with the eventual formation of a new channel or diverticulum.

Treatment of the esophageal diverticulosis depends upon the size and the location of the lesions. Medical treatment is at best symptomatic, so that surgery offers the sole hope for cure. Traction diverticula are practically inoperable. Pressure diverticula on the other hand have been successfully handled by operation, especially if recognized early before they have attained too great a size.

The tumor in Dr. Levin's case occupies an unusual location in the midline of the neck, rather than upon the side. The one question I might ask of the doctor is why a guide thread is allowed to remain in the patient's esophagus permanently. Frequent dilatations with bougies certainly cannot attain any useful purpose under present circumstances, unless obstruction exists.

Dr. A. L. Levin (closing): I want to thank Dr. Simon for his very fine and valuable discussion of my paper. In answer to his question as to why I use the string in this case, I wish to state that the string is being used only as a guide, as per the suggestion of Dr. Rudolph Matas, who will undoubtedly have charge of the surgical side of the case. The string will be used as a guide to find the distal opening of the esophagus. A perforated bougie will be passed into the esophagus, and with the string as a guide the surgeon will be able to locate the sac easily. It can also be used at present as a guide to stretch the entrance at the distal end of the esophagus.

I have reported this case for the simple reason that the sac as shown in this case in the middle is rather unusual, as Dr. Simon remarked. As a rule the diverticulum is found on the side.

I wish to emphasize again the importance of taking a careful history of a case. In this instance the history and the stomach tube made the diagnosis, which was confirmed by the X-ray.

MONROE AND OUACHITA PARISH WELCOME YOU

The Ouachita Parish Medical Society in their invitation to the Louisiana State Medical Society, to meet in the city of Monroe at their annual session April 15-16-17th, 1926, did so after absolute assurance from the citizenship, of their hearty co-operation in the making of the moments spent with us, in this annual session for the Doctors in attendance, the most vivid experience of professional hospitality since the days recorded in mythological medicine—referring to the reverence everywhere accorded to the man of medicine.

The Ouachita Parish Medical Society invites you, together with the citizenship of Monroe, and since this is true, we feel that you would be interested to know something of the facts regarding our city, which is the second oldest in the State of Louisiana, and filled through legendary history with love and romance, from the days of our aboriginal population. With many places you can tell exactly when they first began, but with Monroe, this is not so. No one knows when the earliest white settlers came into this section of the State, but it is more than probable that the first to come were traders and trappers, who roamed and lived among the Indians and led the wild lives of pioneers, whose chief object was to buy from the Indians either skins or furs of bears, wolves and beavers.

The first authentic statement which we have as to a settlement here tells us of a trading post or camp at this point which was called Prairie Des Canots. It is supposed to have been so-called by the early French traders, because, this point being high enough to be above overflows, they could leave their canoes here and catch their provisions when they went off on their hunts or trading expeditions among the Indians in the surrounding country.

Another theory as to the settlement of this section is that the first settlements were made by refugees from Natchez after

the fearful massacre of the whites at that place by the Natchez Indians.

History tells us that in 1783 Don Juan Filhiol, having received from Don Estovan Miro, Governor General of the territory of Orleans, his commission as Commandant of the district of Ouachita, embarked with his family and servants at New Orleans and made his way up through the Mississippi, Red and Black Rivers, into the Ouachita and finally came to this point. He was traveling in a bateaux, a kind of canoe, and necessarily the journey must have been very slow and laborious. He did not remain here very long but went up the Ouachita River to that place which we now know as Camden, Arkansas, but which was then called Echo A Fabry. It is said that he found the whole country along the upper stretches of the Ouachita River overflowed, and not caring to settle where such conditions existed, he turned and came back down the river until he again reached this place, and here he made his permanent settlement, giving it the name of Ouachita Post.

It is hard to realize that at that time, only 136 years ago, this whole section swarmed with Choctaw Indians and soon after Don Juan Filhiol made his settlement, the people or habitants, as these Frenchmen called themselves, begged of the Governor to build them a fort, claiming that it would give them an assurance of safety to feel that when they were off at their work, their women and children would have a place of safety in case of a sudden attack.

The Commandant made application to the Governor for permission to erect a fort, and in the records of our court house we find given complete details as to the structure, which was built, and its place of location. This fort was located between our present court house square and the river bank. It was rectangular in shape, having a frontage of 190-ft. and running back 150-ft. thus making a circuit of 680-ft. and inclosing within its limits a block

house as a place of refuge for the inhabitants and also the residence of the Commandant. All of this was inclosed by a wall made of white oak or cypress posts 12-ft. high.

Another old Act, or Ordinance, which was issued by Don Juan Filhiol, the Commandant, should be of interest to us as it is possibly the first effort of temperance or prohibition by law in Louisiana. The following is an exact translation: "Having examined the prayer of petitioners and having respect of justice of their petition, all persons are from this day prohibited to sell, exchange, give or make to drink, any strong liquor, of any character, to savages within the dependence of this post, under whatever pretext this may be. They shall be under penalty of \$25.00 fine for the first offence, one-half of which shall be paid to the informant, the other half to the public works. On a second offence of the same kind, the offender shall be condemned to the same fine and driven from the post, being regarded in such case as a disturber of the public peace. Published at Fort Miro the 1st day of June, 1792. Signed, Filhiol."

By 1805 the fort was being no longer needed, seems not to have been preserved, and we find at this time, by an Act of the Territorial Governor of Louisiana, Fort Miro, as this place continued to be called was selected as the seat of Justice of the

County of Ouachita. In 1816 John Filhiol, then called, instead of Don Juan Filhiol, made a formal donation of the present court house square to the Parish of Ouachita, and this donation was formally received by the Parish Judge and police jury.

Soon after this the first court house, a primitive structure of logs and boards, was built, and must have stood very nearly where our present court house stands.

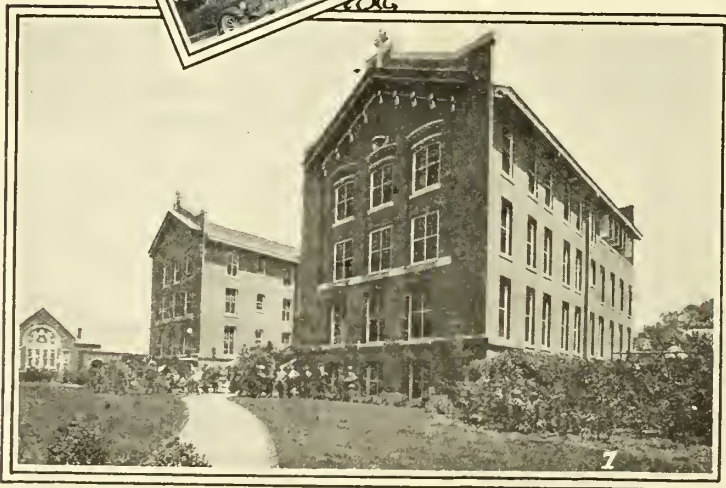
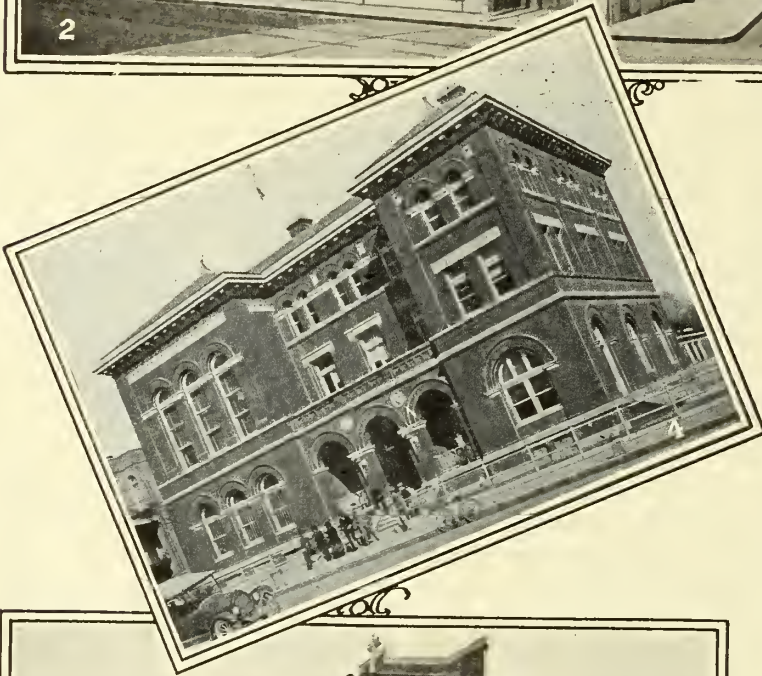
It is needless to say that the little settlement continued to live, but grew very slowly. The name gradually changed from Fort Miro to the Post, or town of Miro. It is said that the place received its present name of Monroe about 1819 when the first steamboat came up the Ouachita River. The boat was called "Monroe," in honor of President Monroe, and the people were so delighted with the appearance of this wonderful new invention that, after having attended a ball and great demonstration on board the boat, they decided to change the name of the town to Monroe, and so it has continued to be called.

Today finds Monroe a modern city. It is the largest city in central North Louisiana. The Parish seat of Ouachita and the community center and business hub of a large territory that it highly productive and one that is fortunate enough to have a large diversity of industries, namely, agriculture, lumbering, minerals, natural gas, and manufacturing.

Monroe is located on the Ouachita River, a year-round navigable stream, which provides water transportation to the ports and markets of the world.

Four railroads serve Monroe. Two of which are trunk lines, the Missouri Pacific, which runs North and South give connection with Chicago, St. Louis and cities of the North and the port of New Orleans on the South. The Vicksburg, Shreveport and Pacific runs East and West and connects with Texas in the West, and Birming-





Top—Masonic Temple. Center—Post Office.
 Bottom—St. Francis Sanitarium.
 Monroe, La.



Central Savings Bank and Trust Co., Monroe La.

ham, Atlanta, Washington and New York City. The Little Rock and Monroe, the latter a branch of the Missouri Pacific, runs through the gas fields into Arkansas, and together with the Arkansas, Louisiana and Missouri railroad furnishes most adequate railway connections.

Splendid motor highways link Monroe with the rest of the country and serve adequately all who wish to travel by motor car in this way.

Monroe is indeed a modern city and has kept pace with the times and is far ahead of many cities of much larger population. With its wonderful hospitality, it is a most pleasant place to live, being imbued with that element of culture and refinement that has so characterized the citizenship through its ages of history.

Monroe invites you,—the Doctors of Medicine of the great State of Louisi-

ana, the Doctor's wives, their families, and sweethearts. The stage is set, the program made, your entertainment is assured. We want you to come. We want you to come and see for yourself. Come and talk to our business men, our manufacturers, our home-owners, our merchants, our bankers, visit the Salt-Water Natatorium, bathe in the medicinal hot salt water, play golf, go boating, and enjoy yourself. We want you to meet the profession of Monroe,—the men who are doing the Medical and Surgical work of this community. Visit them in their offices, in the Hospitals where we feel justly proud of the work that is being done. Meet them in their homes. Meet their wives and families. And above all attend the Scientific Sessions which, according to the Program and Arrangement Committees will be the most elaborate of any Session in the history of State organization.

NEW ORLEANS Medical and Surgical Journal

Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

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Oscar Dowling, M. D., *Chairman*

For two years, H. B. Gessner, M. D., *Secretary*

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feld, M. D., *Vice-Chairman*

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GETTING OUT THE JOURNAL.

Getting out this Journal is no picnic.

If we print jokes, folks say we are silly.

If we don't, they say we are too serious.

If we publish original matter, they say we lack variety.

If we publish things from other journals, we are too lazy to write.

If we stay on the job, we ought to be out rustling news.

If we are rustling news, we are not attending to business.

If we don't print contributions, we don't show proper appreciation.

If we do print them, the paper is filled with junk.

Like as not some fellow will say we swiped this from another journal.

And we did.

JOIN YOUR STATE SOCIETY.

There are many reasons why every physician in the State should join the Louisiana State Medical Society and attend the annual meetings.

First, to get new inspiration from the magnificent array of talented men whose loyalty and devotion to medical science, art and research work has been the means of bringing to light so many hidden truths, and who are so thoroughly imbued with that unselfish motive of imparting to others the fundamental facts which are so necessary to keep the fires of our ambition burning. They will be there from all parts of the country, enroute to Dallas to attend the A. M. A., and they will tell you something that you should, but perhaps do not, know.



Second, to encourage medical organization. Do not indulge in the old slogan "Let George do it"; remember that our Medical Society is the super-structure of the inevitable success of our noble calling. It is the clearing house to pass upon the worthiness of applications and to check upon the deeds, acts, and attainments of all of its members. It is a postgraduate school in which you are all stockholders. Your annual dividends are paid, not in cash, but in the rich endowment of scientific achievement, which may not only redound to your own glory but may be the means of saving a community from some impending malady or, more important still, the saving of life itself. It is the lighthouse flashing its burning rays over the reefy coast of incredulity, endeavoring to shield the public

from the throes of fraud, heretics and charlatans.

Awaken your slumbering opportunities and manifest your loyalty to your profession by joining the magnificent galaxy of doctors—twelve hundred strong—and meet us in Monroe, where a splendid program is awaiting you.

Third, you should be a member of the State Society because it is the contact, or fuse as it were, that connects us with the A. M. A., a Federacy of Ninety Thousand Members, and in the language of Dr. McVey, "An organization of prodigious potentiality."

Fourth, because it offers a wonderful opportunity to cultivate the benevolent features of fraternal association for, after all, we are founded on the basic principle of brotherly love, and these annual meetings renew old allegiances, and a spirit of co-operation reconsecrates our lives to renewed efforts to accomplish more in the future than we have in the past.

Fifth, it would be an incentive to renew our obligations to the code of ethics if perchance there are any delinquents in this respect.

Sixth, it would entitle you to protection in the medical defense fund, which sooner or later might become a vital factor in our professional activities.

Seventh, since you are one of the exponents who, by reason of your profession, has obligated yourself to render your best services in practicing the principles of preventative medicine, you should enlist in the organized effort to have enacted and maintained such constructive legislation as would enable the profession to accomplish

these purposes; otherwise, you are recalcitrant in duty to your neighbor, your brother practitioner and yourself.

Eighth, you raise your standing in the community, professionally speaking, and command a greater confidence of your clientele because they feel that your efforts are progressive.

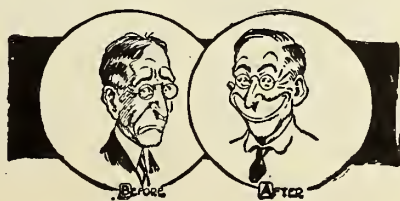


There are reasons ad infinitum why every reputable doctor in the State should become a member of Organized Medicine, but we feel that those mentioned will suffice to remind you that a duty as well as a pleasure awaits you at Monroe.

There is another reason—and this should appeal to members as well as non-members—and that is, to show our appreciation of the splendid effort that the Monroe doctors are making for our entertainment. We understand that the program is almost complete and that it will be one of the best in the history of the Society. Monroe is a live town and has a bunch of 'live wires' to handle the meeting, and remember, too, that we will have a lot of outside talent injected into the program, which feature alone will be well worth your time. So let us all get together and act under the stimulus of "He profits most who serves best."

"LO STUDENTE."*

Only too rarely do we find the physician invading the realms of literature or poetry. Few indeed have been the names which one might care to place along side those of Oliver Wendell Holmes and S. Weir Mitchell. Engrossed by the tribulations of his calling, it is hardly to be wondered at that



*"Lo Studente," by Dr. Samuel Walter Kelley, 1925, pub. C. Hauser, Cleveland, Ohio.

so few medical men either find time or inspiration towards literary efforts. When, however, we do come across such labors of love, they are usually worth more than passing comment. Dr. Kelley's recently published masterly effort in poetic imagery entitled "Lo Studente" is no exception to the rule. His versified description of a wanderer's pilgrimage through Italy and his accounts of the city of Florence in particular are truly fascinating. His philosophy is convincing throughout the poem—narrative and in no place more human than where he says:

"Men are the authors of their miseries,
Not Nature is at fault so much as man;
Less often harvests fail than misers hoard;
There is enough if only it were shared;
Earth never yet had lack of room for sleep,
Why then should neighbors wrangle for a grave?"

Although Dr. Kelley has contributed widely to the literature dealing with early history of the American physician, a unique biographical account of distinguished French physicians, and several books of poems, his chief interest has always been the surgical diseases of children. A text-book on this latter subject first appeared in 1909 and the second edition was printed in 1914. Another work, "About Children" appeared in 1897. Both of these medical contributions have brought forth much favorable comment and have been widely read. Out of his own vast clinical experience he wrote, his books based on the pathology and physiology of child life. He is credited with being a pioneer writer on the surgical diseases of children by many authorities. He practices pediatric surgery in Cleveland at the present time, has served organized medicine in various capacities and is ever identified with movements that tend to advance problems of community health.

We welcome "Lo Studente" as a work worthy of perusal by the tired doctor, of an evening by the fireside, who seeks to be entertained, as well as for the medico who

really loves good literature for its own sake.

JOHNS HOPKINS.

On February 22, 1926, Johns Hopkins university celebrated its half-century anniversary with an announcement of an impending return to its first principles of graduate instruction and research. The first two years of its present curriculum will be abolished and devote itself to research and preparation for research.

When the vision of President Frank J. Goodnow and its board of trustees has been realized, Johns Hopkins will grant doctor of philosophy and master degrees only outside of its medical and engineering schools. No date has been set for the change. It is estimated that an additional endowment of at least \$600,000 will be required to put the plan into effect.

Fifty years ago, when the university's first president, Daniel Coit Gilman, was inaugurated, the trustees determined to devote the resources of Johns Hopkins to graduate education and research—at that time regarded as a new and important venture in American education.

Research having enlarged the boundaries of knowledge, including in collegiate as well as graduate teaching much that was unknown fifty years ago, the statement continues, curricula have been expanded and Johns Hopkins among other universities has extended its activities to include fields not associated with research and preparation for it, with the following results:

Graduate schools which should emphasize freedom of teaching, personal contact between teacher and student and stimulation of independent thought have been invaded by methods more appropriate to college instruction. The student preparing for research work is required to spend too many years in general study before he begins to concentrate upon productive work.

MEDICAL ADVANCEMENT IN LOUISIANA.

To The Editor:

Thirty years ago even intelligent people outside the borders of Louisiana believed that it was a land of wigglers, alligators, malaria and yellow fever. They warned against making one's home in Louisiana and such advice often had a depressing effect.

However, a year of residence brought conviction as to the delightful climate and many other natural blessings. Those who can look back thirty years will recall the visit of the late lamented Dr. J. N. McCormack, who represented the American Medical Association. He visited almost every large city in the State delivering addresses against practices in violation of medical ethics and giving instruction as to the means for the betterment of health. I recall having sat two and one half hours one afternoon listening to Dr. McCormack's delightful talk; it was before an audience of possibly 400 and I do not believe that even at the end of two hours there was a person weary of listening.

It was following this a movement was started which resulted in the last of the advertising specialists in the State. The trenched these advertising specialties were files of the newspapers will show how entrenched these advertising specialists were which gives evidences of the strength of the movement that was started on this visit of Dr. McCormack.

In 1910 Louisiana had not even been considered by the Bureau of the Census for admission into the Registration Area. As a matter of fact there were not over 8,000 deaths registered in the entire State and very, very few births except in the city of New Orleans. Upon appointment to the presidency of the State Board of Health my first official letter was an appeal for

the reporting of births and deaths and in this letter the assistance of women's organization was solicited. With the assistance of the Postmaster General, the postmasters in the State and the police juries of sixteen parishes a partial system of reporting was established, the postmasters becoming local registrars. The sixteen parishes paid for the certificates. This was an entering wedge and finally the Legislature made mandatory this payment of twenty-five cents a certificate to the doctor in addition to the registrar by the local authorities of the parish and the city.

Eight years ago a narcotic survey was made of the State and it was most astonishing to find the recklessness with which some physicians prescribed narcotics. Many with no inclination to violate any law or regulation but to meet the wishes of relatives, friends or those who made an appeal for the drug. Fortunately now the law is a greater protection to the physician and the druggist than it was formerly and they may refuse in good faith to prescribe narcotics or the physician may prescribe in good faith when he knows it is required for the mitigation of suffering from disease. The registration required by the Internal Revenue Department of physicians who need to use narcotics is also a protection to them and one that is welcomed by the physician or druggist who is law abiding.

Later the controversy concerning the therapeutic value of whiskey arose. The records show that on two referendums a majority of the physicians of the Southern Medical Association held that it had no therapeutic value, but many other physicians are of a different conviction. In fact one reputable and noted physician is known to have said: "I give whiskey as a preventive and feel that I have a right to do so." The regulations regarding this subject are equally as protective as those concerning the prescribing of narcotics and

are equally appreciated by men who hold it a duty not to violate the law.

Why we should obey the laws requiring complete and accurate reporting of births and deaths, and a minimum use of narcotics needs no argument. The reasons are well known and violations are not a credit to the small percentage of physicians who refuse to obey. In the recent check some states in the Registration Area have not shown 90 per cent of deaths reported. It would

be a great blow to the health and medical advancement of Louisiana to fall short of the required number. This is one more plea for co-operation in fulfilling the requirements accepted by the civilized nations as essential and imperative to advancement.*

Cordially yours,

OSCAR DOWLING, M. D.,
President, Louisiana State Board of Health.

*See table opposite page 651.



TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of March there was held one meeting of the Board of Directors, one Scientific Meeting and one Joint Clinical Meeting with the Charity Hospital Staff.

Dr. Aldo Castellani who was elected to Active Membership has qualified. Drs. George D. Feldner, Julian H. Lombard, Warren L. Rosen, John F. Smith and Isidore Zweigel who were elected to Interne Membership have qualified.

The Board of Directors has decided that the increase in dues which was voted at the last Scientific Meeting in February should go into effect on March 1st. This means that the dues for January and February will be \$1.00 per month and the dues for the remaining months of the year will be \$1.50 per month.

The Board of Directors has ordered \$250.00 to be set aside annually from the recent increase in dues which money is to be used for the invitation of some prominent speaker to deliver an oration to be known as the "Stanford E. Chaille Oration." This oration to be on either medicine or surgery.

A communication from the Illinois Central Railroad is offering 1½ rate fare to Monroe for the meeting of the Louisiana State Medical Society. Full particulars are posted on the bulletin board in the Society Room.

At the Scientific Meeting held March 8th it was extremely gratifying to note the increase in attendance, there being 109 present. The following papers were presented and discussed:

"Addison's Disease," by Dr. I. I. Lemann. Discussed by Drs. R. C. Pigford, J. B. Guthrie, J. N. Roussel and closed by Dr. Lemann

"Splenectomy," by Dr. Isidore Cohn. Discussed by Drs. I. I. Lemann, A. L. Levin, J. H. Musser, Rudolph Matas, Jos. Cohen, Aldo Castellani, F. M. Johns, F. W. Parham and closed by Dr. Cohn.

"Laryngectomy for Cancer of the Larynx," by Dr. R. Clyde Lynch. Discussed by Drs. F. E. LeJeune, Rudolph Matas and closed by Dr. Lynch.

The Hospital Abuse Committee has held two meetings and will evidently have a report for the Quarterly Executive Meeting which will be held April 12th, 1926.

At the Joint Clinical Meeting with the Charity Hospital Staff cases were presented by the following members: Drs. A. E. Fossier, Walter E. Levy, H. Theodore Simon, J. A. Dana, E. D. Fenner, E. L. King, Randolph Lyons, J. Birney Guthrie, R. J. Maihles.

Total membership is 475.

REPORT OF TREASURER FOR FEBRUARY.

Actual Book Balance 1/31/26.....	\$1,913.42
Receipts during February.....	\$ 995.50
<hr/>	
Total Receipts	\$2,908.92
Expenditures	\$ 776.01
<hr/>	
ACTUAL BOOK BALANCE.....	\$2,132.91
Outstanding Checks	\$ 484.00
<hr/>	
	\$2,616.91
Receipts since Bank Balance.....	\$ 111.50
<hr/>	
Bank Balance 2/24/26.....	\$2,506.41

REPORT OF LIBRARIAN FOR FEBRUARY.

Interest in the approaching medical meetings is reflected in the constant reference use of the Library during the month. Bibliographies have been prepared on subjects as follows:

Pyelography—(1923-25).

Placenta Praevia—(1923-25).

Unilateral Exophthalmos.

Operative Treatment of Urethral Stricture—(1921-25).

Pneumoperitoneum—(1923-25).

Hemospermia.

Enuresis in Children—(1921-25)

Fatalities and Harmful Effects of Pyelography.

Prolapse of Uterus—(1924-25).

Aneurysm of Heart.

Polycythemia Vera.

Seventy-eight volumes have been added to the Library. Of these sixty-four were received by binding, two by gift, through the courtesy of the Medical Library Association, and six from the New Orleans Medical and Surgical Journal, a list of which is given below.

NEW BOOKS.

Francke—Ocular Therapeutics, 1925.

Riley—Faith, Falsity and Failure of Christian Science, 1925.

Boyd—Surgical Pathology, 1925.

Koehler—Therapy of Puerperal Fever, 1925.

Enfield—Radiography, 1925.

Zoethout—Textbook of Physiology, 1925.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY BULLETIN.

Unusual plans have been completed for the Annual Meeting of the Louisiana State Medical Society at Monroe, and we feel assured that we have prospects of one of the finest Scientific Programs ever enjoyed by our members. The social and other entertaining features have been perfected, and if we may judge by the expression from the physicians of Ouachita Parish, those physicians attending this meeting will have the opportunity of enjoying themselves to the fullest extent.

I would desire to call your attention that our President, Dr. E. M. Ellis, has asked that all meetings of the House of Delegates and also the meetings of the Scientific Session of the Convention be opened on time, in order that we may be able to finish our Program. Your co-operation in this regard is earnestly requested, so that the Sessions of the House and the General Meetings may not be delayed. Also you will observe from our program it is very complete all departments, and it would be only by strict punctuality and adherence that same can be satisfactorily completed.

PLAN OF ENTERTAINMENT.

Wednesday, April 14th, 1926, 1:00 P. M.—Luncheon for House of Delegates, visitors and members, by Ouachita Parish Medical Society.

Thursday, April 15th, 1926, 1:00 P. M.—Luncheon, St. Francis Sanitarium.

Thursday, April 15th, 8:00 P. M.—Saenger Theatre. President's Address, Dr. E. M. Ellis, Crowley, La. Address, Dr. Rudolph Matas, New

Orleans, President, American College of Surgeons. Address, Dr. W. D. Haggard, Nashville, Tenn., President, American Medical Association. Address, Dr. Will J. Mayo, Rochester, Minn., Ex-President, American College of Surgeons.

Friday, April 16th, 1926, 1:00 P. M.—Luncheon, Riverside Sanitarium.

Friday, April 16th, 1926, 8:00 P. M.—Smoker, Virginia Hotel.

HOTELS.

The Hotel Virginia will be the official headquarters for the Louisiana State Medical Society.

SCIENTIFIC HEADQUARTERS.

All official meetings of the House of Delegates and Scientific Session will be held in the New Court Building, in close proximity to the Hotel.

All mail addressed in care of the Convention will be taken care of at the Registration office, and a daily

notice will be posted of all letters and telegrams received.

Information Bureau in Registration Office.

SPECIAL ANNOUNCEMENTS.

MEETING OF RAILWAY SURGEONS OF LOUISIANA.

The meeting of the Railway Surgeons of Louisiana has been called for Wednesday, April 14th, at 8:00 o'clock P. M., in the New Court Building. All Railway Surgeons of Louisiana and all members of the Louisiana State Medical Society are urged to be present at this meeting.



DR. E. M. ELLIS, President

MEETING OF LOUISIANA STATE CORONER'S ASSOCIATION.

The meeting of the Louisiana State Coroner's Association has been called for Friday, April 16th, from 5:00 to 7:00 P. M., in the New Court Building.

LADIES' ENTERTAINMENT.

Many features of entertainment to be announced during the meeting. Friday evening, April 16th, 8:00 P. M., banquet for the visiting ladies at the Virginia Hotel.

GOLF TOURNAMENT.

On Sunday morning, April 18th, following the meeting, there will be a special Kickers' Tournament for all physicians of the Louisiana State Medical Society. All golfers should get in touch with Mr. Leon McHenry, New South Drug Store, Monroe, so that they may be properly entered. Handsome prizes both first and second will be offered.

REDUCED RAILROAD FARE.

Reduced rates to Monroe and return, stop over privilege of ten days, have been arranged with the Illinois Central and Missouri Pacific Railroads. When purchasing your ticket to Monroe, be sure to secure from the agent a certificate of receipt. These receipts should be left at the Registration Office for validation at the time of registering.

MONTHLY BULLETIN OF THE SHREVEPORT MEDICAL SOCIETY, MARCH

March meeting of the Shreveport Medical Society, March 2, 1926, at Charity Hospital at 8 P. M.

SCIENTIFIC PROGRAM.

A Discussion of the Submucous Resection, Dr. L. W. Gorton.

The Value of Total Red, White and Differential Findings, Dr. C. E. Hamner.

Charity Hospital,
February 2nd, 1926.

The regular monthly meeting of the Shreveport Medical Society was called to order by President Crain, at 8:00 P. M. Minutes of the last meeting were read and approved. Forty members were present.

Dr. M. E. Dodd was present in the interest of the Dodd Foundation School for Girls and was given the floor for several minutes before the regular order of business, outlining the object of

the school in its different branches. At the close of his talk, Dr. Knighton made a motion which was seconded by Dr. Butler and passed, that the Society go on record as endorsing and sympathizing with the Dodd Foundation School for Girls and instructing the Secretary to write a letter conveying this message.

SCIENTIFIC PROGRAM.

Dr. Butler gave a very interesting and comprehensive paper, taking as his subject "Pathological Conditions," in which he discussed different phases of cancer. This paper was discussed by Drs. Knighton, Herold, Sanderson, Cassity and Barrow, the discussion being closed by Dr. Butler.

Dr. Rigby gave a report of a number of cases of acute and chronic infections, which were accompanied by mental disturbances. His paper was discussed by Drs. D. L. Kerlin, J. D. Young, and Caldwell.

CLINICAL CASES.

Dr. Barrow displayed several X-ray films demonstrating Pericardial Effusion.

Drs. Scales and Barrow report a case of advanced Carcinoma of the Tonsils with an apparent cure clinically, following heavy Radium and X-ray Radiation.

W. R. Harwell, Secretary.

At the March meeting of the Shreveport Charity Hospital Staff, Dr. S. C. Barrow was selected as chairman for the current year; Dr. J. K. Heard, Secretary. It was unanimously decided to publish a synopsis of the staff meeting proceedings in the New Orleans Medical and Surgical Journal.

Dr. W. A. Stephenson of Oil City (Tulane 1906) died recently in Shreveport following an operation for acute appendicitis.

On March 1st, the DeSoto Parish Medical Society held a well-attended meeting at Mansfield. Due to illness of President Jarrell, Dr. B. D. Cooper presided. Drs. Sanderson and Herold of Shreveport, present by invitation, read papers; the former on "A new method of treating Fractures of the Long Bones," the latter on "Present Status of Insulin Therapy, with report of cases."

A committee of the Shreveport Medical Society, Dr. G. A. Caldwell, Chairman, is arranging for an up-to-date medical library for Shreveport, same to be housed in a part of the Shreveport Memorial Library.

Dr. Alfred P. Crain has been elected President of the Shreveport Medical Society.

Avoyelles Parish Medical Society has elected Dr. G. Randolph Fox, Moreauville, President; Dr. B. J. Lemoine, Cottonport, Vice-President; Dr. K. A. Roy, Mansura, Secretary-Treasurer.

DeSoto Parish Medical Society has elected Dr. H. W. Jarrell, President; re-elected; Dr. Tharp, Vice-President; Dr. D. C. McCuller, Mansfield, Secretary.

East Baton Rouge Parish Medical Society has elected Dr. Robert B. Wallace, President; Dr. W. H. Pipes, Vice-President; Dr. H. D. Bulloch, Secretary-Treasurer, re-elected.

ST. TAMMANY PARISH MEDICAL SOCIETY.

The St. Tammany Parish Medical Society met in regular monthly session at Slidell on Friday, March 12th, with the following members present: Doctors F. R. Singleton, C. F. Farmer, J. K. Griffith, H. D. Bulloch, H. E. Gautereaux, J. E. Pope, R. B. Paine and A. G. Maylie.

Because of the presence of Dr. J. E. Doussan, State Registrar of Vital Statistics, the scientific program was eliminated and the Society indulged in a most interesting, instructive and animated round table discussion, led by Dr. Doussan, on Vital Statistics, and his detailed information, lucid explanations and keen repartee quickly convinced the Society that the State Registrar was thoroughly familiar with and absolute master of the subject-matter.

The next meeting will be held at Mandeville on Friday, April 9th. "On to Monroe, Let's Go."

A. G. Maylie, M. D.

At the regular monthly meeting of the New Orleans Ophthalmological and Oto-Laryngological Society on Thursday night, March 18th, a Symposium on "Ethmoditis and Sphenoiditis" was held. Drs. LeJeune, Hardin, Granberry, M. E. Brown, Homer Dupuy, Granger, Bahn, Dimitry and Daspit read papers. This Symposium will be continued on Thursday night, April 8th, when Drs. Taquino, Fuchs, Lynch, Hume, Upton and Howell will read papers.

DIED. It is with regret that we register the death of Dr. Abraham Nelken of New Orleans, on February 23, 1926. He died at the age of 49—at the height of his prestige as surgeon-urologist. Dr. Nelken had, for many years, been

head of the department of urology, Touro Infirmary, and was a senior urologist to Charity Hospital. He was a member of the executive committee of the American Urological Association.

Born in Natchitoches, Louisiana, he came to New Orleans as a boy and was educated in the public schools here and graduated in medicine from Tulane University.

Dr. Nelken is survived by his widow, who was Miss Lenoa Reiman; four children, Sam, Leonard, Cecile and Fannie; his mother, Mrs. S. G. Gainsburgh of New Orleans; a brother, I. B. Gainsburgh of New Orleans, and four sisters, Mrs. D. H. Stern and Mrs. Albert Schwartz of New Orleans, and Mrs. Sam Fried of Alexandria, La., and Mrs. Jake Damps of Plaquemine, La. To all of these to whom he was dear we extend our deepest sympathy.

THIRD DISTRICT MEDICAL SOCIETY.

The Third District Medical Society at a meeting held in New Iberia, Thursday, March 11th, elected the following officers: President, Dr. H. G. F. Edwards, Lafayette; Vice-President, Dr. H. A. Eldredge, Abbeville; Secretary-Treasurer, Dr. R. D. Voorhies, Lafayette; Delegate, Dr. A. J. Comeaux, Youngsville; Alternate, Dr. C. E. Hamilton, Lafayette. Abbeville was selected as the place for the next meeting. Over forty physicians attended the business session and scientific program at the Knights of Pythias Hall, and the supper which followed at the Hotel Frederick.

Speakers on the program included Dr. H. E. Menage, New Orleans, who gave an illustrated lecture on skin diseases. Dr. Isidore Cohn, New Orleans, spoke on sprains and fractures and illustrated his remarks with lantern slides. Dr. J. E. Doussan of the State Board of Health made a plea for closer co-operation from physicians in the matter of Vital Statistics. It was announced that the Third District led all in the State in the reporting of births and deaths.

ST. MARY PARISH MEDICAL SOCIETY.

The 1926 officers of St. Mary Parish Medical Society are as follows: President, Dr. L. B. Crawford, Patterson; Secretary-Treasurer, D. A. C. Kappel, Franklin; Delegate, Dr. C. M. Horton, Franklin; Alternate, Dr. C. C. DeGravelles, Morgan City. Dr. A. C. Kappel of Franklin asks that you kindly send him at once forms for making out credentials.

IBERIA PARISH MEDICAL SOCIETY.

The Iberia Parish Medical Society at its meeting held December 17th, 1925, elected the following officers: President, Dr. P. H. Boykin, Jeanerette; Vice-President, Dr. H. H. King, New Iberia; Secretary-Treasurer, Dr. W. F. Carstens, New Iberia; Delegate, Dr. P. A. LeBourgeois, Jeanerette; Alternate, Dr. Guy A. Shaw, Loreauville.

FRANKLIN PARISH MEDICAL SOCIETY.

Franklin Parish Medical Society met in regular session March 2nd, and decided to have two regular meetings a year, on the second Tuesday in February and second Tuesday in November. There were eight members present of the twelve enrolled, and there are only four in Parish who are not members of the State Society. The first program will be held on November 9th, 1926.

VERMILION PARISH MEDICAL SOCIETY.

At a meeting held on the 11th inst., the Vermilion Parish Medical Society was reorganized and the following officers were elected:

President, Dr. G. L. Gardiner, Gueydan; Vice-President, Dr. A. A. Comeaux, Abbeville; Secretary-Treasurer, Dr. Thomas Latiolais, Kaplan; Delegate, Dr. Leo. Saporito, Kaplan.

UNITED STATES CIVIL SERVICE
EXAMINATION.

The United States Civil Service Commission announces the following open competitive examinations:

PRINCIPAL SOCIAL WORKER (SOCIAL
HYGIENE).

Receipt of applications for principal social worker (social hygiene) will close April 20. The examination is to fill a vacancy in the United States Public Health Service, for duty in the field, and vacancies in positions requiring similar qualifications.

The entrance salary is \$2,400 a year. After the probational period required by the civil service act and rules advancement in pay without material change in duties may be made to higher rates within the pay range for the grade, up to a maximum of \$3,000 a year. Promotion to higher grades may be made in accordance with the civil service rules as vacancies occur.

The duties are to organize, develop, and carry on methods and programs of venereal disease control, including work in schools and in co-operation with civic and private organizations interested in this activity.

Competitors will be rated on their education, training, and experience; and a thesis or publications to be submitted with the application.

SOCIAL WORKER (PSYCHIATRIC).

Receipt of applications for social worker (psychiatric) will close May 18, 1926. The examination is to fill vacancies in the U. S. Veterans' Bureau, and in positions requiring similar qualifications throughout the United States.

The entrance salary is \$1,860 a year. After the probational period of six months required by the civil-service act and rules, advancement in pay may be made without change in assignment up to \$2,400 a year. Promotion to higher grades may be made in accordance with the civil service rules as vacancies occur.

The duties are to investigate history and environmental conditions of patients; to analyze and submit data to the physician to aid him in arriving at a definite diagnosis and in outlining a course of treatment; to consider, report upon, and treat the social environment to which a convalescent patient may go or be expected to go.

Competitors will be rated on their education, training, and experience; and a thesis or publications to be filed with the application.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. Civil-service examiners at the post office or customhouse in any city.

AMERICAN BOARD OF OTOLARYNGOLOGY.

The American Board of Otolaryngology has arranged for two examinations during the month of April as follows:

St. Paul's Sanitarium, Dallas, Texas, Monday, April 19th, at 9 a. m.

Stanford University Medical School, Clay and Webster Streets, San Francisco, California, Tuesday, April 27th, at 9 a. m.

Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

HOW THE HOME FAILS THE CHILD.

Four-fifths of 400 children brought to Massachusetts "habit clinics," failed to get what a "normal" home should give to them, according to a statement by the Massachusetts division of mental hygiene.

The Massachusetts division assumes that a normal home should give a child not only food and shelter but training in conduct, affection, some of the culture of the group to which he belongs, opportunity for play, companionship with other children. According to this standard only one out of five of that habit clinic children had a real home. In most cases where the home failed the child it was not through poverty, but for spiritual reasons. For instance, of 280 children, 83 per cent received no teaching from their parents of what right or wrong behavior is; 78 per cent received no effective control, nearly 50 per cent lived in homes showing no cultural interests, 41 per cent lacked opportunity for normal play and 10 per cent were unloved.

CHILD SWEATSHOP WORKERS.

One thousand two hundred children in 600 families were found doing factory work at home, according to an investigation by the Pennsylvania Department of Labor and Industry. All these children were under 16, and half were between 10 and 14. Pennsylvania is now attempting to

regulate industrial home work and to protect both the workers and the public by requiring licenses from home workers and granting them only when the law is lived up to.

WHY CHILDREN LEAVE SCHOOL.

Few children "play turant" from school, compared with the number of children staying away from school with the knowledge and consent of their parents.

Investigation of compulsory attendance laws in the State of New York by Teachers' College, New York City, showed this to be the case. The investigators recommended education of the parents rather than police methods with the child.

BOY IMMIGRANTS, AUSTRALIA.

"Big Brother" committees to look after boy immigrants have been organized in Australia, according to the official announcement of the High Commissioner for Australia in London. As soon as a boy arrives he is placed under the care of a big brother who helps him to find employment and undertakes to look after him till he is 21. The boy agrees to follow the advice of his big brother and to put a part of his wages, which are fixed for beginners at 15 s. a week and "keep," in a Government bank.



City High School, Monroe, La.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

To the Mississippi Doctors:

All of us are prone to want to let "George do it," and then condemn George when it is not done as *We* think it should be. This is apropos of county society members and the local secretary. We expect the local secretary to arrange a good program and furnish a splendid banquet for our periodic meetings, and we are usually not disappointed.

At this time of year we expect the secretary to remind us six or eight times that our dues for the current year are not yet paid. This he does year after year, and when the time comes to make his society report to the State Secretary not more than fifty per cent of us have paid our dues.

Along about now the Chairman of some Section asks us to contribute to his program. This we gladly do, and do it well, too, but in a few days after the Section Chairman has sent our name in to the State Secretary as one of his essayists, it is discovered in the office of the State Secretary that we have neglected to pay our dues. Then follows a great deal of correspondence, and some embarrassment, and just before the programs go to the printer our dues are remitted, and we stay on the program.

The local secretary is not to blame for all this delay and useless correspondence. He has already reminded us time upon time, but somehow we just don't do it.

If we want to make a bunch of local secretaries happy next year we can do so by paying our Society and Association dues at the time of the last meeting in the old year. Let's all try that this fall.

T. M. DYE, Secretary.

March 15, 1926.

The annual meeting of the Women's Auxiliary to the Mississippi State Medical Association will be held in Jackson, May 11th, 12th, and 13th, on which dates the Medical Association also meets there. Plans are being made for a very pleasant session, both socially and educationally. Headquarters will be at the Edwards House.

Jackson is centrally located, has ample hotel facilities, a splendid shopping district and many

other features that make it attractive for women's conventions, and it is hoped that a greater number of ladies will accompany their husbands to the meeting of the Association this year than ever before. Furthermore, it is hoped that not one who does come to Jackson will fail to register as a member of the Auxiliary. It will make her visit more pleasant and more profitable in every way.

The DeSoto County Medical Society met on Monday, March 1st, 1926. On the program were the following papers:

"Some Reminiscences," Dr. W. S. Weissinger, Hernando, Mississippi.

"Some Pertinent Remarks," Dr. O. C. Brewer, President, Hernando, Mississippi.

The following officers were elected for 1926:

President, Dr. D. C. Funderburke, Olive Branch; vice-president, Dr. A. F. Weissinger, Hernando; secretary and treasurer, Dr. L. L. Minor, Memphis, Tennessee (re-elected); State delegate, Drs. Coker and Emerson; censor, Dr. A. V. Richmond.

This society meets every other month at Hernando. The attendance and interest are good, but the society hope to do even better in the future.

On Wednesday, March 10th, a staff meeting of the Vicksburg Sanitarium was held. After the Surgical Clinic, operations by Drs. G. M. and A. Street were observed, the Staff reports for the month were read, and the following current cases were discussed: Obscure anemia, pernicious anemia, and destruction by cautery of early carcinoma of cervix uteri, by Dr. G. M. Street; Tumor of cecum, sarcoma of upper femur, and gonococcus septicemia with multiple suppurative arthritis, by Dr. A. Street; After-effects of pneumothorax in a probable tubercular pleurisy, carcinoma of rectum, and exophthalmic goitre, by Dr. J. A. K. Birchett. A secondary infection of the eye following foreign body under lid was discussed by Dr. C. J. Edwards; tape worm in child, found at operation for stab wound of abdomen, by Dr. L. J. Clark; cases of chronic otitis media treated by zinc ionization, by Dr. E. H. Jones. Dr. S. W. Johnston also gave a case report.

BOOK REVIEWS

Ocular Therapeutics: By Ernst Francke, M. D.
Translated by Clarence Loeb, A. M., M. D.
St. Louis. C. V. Mosby Co. 1925.

We are indebted to Dr. Loeb, for having translated into English, Dr. Francke's excellent work on *Ocular Therapeutics*.

The first part deals with the constitutional and general methods employed in the treatment of eye diseases. The author discusses at some length the use of tuberculin which is not surprising, because of its more general employment in tuberculosis of the eye than of any other part of the body. The reason is probably that the general and local reaction can be more easily and thoroughly studied in the eye than elsewhere. The treatment of syphilis with arsenic, mercury, iodides and bismuth is discussed in an interesting and complete manner as are the specific and non-specific proteid treatments and the therapeutic use of light and heat.

The second portion contains an alphabetic classification of medicaments used in ophthalmology arranged in Dr. Darriers' book on this subject. Quite a few proprietary remedies are mentioned which will probably be of little practical use to those American ophthalmologists who are not interested in mystifying their patients with high sounding but insufficient drugs.

The third portion of the book contains the names of ocular medicaments arranged according to their employment in the several diseases of the different part of the eye.

The index is complete and reasonably accurate.

On the whole, this book will serve a very useful purpose as it is the best volume on this subject recently written in English.

CHAS. A. BAHN, M. D.

L'Anatomie en Poche: By Victor Pauchet and S. Dupret. Paris. G. Doin and Cie. 1926.

The pocket edition of the atlas of anatomy, by Victor Pauchet and S. Dupret, is prepared primarily for the medical students use in riding to and from school, for the rapid review of the In-

terne and the Surgeon just prior to an operation.

I fail to find in the tremendous numbers of drawings a single one representing the structures as they are normally found in the cadaver. The illustrations have not been made from actual dissections, but diagrammatic drawings, more suitable for an artist.

The labels and the methods of labelling are excellent.

WILLIAM C. SMITH, M. D.

The Art of Medical Treatment: By Francis W. Palfrey, M. D. Philadelphia and London. W. B. Saunders Co. 1925.

This little volume is devoted almost entirely to the treatment and management of a large group of medical conditions, diagnosis and symptomatology being entirely omitted. The subject matter is presented in a brief, yet sufficiently detailed, manner.

Many of the leading men in the medical profession are given recognition for assistance in revising the sections on the diseases in their various specialties, which doubly assures high authority and reliability.

To all students and practitioners this volume is heartily recommended.

R. T. LILES, M. D.

PUBLICATIONS RECEIVED.

J. B. Lippincott Co., Philadelphia: *International Clinics*, Vol. 1, Thirty-Sixth Series, March, 1926. *The Pharmacopoeia of the United States of America*, Tenth Decennial Revision. "Parasitic Protozoa of Man," by Charles F. Craig, M. D., M. A.

W. B. Saunders Company, Philadelphia: "Facts on the Heart," by Richard C. Cabot, M. D.

P. Blakiston's Son & Co., Philadelphia: "Recent Advances in Obstetrics and Gynecology," by Aleck W. Bourne, B. A., M. B., F. R. C. S.

Miscellaneous: "Psychotherapy: Mental Elements in the Treatment of Disease," by Edward Wyllys Taylor. Forty-Eighth Annual Report of the Department of Health, State of New Jersey, 1925.

REPRINT.

"The Surgical Treatment of Echinococcosis," by H. W. Mills, M. R. C. S., L. R. C. P., Lond., F. A. C. S.

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Bibliography:

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[2] Weeks, V. J., Archives of Pediatrics, Nov. 1925. Vol. XLII. No. 11. [4] Gleich, M., Archives of Pediatrics, 1924. Vol. 41, Page 548.

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MAY, 1926

No. 11

TRUTH VERSUS PREJUDICE.*

C. M. ELLIS., M. D.

President, Louisiana State Medical Society,

CROWLEY, LA.

Mr. Chairman, Ladies and Gentlemen:

The distinction that I have tonight in addressing this Annual Meeting is, indeed, a great honor, and the demands of such an occasion are far more important than one can contemplate, but if my judgment does not misguide me, I feel that a dissertation, blending the truth and facts of the Art and Science of Medicine in the development and progress of our country, would appeal to the interest and reason of both layman and physician.

In order more forcibly to demonstrate the importance of this acclamation, please permit me to indulge briefly in reminiscence of the development of the early history of our own State. Among the states of the Nation there is none that stands out so supreme as does Louisiana; her traditions as beautiful as any pictured by the pen of ancient romanticism. She looms before our eyes in the visions of the past as the Mother of the States, as does Virginia the Mother of Presidents. Louisiana's history and traditions are both varied and picturesque; always tinged with a touch of ancient aristocracy and pioneer rough-heartedness.

Though her history is marked by constant interchange of dominance, we find that throughout these periods her leaders have never lost sight of the true characteristics of genuine statehood. Louisiana in her incipiency was a vast wilderness, undiscovered and undeveloped; her only distinction being the untamed animals that roamed her forests and the unconquerable alligator that hibernates in her lakes and lagoons and claims supremacy of her stagnant waters; her only anthem the warbled notes of her chirping birds.

Then appeared upon the tablets of her history in the form of a redeemer the brave and dauntless DeSota, carrying with him the banner of Spain, with a zeal and determination to conquer and overcome the obstacles with which his adventures were beset. His efforts were defeated, however, by the invincible reaper—death. Her hidden treasures were not to be ignored by this failure, for there soon followed the descent of LaSalle to the mouth of the Mississippi in the year 1682, who laid claim to the vast territory extending from the Great Lakes to the Gulf; from the Appalachian to the Rocky Mountains. There, was born the Louisiana of yesterday. Then came the founding of New Orleans by Bienville, which with its logical position has now grown and taken its place among the great cities of the world.

By this time, as a result of the French and English War of 1763, Louisiana became

*Read before the Louisiana State Medical Society, Monroe, April 15, 1926.

a province of Spain for the reimbursement to England for the loss of Florida. From that time, Louisiana's history remained at a standstill until 1775, when upon the scene appeared the Acadians of Nova Scotia, who gave to Louisiana the beauties of her romance which have been so graphically portrayed by the immortal Longfellow in his poem "Evangeline." Through this period her citizens lived in a state of perpetual peace until her entry into the "War of the American Revolution", in which conflict the true valor of her citizens was exemplified by the heroic deeds of her patriots. Louisiana, at this time, not being a part of the territory of the United States, was later purchased from France during the Napoleonic rule. This acquisition paved the way by which the United States advanced to the Pacific Ocean.

On January 22nd, 1812, this broad expanse of territory, known as Louisiana, was admitted to the Union, and thus took her place among the States of our Nation. The spirit of her people, imbued with the pride of development, rapidly brought this newly acquired territory into her own. Thus, step by step, the dismemberment of this vast domain, once known as Louisiana, has come about, and today she is a modest keystone wedged into the arch of the American Commonwealth, semi-circling the northern shores of the Gulf of Mexico. Yet, reduced in area as she now is, she still looms great; great for her contributions to the written pages of American history; great for her picturesque and dramatic past, and for the traditions that have come down to us from this past; great in all that which any citizenry may take pardonable pride, and which places her among the states that command the spotlight when the stage of our country's past is illumined. Not only has she contributed to science, architecture, law, military science, the American stage and American

letters, but as well to the agricultural side in noble fashion.

What we have just gleaned belongs to the history of the past, but in the Louisiana of today, one might paraphrase the proverb, in speaking of the Eden of the South, "Truth is Stranger than Fiction", for there is no fanciful dressing of facts required to reveal this wonderland in a more alluring aspect than is already her own. Her salubrious climate and the phenomenal fertility of her soil are the fundamental and unimpeachable qualities that are necessary to the upbuilding of a great country. And to these primary factors nature, with lavish hands, has endowed her with the greatest variety of natural resources of any state in the Union. These, as you know, have been and are being so rapidly developed until the wealth from these fields alone has become one of the important assets of the State.

With the great Father of Waters leashed by flood-control, much of the lowland, once anathematized as malarial hot-beds, have come to be regarded as the most fertile part of the State. With this and many other reclamation processes, stimulated by diversified farming, Louisiana is marching to a richer and fuller development. The congenial combination of fertile soil and ideal climate make possible the growing of practically every variety of product within the nomenclature of agricultural science, even the exotic delicacies of tropical fruits flourish here; not only with incredible rapidity but to the highest degree of perfection. Not only this, but everywhere throughout her domain she is traversed with splendid highways and innumerable waterways, which facilitate both her commerce and development. Her fur trade alone is greater than that of Canada; her wild game, which furnish annual entertainment for the sportsmen, is unparalleled; her lumber industry is among the first of the States; and last but not least, her educational advancement

has, in the past generation, been beyond the wildest dreams of the imagination.

Her colleges and universities speak in no uncertain tones of her determination to sever the shackles of tradition and emancipate herself from the ignominious pelf of ignorance and superstition, and among the greater of these institutions is Tulane Medical College—the oldest and best in the South. The truth and knowledge which her teachers have instilled into her alumnae have been great factors in rescuing the State from the throes of plague and pestilence which so often threatened its very existence. Who was called upon when Louisiana, in her swaddling clothes of infancy, was crying out with pathetic voice for some benefactor to fight her battles against invading scourges and epidemics that arose to blight her fair name? Was it the politician, was it the banker, was it the charlatan or chiropractor, or even the military man, clad in all his pomp and glory? No, it was then, is now, and always will be the honest, conscientious and capable physician with unselfish sympathy, armed with the saber of truth and scientific knowledge, who is called upon to go forth and meet the unworthy foe. In Louisiana, as in no other state perhaps, we find in the sacred history of her past, records of such deeds of valor and self sacrifice by members of our profession that will ever inspire the admiration of future generations.

While Louisiana mourns the loss of her loyal sons, she feels that they, like the lowly Nazarene, did not die in vain through their loyalty to science and devotion to duty, and with the revelation of truth against prejudice we have the proud panoplied and picturesque Louisiana of today. Think, if you will of the dark and appalling days when yellow-fever, with its death knell, spread its black banner over this whole Southland, destroying life, depopulating cities, threatening every avenue of commerce; of unknown origin and insidious in-

ception, blighting the hopes of a courageous people; for the want of truth to suffer themselves sacrificed by a hidden foe.

Yellow fever occurred in the United States from 1702 to 1905 one hundred and twenty-five times, the first great epidemic being in Philadelphia in 1794. From 1855 to 1905 there were more than thirty thousand deaths in the city of New Orleans alone. The story of these grewsome days I will leave to history, fading memories and the imagination.

In this, as in all other emergences involving the physical welfare of mankind, destiny decreed that medical science must evolve some process to prevent the tragic visitation every year of this frightful disease, and consequently our government in 1900 named a commission, comprised of Reed, Carroll and Lazear, to go to Cuba where yellow fever was then prevalent among our soldiers, and there study the mode of transmission of this disease from man to man, and while the memory of Jesse Lazear, who sacrificed his life in this experiment, should always be dear in the hearts of his countrymen, the name of Walter Reed, who was Chairman of this Investigating Committee, is one that should be written in letters of gold upon the tablets of medical research and placed in the archives of memory as one who has done more for suffering humanity than any living man. His brief history is replete with the charms of his personality, the modesty of his claims and the magnitude of his achievements. If Louisiana is great today, she owes her greatness in a large measure to this towering genius, whose very soul was steeped with the fires of investigation for living and lasting truths, such as would break the laws of tradition and lead a bewildered people into the light of reason and into a happier land.

So profoundly impressed was the medical profession with the far reaching ef-

fects and the inestimable good of his discovery that, when the jealous hand of death removed him from human endeavors, there was organized a "Walter Reed Memorial Association." This association was empowered to raise a fund, the income of which was to maintain his widow and daughter during their lifetime, and upon their death to be used to perpetuate and immortalize his memory. Thus it is that, everywhere in the mad rush for supremacy, medical science plays a leading role in the fascinating drama of advancing civilization.

The public mind gradually ascended through the ages to this point, prepared to abandon all of the errors of tradition and prejudice and to accept, as you do today, the rational and logical conclusions that medicine is a science grounded upon a knowledge of natural laws; laws fixed immutable and eternal; laws enacted in the courts of omnipotence when the universe was organized; laws which cannot be annulled or deflected by the power or ingenuity of mortal man; a proper conception of the phenomena of these laws, physical and vital, constitutes the basis of that knowledge which is essential to the construction and exercise of rational medicine.

It is your conception of this great truth which brings you here today to join hands with the organized and associated laborers in this vast field of thought and action. Ever since priesthood and superstition began to be eliminated from the practice of medicine, when it was based for the first time on inductive philosophy, it has been a progressive art, and all along the highways of centuries stand the monumental labors of its great pioneers. Step by step the circumference of its influence has widened in the alleviation of human suffering; in the staying of untimely death; in the revelation of anatomy, physiology, electricity, and chemistry; in the establishment of sanitary and hygienic regulations;

in the discovery of the causes and adoption of methods for limiting the sweep of epidemics and contagious diseases.

But the grandest, the most unselfish and far reaching work of medicine has been, and will forever be, its silent and imperceptible influence as a science upon the fortunes and destiny of the human family.

Three thousand years ago, the world was struggling in the thrall of despotism, which only ignorance could make possible; when tradition was authority; when superstition was religion; when the will of one cruel and vicious tyrant was the law of millions, then the only theory of government was the divine right of kings; the principle of law was the oppression of the weak, and the unbridled license and rapacity of the strong. What was it, then, that first touched the real spring of action in the soul of man? It was mind, intellect, thought, honest inquiry after truth of nature and nature's God, which lighted the beacon fires of progress, and like the storm-swept lighthouse on the dark and reefy coast, flashed its burning rays far out across the dreary waste of tradition and superstition.

It has been tersely stated by an eminent historian that the three fundamental errors of olden times, which delayed the progress of man, were the errors which made the people in politics too confiding; in science too credulous; in religion too intolerant. No clearer truth was ever uttered. Through all the ages, along whichever line mind has advanced in pursuit of truth, it has encountered these three opposing forces; always hostile to any survey across the borders of their inherited opinions. When Doctor Harvey in the sixteenth century, announced the startling proposition that the blood was not stagnant in the body, but leaped with every stroke of the heart through the arteries and veins, he was denounced as unsafe and visionary; his friends forsook him in favor of those who were too ignorant to discover a great

truth, and too bigoted to accept it when it was tendered, but the blood still circulates and the school boy knows it, for knowledge is superior to tradition and truth triumphs over prejudice.

Nor is the conflict yet closed; new champions arise in every age, who seize the colors as they fall from the hands of their predecessors. Jenner, Huxley, Pasteur, Koch and hundreds of other more modern scientists are still advancing the lines until they have practically arrested the progress of every known disease, save that of cancer which, although it has been attacked from every known angle, still remains an unconquered foe.

Whether all this be true or not, the fact remains that only the acquisition of knowledge and truth can correct the errors of tradition and subdue the arrogance of superstition. In this, medicine is doing its great work for the progress of man; it accepts no departure from the laws of cause and effect; it deals with all of the elements of nature, organic and in-organic; with all of the manifestations of life, and all of the processes of death; and it finds that nature, in every minutiae is obedient to law, and that law is uniform and inflexible. Medicine is the only agency, in the acquisition and diffusion of truth, that is universal in its operation. Other powerful agencies—agriculture, commerce, mechanics, arts, law, literature, theology, and physical science—are moving abreast, but all are more or less limited to a definite channel. Medicine alone creeps out through every avenue and touches with its materialistic views every man, woman and child in the civilized world.

For more than two thousand years it has been silently chiseling the foundation for man's ultimate civilization, when every human mind shall recognize the supremacy of law in all the Universe of God; when science shall rest its foundation upon the everlasting truths of natural law; when creeds, doctrines and rituals shall dissolve

in the light of reason; when dogma and religion, stripped of all disguise and mystery, shall live for ever in the bright simplicity of man's final faith—"Duty to God and Duty to Man."

HEMORRHAGE OF THE NEWLY BORN*

REPORT OF CASE OF HEMORRHAGE FROM THE ADRENAL
IN THE NEWLY BORN.

MAUD LOEBER, M. D.,

AND

E. H. LAWSON, M. D.

NEW ORLEANS.

In reviewing the literature, hemorrhage of the newly born is still accounted among the rare diseases of the newly born.

The causative factor of hemorrhage of the newly born is still a mooted subject. Trauma-sepsis-mechanical pressure, versus blood vessel resistance, blood dyscrasia, peculiarity in the tissue of the new born, blood vessels demonstrating some physiological incompleteness of the new born baby, as well as toxins, especially in the case of babies born of eclamptic mothers, syphilis, as well as still born for any cause, and cranial stress, are all given serious consideration by various authors. Naturally so many and varied conditions may be looked upon as contributory factors, but which one should be given predominance over the other it is difficult to decide. Where so many contest for first place, to none is given predominance.

PATHOLOGY.

Visceral hemorrhages are the most frequent in large children following difficult labors, however, they may occur in small children where the labor has been easy and normal. In both instances, but more so in the latter, their occurrence is due to the feeble resistance of the blood vessels. In

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vertex deliveries, intracranial hemorrhages are the most frequent, while in breach deliveries it was formerly thought by many that the other visceral hemorrhages

of its capillaries. The place of election is usually in the internal cortical zone of the adrenal because of its vascularity, and the anatomic arrangement of the capillaries.

With a rupture of the capsule of the adrenal the blood usually collects in the loose retroperitoneal tissue surrounding the kidney, thus forming a tumor mass, which when of sufficient size, may be palpated. If the hemorrhage is large enough, and continues to increase, this tumor ruptures into the peritoneal cavity thereby giving the first clinical signs of hemorrhage.

Of all the visceral hemorrhages, those of the intracranial type are the most obscure. Rarely are they diagnosed.

Symptoms of hemorrhage of the newly born are: sudden onset, usually in the first days of life, with bleeding from any of the mucous surfaces. With hemorrhage from the internal organ the symptoms are more obscure with onset later, maybe the

hages predominate; however, recent work, especially that of Holland, shows statistics to the contrary. Because the viscera of the thorax are protected more than the abdomen, the abdominal viscera suffer most.

The hemorrhage may be into the peritoneal cavity or into the tissue lying retroperitoneal. In the first instance it is usually due to the rupture of a large blood vessel; or the rupture of a blood tumor formed beneath the peritoneal covering of an abdominal organ.

HEMORRHAGE OF THE NEWLY BORN.

In the second instance the hemorrhage is due to the rupture of the non-resistant wall of the small capillaries. Here the hemorrhage is more apt to be a slow ooze beneath the peritoneum, than a sudden loss of a large amount of blood. Under this type of visceral hemorrhage, the most frequent organ affected is the adrenal, possible because of its close relation to the vena cava, making congestion easy, and because of the peculiar arrangement

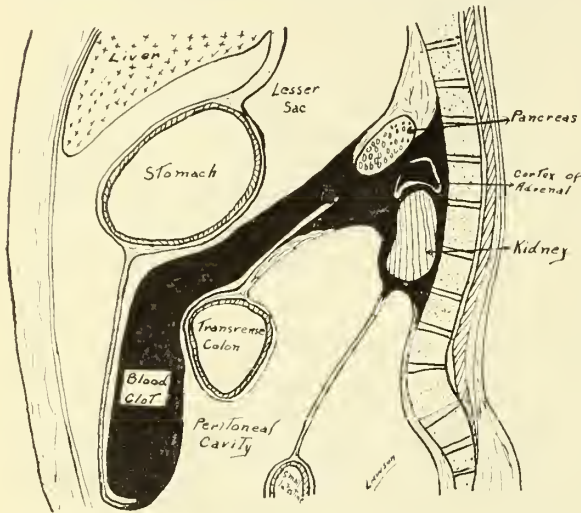


Fig. 1—Diagrammatic sketch of longitudinal section showing extent of hemorrhage. Note extension of blood between layers of peritoneum following lines of least resistance, the foetal folds separated, and clot lies within greater omentum.

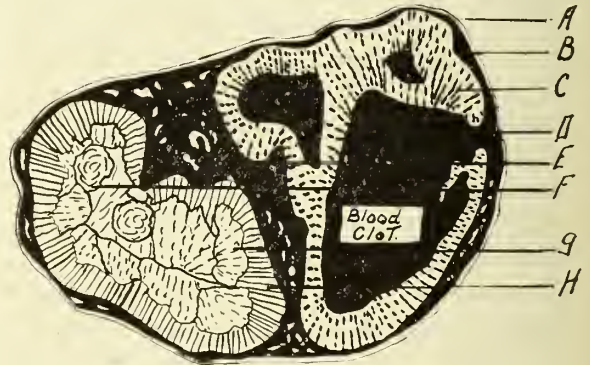


Fig. 2—Diagrammatic sketch of ruptured adrenal and unruptured kidney, showing the distended cortex of the adrenal (C), the place of the rupture (D), the dissemination of the blood (B), beneath the peritoneum (A), into the fatty capsule of the kidney (E), (H) represents the cortex of the kidney, (G) the medulla and (F) papilla of kidney.

4th or 5th, day, and sometimes as late as the 12th, day, and the symptoms are those of internal hemorrhage; or those due to pressure on surrounding or underlying organs—i. e., pressure symptoms of these organs. Rapid, shallow breathing, increasing anemia, fever, anorexia, refusal of food, and vomiting. There may or may not be a

palpable tumor felt in the abdomen, depending on the amount and duration of the hemorrhage. In internal hemorrhage, especially of the adrenals the symptoms are usually obscure, and the course of the disease so rapid that death ensues before the proper diagnosis can be made.

Prognosis is usually grave, especially is this so in the case of hemorrhage of the adrenal. We found reference of only one case which cited a successful outcome of adrenal hemorrhage, and in this case the symptoms were those referable to intestinal obstruction primarily, and not to the hemorrhage.

REPORT OF CASE.

A well developed male infant. Child well nourished, of healthy parents, multi para, 3d, pregnancy, breech presentation, normal breech delivery, delivered at Touro Infirmary. Birth weight 10 and $\frac{1}{4}$ lbs.

Breast fed up to the 4th day when the mother noticed that the baby did not take breast feeding well at morning nursing. Nurse's attention directed to pallor of baby at second morning feeding and doctor summoned. The baby seemed in a state of marked depression, the eyes sunken, and the child somewhat listless. The baby had been losing weight, though lactose solutions had been given to supplement breast milk.

Physical examination showed a well developed and well nourished male infant, head, mouth and neck negative, slightly overlapping sutures and fontanel depressed. Heart and lungs normal. Cord showed no infection, abdomen soft and no palpable masses with exception of the liver which showed normal enlargement for new born infant. Stools were normal in frequency, odor and color. Urine showed no blood stains on diaper. A request for a blood examination was made at the time the physician made the examination. In three

hours from this examination the baby had died. Mother's blood Wasserman, negative.

DIFFERENTIAL DIAGNOSIS.

Sepsis—fever. Acute inanition, baby losing weight. Weight 1st day 10 $\frac{1}{4}$ lbs, loss of $\frac{1}{4}$ lb. 2nd, day 9.6 oz, 3d, day, 8.13 oz, and fever 103°.

AUTOPSY.

When this case was autopsied and the abdominal cavity opened, it was found free of fluid and hemorrhage. The attention was immediately drawn to the size and color of the omentum, which measured 10 cm. in length 20 cm. in width, and 3 to 4 cm. in thickness. It was dark red in color due to the hemorrhage between its layers of peritoneum. Investigation showed this hemorrhage to arise from a large tumor mass measuring 7 cm in length, 5 cm in width, and 3 cm in thickness, located in the region of the left kidney, and lying retroperitoneally. This mass was removed intact, and after fixation in 10% formalin, sectioned. It was found to consist of the kidney, adrenal and surrounding fatty capsule of the kidney. The kidney itself showed no pathology, but the adrenal was enlarged to three times its normal size, the cortex being thinned out and distended by the large amount of hemorrhage into the medulla. At the superior-lateral border of the adrenal the hemorrhage ruptured through the cortex and capsule of the adrenal, and following the lines of least resistance had passed between the peritoneum forming the posterior lining of the lesser sac, and that forming the outer layer of the greater omentum, thus causing this structure to be enlarged.

The other organs of the abdomen were found to be normal, showing no evidence of hemorrhage.

CONCLUSIONS.

Suprarenal hemorrhage in the newly born is at present a rare condition in new born infants. In case of death in the newly born from any cause, a routine

autopsy should be made on all infants, and hemorrhage of the internal organs searched for, for ascertaining the frequency of this condition. The present method of diagnosis of suprarenal hemorrhage is difficult, and should be born in mind in all cases of shock in the newly born, particularly when occurring on or after the 3d day.

We wish to extend our thanks to Dr. T. B. Sellers for the privilege of seeing this case.

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DISCUSSION.

Dr. Thos. B. Sellers, (New Orleans): This case was a perfectly normal, frank, breech delivery. She was in labor four and one-half hours, under synergistic analgesia. The baby apparently was in good condition when delivered. It cried immediately.

It is difficult to explain why a baby following a simple breech delivery should have a suprarenal hemorrhage.

As Dr. Loeber stated this case emphasizes the importance of a routine autopsy when it can be obtained.

Dr. W. E. Levy (New Orleans): What I might say is perhaps irrelevant to hemorrhage from the adrenal. We do see numerous visceral hemorrhages of the new born. In our obstetric service at Touro we try to get a post mortem on all still-born babies or babies dying shortly after birth. We want to know our errors as well as our successes. It is a poor man who reports his cures and never reports his failures.

We have had three deaths in breech deliveries from intra-cranial hemorrhage. Doctor Eardley Holland reported 300 consecutive post mortems on newly born performed in England, and of them 16 were uncomplicated breech births where the infants died and intra-cranial hemorrhage was found. How is it done? The after occiput coming head impinges under the symphysis and the chin along the coccyx; we get a lateral bulging tear of the tentorium cerebelli, hemorrhage and death. After these cases we had arrived at the conclusion that speed is not an essential factor in delivery of the after coming head. Furthermore, we should give the patients all the room possible by a deep episstomy. It is interesting to me to see a man deliver a case, either forceps or breech, and particularly a primipara, in which he has injudiciously used pituitrin. The baby is born, the heart beats for 30 minutes, and then this man gives it artificial respiration for that time; the baby does not breathe, and he puts it down as a death due to asphyxia. But it is not. It is intra-cranial hemorrhage that has caused the death.

Another interesting feature in this report of Doctor Holland's is the petechial hemorrhage that we see within the viscera. In the majority of these cases he has shown a concurrent intra-cranial hemorrhage. You can also picture a premature placenta cutting off the air supply and producing these hemorrhagic manifestations.

Potter in his text book on Version stresses the fact that speed is not an essential factor in delivering by breech extraction. If we follow this dictum, we shall surely have fewer visceral and intra-cranial hemorrhages.

Dr. Maud Loeber (closing): I wish to thank Doctor Sellers and Doctor Levy for their discussions and to thank Doctor Levy for bringing out the point of asphyxiation, which is a very important point in differential diagnosis, which I did not bring out. I will also say that in looking up the cause of internal hemorrhages of the new born, trauma was considered to a great extent; but many cases have been reported in which the delivery was easy and the hemorrhage was due to some other condition. It might be due to the developmental condition of the blood vessels themselves, for these hemorrhages have occurred even in babies delivered by Caesarian section. The etiology of hemorrhage in the new born is still a debated question, a question which deserves a great deal of attention from both the obstetricians and the pediatricians.

THYMUS ENLARGEMENT IN
INFANTS AND CHILDREN.*HARVEY F. GARRISON, M. D.,
JACKSON, MISS.

Thymic enlargement or Status Lymphaticus is being studied and discussed by the pediatricians and radiologists as never before in the history of medicine. That the disease is more prevalent than is generally thought is evidenced by statistics from most reliable sources. One authority states that X-ray examination in a series of normal newly born infants, showed 22% with enlarged Thymus.

Dr. Benjamin and Lange reporting on the X-ray examination of a series of 225 cases not suspected as having enlarged Thymus, but were ill otherwise, found 19 with enlarged Thymus. Drs. Peterson and Miller in a detailed study of 120 new born infants who were born in the maternity division of the University of Michigan Hospital makes the following very striking statement about the prevalence of the disease: "Abnormally enlarged Thymus is common in the new-born occurring in from 40 to 50% of such infants." Another statement made by the same writer, of considerable interest, is that, "A tendency to a higher rate of Thymic Hyperplasia is noted in infants born of elderly mothers and multiparas in male infants and in infants born at term."

From a study of the statistics of a number of our large hospitals we are convinced that many infants are being permitted to die undiagnosed and untreated from enlarged thymus. When we know that the diagnosis of abnormally enlarged thymus is being overlooked in many of our larger hospitals where they have the best equipment as well as some of the best physicians to be found anywhere then we are not surprised to find that many cases are being

overlooked by some of the best physicians of our state.

The purpose of this paper therefore is to bring this subject to the attention of the medical profession of our state with the hope that the methods of diagnosis and treatment may be more familiar to all of us and to the end that the lives of many of these little ones may be saved. For the purpose of getting this subject more clearly before us, permit me to review with you briefly the anatomy of the thymus gland.

The thymus gland, as you know, consists of two lobes faintly red in color. They are more or less pointed at the upper part, rounded off toward the lower and bound together by loose connective tissue. The organ is situated in the superior mediastinum and the greater portion of the gland lies behind the manubrium and body of the sternum. Posteriorly in its upper two thirds the gland covers the pericardium and the beginning of the great vessels, the elongated upper edges covering the trachea. The average width of the gland is from 2 to 3 cm. and at times the longitudinal diameter may reach 11½ cm. The average normal weight may be placed at 6 to 7 gm. and any weight over 10 or 12 gm. may be considered abnormal.

The physiology of the thymus is indeed very obscure, little being known about its function. Its closeness to the thyroid and parathyroid glands and its similarity of origin would almost suggest that it played some specific part in metabolism but physiologic experiments up to the present time, have failed to discover exactly the character of this influence. Numerous observers have noted that in thymectomized animals there exists a stage of increased fat absorption and later, malnutrition and cachexia, also a softening of the bones and a check in their growth, a condition resembling rickets and chondrodystrophy in children. It has been well proved by a large series of cases, carefully studied by most competent observers, that the condition

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

known as status lymphaticus is an entity and is characterized clinically as a lowered vitality or an unstable equilibrium of the vital forces so that accidents or disturbances, otherwise unimportant, such as slight injury or a light anesthesia may bring on death.

A satisfactory explanation of the cause of the disease has never been offered. It has been found in infants at birth and in children in all ages up to puberty and even in adults, but is most commonly seen in the very young.

The thymus often weighs from five to ten times more than normal. The less pronounced cases ranges between 10 and 20 grams. It is a little more vascular but aside from the hyperplasia shows no other changes other than those found in the normal gland. The classical symptoms are dyspnea, cyanosis, and inspiratory stridor or almost the same symptoms seen in laryngismus stridulus, but if we should depend only upon these symptoms many cases would go undiagnosed. The chief complaint is attacks of coughing and choking which comes on by paroxysms. The mother often explains that the child does not show the usual signs of a cold, but while apparently well, begins during the night, to cough. This is repeated for several nights then disappears only to return in a similar manner in a very short time. On close questioning you maybe told by the mother that there is some cyanosis and a tendency to choke and to be croupy which appears in paroxysms. Lange, who has been one of the leaders on this subject among the roentgenologist for some time, says he sees at least three new cases every week and often three new cases in one day, he also says he would recommend X-ray examination for any of the following symptoms: inability to cry loudly, crowing respirations when crying, noisy respirations or wheezing, noisy respirations during sleep, difficulty in nursing, twitching, fretfulness, and other nervous symptoms, vomiting or regurgitation, feeble respiration, grunting as though the

child wants to make a stool, slow or retarded development, failure of child to gain weight in spite of dietary measures, inanition, obesity, cough and hiccough. I rely on a combination of signs and symptoms rather than just one or two. The clinical picture is worth much in arriving at a diagnosis. The X-ray will usually prove or disprove the diagnosis. The diagnosis is not always easy even to an experienced pediatrician. One of the leading pediatricians of this country, in his recent book on pediatrics says that the clinical picture with later proved thymic death had occurred under his own observation several times. The same authority further says that the only symptom or sign of trouble in two perfectly well nourished infants was a convulsion and both died in the seizure and that there had never been a previous convulsion or laryngeal stridor. Autopsy in both of these cases showed enlarged thymus.

Some years ago while the writer was in general practice he sadly recalls the death of several infants which occurred in his own practice with what he now knows to have been enlarged thymus but which were undiagnosed at that time. At that time very little was known about the diagnosis of enlarged thymus and a great deal less about the proper treatment. In the last few years I have had a number of interesting cases referred to me for diagnosis, and for the purpose of impressing the importance of an early diagnosis and treatment I shall show the radiographs and report on a few of these cases. Just about a year ago I was called to see a fairly well nourished two months old infant who, according to the mother's statement had just had a "peculiar spell" which was similar to a number of lighter ones previously had by the same infant. While having one of these spells, which the mother described as fainting, turning blue, and loosing its breath the mother became very much excited and called several good physicians but on their arrival the baby had somewhat recovered and no diagnosis was suggested. The family physician requested the mother to call the writer

to see the baby which she did and a diagnosis of enlarged thymus was made with a request for X-ray examination and treatment. The radiograph showed the diagnosis to be correct and after three treatments it completely recovered. Late in the afternoon of the same day that I saw the above case I was called by a very competent physician to correct a feeding in a three months old, poorly nourished, infant whom he was treating for bowel upset and for what he thought to be asthma or croup but which was diagnosed by me as enlarged thymus and urged to have treatment given immediately. The mother insisted on waiting until the next day to consult with some absent relatives in regard to this treatment but the infant died that night with a severe attack of thymic asthma. These cases were just such as I see quite often. Within the last year I have had several cases referred to me to adjust a feeding or to advise relative to a difficulty the baby had in nursing, or to assist in the treatment of what the physician thought to be a case of asthma, a bronchitis, a tonsillitis or a laryngeal diphtheria but on examination I would find enlarged thymus. Just before I began the preparation of this paper a fairly well nourished three and a half month old infant was referred to me for diagnosis and treatment, who just five weeks previous to the time I saw it was admitted to the same hospital, diagnosed and treated by two good physicians for acute bronchitis. The mother told me that the infant was sick just the same way and had all the same symptoms so far as she could tell as it did when admitted to the hospital before. I made a diagnosis of enlarged thymus which was concurred in by the radiologist and after three treatments the child made a complete recovery. It is not always easy to make a diagnosis of enlarged thymus, even the X-ray does not always show some cases that are producing clinical symptoms. The writer has had several cases which were producing almost classical symptoms that the X-ray did not show at all, but which responded

promptly to treatment. It may be said also that many cases of enlarged thymus shown by X-ray examination of the newborn are not producing symptoms at the time of diagnosis and yet it is taking a rather dangerous risk to permit such infants going without treatment. Many deaths in such cases have been proven at autopsy. As to whether the clinical symptoms in enlarged thymus are caused by pressure or to an endocrine dysfunction or both, is not definitely settled at this time. The writer advises X-ray treatments and so instructs the radiologist in all cases producing clinical symptoms, even if the radiograph does not show enlargement. There is no condition or disease which responds more quickly and more specifically to the proper treatment than that of enlarged thymus.

X-ray or radium is the treatment used by all authorities. I prefer X-ray properly applied by a competent radiologist. One treatment is sometimes sufficient but I usually advise three or four. The technique used by the radiologist to whom I refer my cases is as follows: 5 M.A. 6 in spark gap. 16 inch skin target distance. 3 M.M. of aluminum. 7 minutes front and back exposure. Repeated at ten day intervals until all clinical signs have subsided or until at least three or four treatments have been given.

CONCLUSIONS.

1st. Thymic enlargement is probably not as prevalent here as in some other states. This writer believes that 50, or even 30%, is too high, yet we do believe that the disease is by far more common than is considered at this time.

2nd. It is probably true that many cases of enlarged thymuses discovered by X-ray never produce alarming clinical symptoms yet in many autopsies where there had never been a previous sign or symptom an enlarged thymus was the only pathology found to account for the death of the infant.

3rd. Any infant or child presenting the symptoms and clinical picture outlined in this paper should have the benefit of an early diagnosis and treatment.

4th. Where the clinical picture and symptoms warrant a diagnosis of enlarged thymus I advise X-ray treatments even if the radiograph does not show the gland enlarged.

5th. Early diagnosis with prompt and proper treatment by a competent radiologist insures almost absolute and immediate cure, delayed diagnosis and treatment may mean death.

NON-TUBERCULOUS DISEASES OF THE CHEST.*

F. W. HENDERSON, M. D.,
NEW ORLEANS.

Two considerations have actuated the essayist to undertake the presentation of the subject now under discussion, viz: The frequency with which the physician is called upon to examine the chest of his patients for some trouble, and the sometimes startling revelations which have come to me in the routine course of my duties as Radiologist.

No attempt will be made to comprehend the entire subject in the one paper, lest we remain so engaged many days. The cases which we wish to present as illustrative of non-tubercular diseases of the chest, will be, for the most part, cases which have come to me recently, with a diagnosis of tuberculosis already given, many of whom have been treated for this condition over periods of time ranging from one to twenty-four months.

At no time is it to be considered that the clinician occupies a position other than that of paramount importance; at the same time it is to be emphasized that in the diagnosis of pulmonary disease, a properly

interpreted radiogram is far and away the most valuable diagnostic aid which we have at our command at the present time. The value of this can be greatly enhanced by the proper co-operation between the radiologist and the clinician.

Of the five senses which we possess, that of sight is used most frequently; is perhaps most acute, and we must certainly depend upon it more than any other. The eye does not err to the same extent as the ear, or the sense of touch. It is therefore of great value to us when we are able to reduce pathology from terms of sound and touch, to that of sight. This becomes particularly apparent when we are confronted with a consultation. Few men hear exactly alike, or have the sense of percussion developed to the same degree. When we are able, however, to point out a lesion on a radiogram, it is comparatively easy for a number of consultants to receive the same impression of the existing pathology.

It has been a perplexing anomaly that, with the lung not more than three centimeters removed from the examiner, so many conditions have so long gone unrecognized, until the improved means of diagnosis of late years have brought them to light. One of our great surgeons, noted for his wit, once remarked that the road to the thoracic cavity is less than three centimeters long, but that it has taken the surgeon two thousand years to travel it.

The essayist indulges the hope that he will live to see the day when the thoracic cavity will be invaded as fearlessly by the surgeon as the abdomen now is, and it is his conviction that the Roentgen ray, and the bronchoscope will prove the means by which this is accomplished. Many of the conditions formerly considered tuberculosis, with varying complications, now take their rightful place in the category of non-tuberculous diseases, and are managed in accordance with their true nature.

*Read before the Mississippi State Medical Association, Biloxi, May 12-14, 1925.

There is no desire on the part of the writer that this paper be construed as a

subsequently cured by one of his confreres who did a thoracotomy, and thus drained a previously unsuspected abscess! The writer does not wish to convey the impression that his own skirts have been clear of this faux pas.

In the study of any radiogram, the roentgenologist has to guide him only the varying density of the shadowgraph, and the relation of these various shadows to each other. In the main, these shadows are so placed as to guide him with a high degree of accuracy to the diagnosis. Naturally, however, there will be some cases in which the shadows have not assumed their typical relation to each other, and we will be confronted with a case where the friendly cooperation of the clinician and radiologist will be of inestimable value to both, with a resulting increased benefit to the patient. To the end therefore, of securing more nearly perfect results, the writer pleads for a closer relation between the physicians and the X-ray laboratory.

To attempt to go into the detail of how the diagnosis is arrived at or to describe the various shadows seen in differing chest conditions would lead us too far afield, and should more properly be reserved for men who are particularly interested in that phase of work. It is rather the purpose of this paper to call attention to the frequency with which chest lesions other than tuberculosis are encountered; to sound a warning that we may set ourselves on guard for them; and to stimulate interest in this field.

The improved means of diagnosis which we have at our command today place a heavy responsibility upon the shoulders of the radiologist. This he is willing to accept, and does gladly. But by the same token, an equal responsibility rests at the door of the clinician; nay, more, for to his own doctor does the ailing patient apply first for relief, and the opinion that an adventitious is the result of a tuberculous process should never be rendered until all the means available have been utilized in accurately diagnosing the case. Fortunately for us,

paean of praise to the radiologist. We wish however to quote from a recent article by Dr. Rudolph Matas, in which he says: "The roentgenologist is today, next to the surgeon, the foremost exponent of the anatomy, physiology, and pathology of the living organism, which so profoundly differentiates the practice of medicine of today from that of the past. Almost with every flash of his radiant tube he performs a biopsy, a painless vivisection, which penetrates further than any dissection, and by what it reveals often prevents a necropsy."

The diagnosis of diseases in terms of pathologic changes in particular organs is the goal toward which the clinician bends his efforts. Each advance in the art of diagnosis is accomplished by a widening of our knowledge either of abnormalities of function, or of the structural changes in diseased tissue. In no branch of medicine has the clinical application of the Roentgen ray yielded more gratifying results than in the diseases of the chest. The positive differentiation of cavity, fluid, consolidation, pleural thickening, scar tissue and like conditions is sometimes attended with considerable difficulty at the bedside. As a rule these are differentiated with little or no difficulty on a radiogram.

While tuberculosis is one of the most common individual maladies affecting the chest, the combined incidence of the non-tuberculous will probably far exceed that of the tuberculous. Not all rales are indicative of tuberculosis; cough, with considerable sputum does not necessarily indicate phthisical chest, and a patient who is having night sweats, with cough, expectoration, emaciation, fever, and the other clinical manifestations commonly considered pathognomonic of tuberculosis, may indeed be a sufferer with pulmonary abscess, syphilis of the lung, blastomycosis, primary or metastatic malignancy of the lung, chronic indurative pneumonia, or what-not. Lucky indeed is the man who has not had one of his "Tuberculosis" cases

and for the patient, the day has passed when prospects were blasted, and the initial start in life doomed to an early death by the fact that the findings of rales in a chest sent the patient post haste "some-where out west."

This paper is not written to be presented before a group of radiologists, but before clinicians who make no special claim to skill in this field, and therefore in presenting the lantern slides this afternoon, we have purposely refrained from exhibiting bizarre or doubtful cases, it being our desire to bring to your notice common conditions which arise in the course of every day practice. It will be worth while to call your attention again to the statement made above that nearly every case shown had had, at some time, the diagnosis of tuberculosis registered against it, and that one of the patients had been in bed for two years "seeking the cure."

There will, then, be shown the following:

- (1) Bronchiectasis.
- (2) Chronic indurative pneumonia.
- (3) Primary tumors of the lung.
- (4) Benign tumors of the lung.
- (5) Acute mediastinitis.
- (6) Siderosis.
- (7) Aortic aneurism.
- (8) Lymphosarcoma.
- (9) Tracheo bronchial fistula.
- (10) Sub-diaphragmatic abscess, with rupture into lung.
- (11) Foreign body in lung, encapsulated.
- (12) Unresolved pneumonia.
- (13) Abscess of the lung.
- (14) Syphilis of the lung.
- (15) Metastatic tumors of the lung.
- (16) Pleural effusion.
- (17) Blastomycosis.
- (18) Hodgkins disease.
- (19) Eventration of the diaphragm.
- (20) Cardiac enlargement.
- (21) Pneumothorax.
- (22) Atelectasis.
- (23) Aneurism of pulmonary artery.
- (24) Echinococcus cyst of the lung.
- (25) Diaphragmatic adhesions.
- (26) Thickening of pleura, with deformity of chest wall.

DISCUSSION.

Dr. H. Y. Swayze (Kerrville, Texas): The doctor has shown a wonderful lot of pictures and it will do us all good to have seen them. He has taught us a lesson—that there are other troubles in the lungs besides tuberculosis. We know there are many mistakes in diagnosis made by calling the condition tuberculosis when that is not what the patient has at all. I remember about 1923 a woman in the fifties came to our place. She had been six months in a tuberculosis sanatorium. She developed a pleural effusion and was sent to a general hospital to have this drained, which they did, and she finally came to us. It was impossible to make a diagnosis of tuberculosis and we made a diagnosis of malignancy. Of course she went on to death. We were lucky enough to get an autopsy and found a lung about as large as a quarter of an apple, and the pleural cavity filled with fluid. The laboratory confirmed our diagnosis.

Many a patient suffering from syphilis is diagnosed as tuberculosis, and in the West you will find a lot of these syphilitic patients who think they have tuberculosis. They get out there and fall into the hands of the Philistines; that is the laity. There are more of this kind of people in the West who know how to treat and diagnose tuberculosis than anywhere in the world.

The X-ray is certainly a valuable aid in the diagnosis of anything, but especially in chest work; but the X-ray will not do everything. It will not diagnose tuberculosis, but it will help. In the incipient cases, of course, diagnosis means that you have had to hunt for the cause, but there is one good thing about it—you have time and sometimes it takes weeks and maybe months to make a diagnosis of tuberculosis. But after you have made your diagnosis correctly, if the patient has not tuberculosis, you can tell him so and let him go home. There is nothing worse than to tell a patient that he has tuberculosis when he does not and it is much better to make a long examination than to take a chance on it. This proposition works both ways. Many a patient has been ruined because a diagnosis has been made other than tuberculosis when it should have been tuberculosis.

Dr. W. F. Henderson (New Orleans) (closing): In a gathering of this kind it ought not to be

necessary to mention that a patient's clothing should be removed before a chest examination. It is none the less, surprising to realize that a large number of physicians condemn patients to tuberculosis without having bared their chests.

When a diagnosis of tuberculosis is given, the patient's family has a serious burden to carry, their ability to get life insurance is limited, and the patient himself can rarely, if ever, get more insurance.

The cases exhibited today illustrate how commonly non-tuberculous conditions are mistaken for tuberculosis, and one of the surest methods of checking yourself on clinical findings is by their correlations with Roentgen findings.

Even though a condition is frankly tuberculous, a very wise procedure is to radiograph the chest as a means of checking up at a subsequent time, upon the advance or regression. Radiograms taken at intervals of six months furnish a most excellent means of visualizing progress.

THE USE OF PITUITRIN IN OBSTETRICS.*

E. H. LINFIELD, M. D.,

GULFPORT, MISS.

Compte, in 1899, first showed that the hypophysis cerebri hypertrophied during pregnancy, a fact confirmed by Kahn in 1910. The chromophile cells are not affected, chromophobes are increased, and sometimes the anterior lobe may become so large that it presses upon the optic chiasma, causing hemianopsia.

Pituitary extract, pitu-glandol, hypophysin, glanduitrin, pituitrin are all names for the solution of the active principle of the posterior lobe of the hypophysis cerebri which, when administered by hypodermic, will cause uterine contractions. The action of this glandular secretion upon the uterus was discovered by Dale in 1907. W. B. Bell, in 1909, first used it in labor, but it became better known as an oxytoxic when Hofbauer recommended it. The drug seems to affect all unstriped muscular fibre, the blood vessels, intestines and bladder, as

well as the uterus, but it contracts the latter most markedly. Pituitrin will not produce abortion, and only in very large doses, will it bring on labor at term. It does not stimulate the lacteal secretion and has only slight action on the bladder.

Pituitary preparations are among the most powerful ecbolics known, especially when administered intravenously. They are, however, not without danger. Cases of rupture of the uterus, uterine tetanus, severe lacerations of the cervix and perineum, and collapse have been attributed to their use.

Pituitrin may be administered subcutaneously, intramuscularly, or intravenously. It is entirely inefficacious if taken by mouth. The effect differs greatly with the mode of administration. Subcutaneous and intra-muscular injections are immediately followed by strong contractions. The effect is, however, of short duration. It may be stormy, simulating the tetanic type of contractions. Later the labor becomes more regular and vigorous, approaching the physiologic type. The initial stormy stage may be absent and the effect of the drug may be limited to an intensifying of the normal uterine activity. The duration of the effect following intravenous injection is about forty minutes, while that following subcutaneous administration about an hour. Individual differences exist.

General reactions, such as transitory dizziness, anxiety and vomiting may follow the intravenous administration of pituitrin due probably to the vaso-contraction and sudden increase of blood pressure. Permanent or severe secondary effects have not been observed. The substance appears to be rapidly eliminated and some authorities state that it can be given at hourly intervals without danger. Hypophyseal extract should be administered only when the labor contractions are less active than normal and the dose should be graduated according to the stage of par-

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turition and to the condition arising that is desired to be met by the action of the drug.

Only in especially selected cases should pituitrin be administered before the end of the first stage, or until complete dilatation of the cervix. In the average case of simple uterine inertia at the end of the first stage or during the second stage where there is no gross pathology causing the inertia, two to four minims of pituitrin given under the skin will cause sufficient contractions to terminate labor readily. As a rule, pituitary extract in the first stage of labor is very dangerous. There are indications for its use in this stage. It is a great help in differentiating false from true labor pains. A few minims of the drug will augment true labor pains so that there is no further doubt about the status of the uterine irritability. In cases of premature rupture of the membranes during the latter months of pregnancy, or at term, small doses of pituitrin will influence the uterus in the same way as after bagging. Many cases of intra partum infection due to long exposure have undoubtedly been prevented in this way. In cases of marginal or partial placenta praevia with incomplete dilatation of the cervical os and rupture of the membranes, a small dose of the extract in some cases may be sufficient to force the presenting part down into the pelvis and against the placenta. The head then acts as a sufficient tampon. Mosher's very timely dictum is, "To a mother who has had the test of labor with an inability to deliver a head already on the perineum, it is a boon. To a primipara in the first stage of labor, it is a menace."

In using pituitary extract in either the first or second stage of labor, it has sometimes been found necessary, because of an abnormal fetal heart, to complete a delivery with forceps. Frequently the infant is in a state of livid pallid asphxia. Occasionally, it is still born and sometimes it does not show symptoms until later life.

The pituitrin circulating in the maternal blood causes rapid recurrent and more forceful uterine contractions, shutting off the placental circulation and also directly compressing the foetus. Many authors have called attention to the late effects of pituitrin upon infants. At autopsy, in many cases meningeal and cerebral hemorrhages have been found, which in the living child led to paralysis, epilepsy, and idiocy.

Steinberg made a series of observations on sixty cases, consisting of twenty-one cases of primiparae, and thirty-nine cases of multiparae. Pituitrin was administered into the muscle of the arm in doses varying from 0.25 to 1 c.c. during the first and second stages of labor, and following the delivery of the placenta. The drug took effect in from three to five minutes. The length of each contraction varied from thirty to ninety seconds and the intervals between contractions varied from forty seconds to two minutes. In cases of primiparae, the contractions were stronger and of shorter duration than in the cases of multiparae. The pains were, in general, more severe than normally. Only one of sixty patients presented perineal laceration. Three presented unilateral laceration of cervix. No foetal complications resulting from the drug were observed. No post partum hemorrhage or material complications occurred. However, if birth was not accomplished within from thirty to forty minutes after the administration of the pituitrin, the third stage was prolonged from ten to twenty minutes.

Alcohol should not be used to sterilize the syringe, needle, or skin, since it inhibits the action of pituitrin.

The persistence of pain between normal labor contractions indicates that the tonus is exaggerated. Retardation of labor, and intense pain, may be due to various causes, including generalized contractions, or hypertonia, annular contracture, and contractile insufficiency or hypotonia.

In artificial stimulation of uterine contractions, pituitrin stimulates the uterine muscle fibres directly without the intermediation of the nervous system. Its action is to render the fibres more susceptible to stimulation both normal and abnormal, and especially to the action of the sympathetic system. The effect is to increase the muscle tonus. The results vary, in some cases the extract increases the uterine contractibility satisfactorily. However, it may fail to accelerate labor, or may exert an exaggerated effect, and produce alarmingly, violent contractions. In the case of women susceptible to the drug, rupture may occur, or contractions may ensue resulting in death of the foetus.

Pituitrin has been found of little benefit in the placental period and puerperium except to prevent excessive hemorrhage due to inadequate tonus. The third stage of labor is not shortened sufficiently to justify routine use and sometimes it is actually lengthened and manual delivery of the placenta has to be resorted to due to stricture of the internal orifice perhaps in consequence of the exaggerated contractions due to the extract. I believe a good measure is the injection of 1 c.c. of pituitrin either under the skin or into the muscle immediately after delivery of the placenta followed by one dram of ergot by mouth every four hours for six doses. In this manner the rapid and temporary effect of the pituitrin is supplemented by the slower stimulation of the ergot.

Pituitrin may be administered to advantage preceding cesarian section in order to insure rapid retraction and permanent contraction with consequent saving of blood. It may be injected directly into the uterine musculature avoiding blood vessels.

The main indications for subcutaneous and intra muscular injection are (1) the primary and secondary weakness of labor contractions at the end of the first stage and during the period of expulsion, (2) Lateral placenta praevia following puncture

of the bladder. (3) Total placenta praevia following combined torsion. (4) Transverse presentation following outward torsion. (5) Hydramnios following rupture of the bladder. (6) Prolapse of the umbilical cord and repeated prolapse of small portions following reposition. (7) A narrow pelvis for the fixation of the head in Walcher's hanging position. (8) Cesarian section to check the hemorrhage during intervention and to prevent atonic post partum hemorrhage. (9). For late puerperal hemorrhages.

Some of the contraindications are (1) Contracted pelvis to third or fourth degree. (2) Malposition and malpresentations. (3) Tumors blocking the passage. (4) Danger of rupture. (5) Early in labor or when the cervix is incapable of being dilated. (6) The imminence of asphyxia of the foetus. (7) Arterio-sclerotic circulation disturbances and renal disease with excessively high blood pressure. (8) Cerebral hemorrhage in eclampsia. (9) Heart disease.

Pituitrin may be used only in the presence of a clear cut scientific indication after the conditions have been fully met, but it should be included in the obstetrician's armamentarium to care for certain of the emergencies that will arise at times in his practice.

DISCUSSION.

Dr. Ira B. Seale (Holly Springs): I want to express my appreciation of this most excellent paper. I have very little to add. When I think back to the indiscriminate use I made of this extremely potent dug when it first came out, it makes me shudder and I wonder why I did not have more serious results than I did. It must be that "The Lord preserveth the simple." However, on two occasions I did get in a pretty close place with nobody to help me out.

I was called in once by another doctor who had been with the patient all night—the patient giving birth to her second child. He said it was an instrumental delivery, but he was not able to make it, and he told me that during the night he had given 2 ccs. of pituitrin. I examined the patient and found her in pretty good

shape, a good pulse, but practically no contraction of the uterus. I applied the forceps, but for some reason I could not deliver, and after making another examination decided that I would have to do a podalic version. I did it carefully and delivered the placenta by the Crede method, and immediately on delivery of that placenta the woman collapsed. I suspected the trouble at once and on examination my examining fingers ran through a rent in the upper third of the fundus of the uterus. She died in about one and a half minutes. I resolved then and there never to use pituitrin unless I was wholly convinced of my diagnosis, even if I had to anaesthetize patient for examination. I carried that out pretty well until a few years later. Since I have been using nitrous oxide and oxygen anesthesia. It is no trouble to get a thorough examination.

Case No. 2: I had delivered this woman in normal labor two years before, but this time I was with her all night until two o'clock, and then gave her 4 minims of pituitrin, waited until four o'clock and gave her 4 more. After the second dose she had a tonic contraction of the uterus. I immediately anesthetized her and called in a doctor to assist me. He came and we applied the forceps. I put the right blade in and when I went to apply the second blade the head receded. I made an examination and found the after birth and everything was in the abdominal cavity. Fortunately the patient was not bleeding much so I called in a surgeon and he did pro-Caesarian and the woman is alive and doing well today. I still use pituitrin, but I am very careful to know that it is indicated.

Dr. W. M. Biggs (Indianola): I have enjoyed the paper very much. I think the doctor has given us a splendid resume of the use of pituitrin, and I am glad to say I have never had Doctor Seale's experience. I have used it practically ever since it was introduced, and I would just as soon think of going to a case of labor without my obstetrical forceps as without an ampule of pituitrin. However, I do not believe in using it indiscriminately.

Doctor Linfield spoke of using pituitrin at the close of the second stage of labor, and that is the teaching of all of our books, that after complete dilatation of the os, you can give pituitrin. When I first began to use it I gave 1 cc. doses, and then I cut that in two, and now many times I know I can get the same effect from a quarter cc. I never tried to use it to bring on labor, but I do think that in many cases in the first stage of labor when the pains are just sufficient to aggravate the patient and the os is dilat-

ing slowly, probably the size of a fifty cent piece, and the woman continues to have pain but not making any progress. My experience has been in those conditions that the administration of 1 minim of pituitrin will stimulate the pains. In other words, natural labor pains will come on, and I have found it of great benefit on numerous occasions in conditions of that kind.

I would like to relate one experience I had in giving pituitrin after the birth of a child. I had a patient who had had post partum hemorrhages on two occasions before. She had a rapid pulse rate, but labor was progressing nicely, and after the child was born I thought I would give her a dose of pituitrin to expel the placenta and get contraction. I got contraction, all right, but the uterus contracted down on the placenta as tight as possible, and I had to wait an hour for the effect of the pituitrin to wear off and allow the os to relax before I could deliver the after birth. Since then I have not given any more pituitrin after the birth of the child and before I delivered the placenta.

Dr. G. H. Wood (Batesville): The gentleman who preceded me really said practically what I wanted to say. However, I am reminded of what you have all often heard, that "There were wise men before Agamemnon." We had an occasional ruptured uterus before we had pituitrin, and I do not believe that all the cases of ruptured uteri now are due to pituitrin. I remember hearing Professor DeLee say that pituitrin was one of the most purely selective drugs that we have. If that be true, if properly used, it is one of the best drugs we have, and consequently I am like the last speaker—I feel lost if I go to a case of labor unless I have pituitrin with me.

Dr. A. C. Bryan (Meridian): I arise to speak of our little knowledge of pituitrin. I wonder why we give pituitrin. I wonder why the average doctor does this? I dare say it is to get him back home quicker. It is not the poor woman he is thinking of. The average doctor in Mississippi and other states gives pituitrin to get him back home quicker. I used to give pituitrin. However, one ruptured uterus in the lifetime of a doctor is too many; one severe laceration in the lifetime of a doctor unnecessarily is too many. We should take time—if we did, these cases would do much better. My old professor of obstetrics used to tell us to leave the forceps at home and get 20 miles away. I believe if we would leave our pituitrin at home and get 20 miles away we would probably do just as well. In case of inertia why not give them morphine and let them rest, and afterwards the pain will be normally stimulated and there will

be normal delivery. This of course if there is no obstruction. If there is obstruction, then why not give them ether, do a forceps delivery or a Caesarian section? You say wait until there is complete dilatation—why do that and then give the pituitrin when there is complete dilatation? The only time I use pituitrin, now, is after the placenta is delivered and then only if there is a tendency to too much bleeding.

Dr. E. H. Linfield (closing): In the last paragraph of my paper I recommend that every obstetrician carry an ampule of pituitrin with him, but I did not recommend that he use it in every case of obstetrics he is called to attend, there being many cases that go through and deliver normally without the use of pituitrin, so do not misunderstand me. But in those cases where there is a clear cut, concise indication for pituitrin, then is the time to use it, but it should be ruled out if there are contra-indications.

This paper was largely an appeal to the doctors of the State not to use pituitrin indiscriminately. As Doctor Bryan said, a great many of them use it so they can get back home in a hurry. I believe he is right, and this paper was largely for the purpose of appealing to the doctors to quit the indiscriminate use of pituitrin and use it where it is indicated. By using it in that way you will do much better obstetrics and your reputation will grow accordingly.

PRACTICAL POINTS IN THE DIAGNOSIS OF GOITER*

WILLIAM C. CHANEY, M. D.,

Sanders-Warr Clinic.

MEMPHIS, TENN.

I consider it a very great honor to be invited to attend a meeting of your Medical Society and to be given a place on your program.

The purpose of this paper is to present the most practical points in the diagnosis of goiter, emphasizing at the same time the great importance of differentiating between the various types.

In fairness to you it should be stated that the material in this paper is taken

*Read before the North Mississippi Six Counties Medical Society, Jackson, Miss., November 18, 1925.

from the writer's experience and not gleaned from the medical literature on the subject. In the past six years the writer has examined thoroughly, considerably over three thousand patients suffering with goiters of various kinds. Of all those studied probably the majority were of the exophthalmic type.

The thyroid gland, one of the most important glands of internal secretion and the one about which we know the most, has as its principal and perhaps only function the elaboration and secretion of its product thyroxin ($C_{11}H_{10}O_3NI_3$).

Some idea of the importance of the thyroid gland may be gained by considering the amount of blood which passes through it. While it weighs but 45 grams, all of the blood of the body can pass through it in one hour. It has twenty-eight times the circulation of the head, thirty-four times the circulation of the brain, and five and one-half times the circulation of the kidneys. In spite of the very great blood supply of the thyroid gland the amount of its internal secretion poured into the blood stream per day is surprisingly small, being about 1.6 mg. For an individual to be normal about 12 to 14 mg. must be present at all times in the body, exclusive of the thvroid.

Two abnormal conditions of the thyroid gland may exist: an overactivity or hyperthyroidism, and an underactivity or hypothyroidism. Simple hyperthyroidism is exemplified by the giving of thyroxin and is seen in adenomatous goiter with hyperthyroidism. Exophthalmic goiter seems to be more than a simple hyperthyroidism. It is a hyperthyroidism plus a dysthyroidism.

Plummer's classification of the types of goiter seems the most logical and is the one most generally accepted.

1. Diffuse colloid goiter.
2. Adenomatous goiter without hyperthyroidism.

3. Adenomatous goiter with hyperthyroidism.
4. Exophthalmic goiter.
5. Myxedema.
6. Cretinism.
7. Myxedema of childhood.
8. Thyroiditis.
9. Malignant diseases of the thyroid.

In this discussion the various neuroses should be considered because they are so frequently incorrectly diagnosed as some type of goiter.

If it can be proven that the patient is in a state of hyperthyroidism it is certain that the goiter is either of the exophthalmic type or else it is a toxic adenomatous goiter. If hyperthyroidism does not exist then the patient either has a colloid goiter or multiple adenomata without hyperthyroidism.

There are about seven reasons why it is necessary to determine the type of goiter:

1. Colloid goiter can be cured by medical treatment.
2. Lugol's solution is very valuable in exophthalmic goiter, but probably harmful in a non-toxic adenoma.
3. The medical management of exophthalmic goiter is probably more important than the work done by the surgeon, but in the other types preliminary medical treatment is usually unnecessary.
4. Colloid goiters are frequently operated upon because they are incorrectly diagnosed.
5. In an adenomatous goiter the surgeon removes only the adenomata while in exophthalmic goiter a large part of the gland must be resected.
6. The failure to recognize toxic goiters is frequently responsible for deaths in patients operated upon for other conditions.

7. The operative risk is greater in adenomatous goiter with hyperthyroidism than in exophthalmic goiter but the chance of permanent cure is better.

In determining the presence of hyperthyroidism there are but three characteristics that deserve special emphasis in the clinical history—first, has the patient noticed an increase in appetite; second, has there been a lack of tolerance for heat for a period of weeks or months; third, has there been a loss in weight in spite of an increase in appetite? There are only two disease conditions in which a loss of weight is associated with a definite increase in the appetite and these are hyperthyroidism and diabetes mellitus. These are, then, the essential features to be brought out in a goiter history, but there are many other points of less importance that should be investigated.

In the routine examination of patients the physician usually looks for a few signs or symptoms that serve as a lead to further investigation. When a patient with a toxic goiter enters the physician's office there are several features that should suggest an investigation as to the presence of hyperthyroidism. The patient usually appears to be stimulated and seems unduly excited. He looks warm as if he had been engaged in violent exercise. There may or may not be a noticeable enlargement of his neck. In some patients, however, in whom a condition of very mild hyperthyroidism has existed over a long period of time the first impression is that of a cardiac decompensation.

The physical examination of these patients should of course be very thorough, but there are six outstanding features that should be investigated.

1. The size and shape of the thyroid gland.
2. The presence or absence of bruits and thrills.

3. Whether there is weakness in the quadriceps muscles. This point is determined by having the patient step upon the step of an examining table or upon a low chair.

4. The pulse pressure and the pulse rate. Pulse pressure is, of course, the difference between the systolic and the diastolic blood pressure. If the pulse pressure is determined on several occasions and each time it is found to be increased, we have a strong argument in favor of hyperthyroidism. There are only two conditions which produce a relative high pulse pressure. These are hyperthyroidism and aortic regurgitation. Unlike aortic regurgitation, in hyperthyroid states the diastolic pressure remains about normal. If one prides himself upon his diagnostic acumen he will oftentimes see a patient who has been diagnosed essential hypertension in whom the real condition is a toxic adenomatous goiter. The removal of these adenomata causes the blood pressure to return to normal.

5. Presence or absence of exophthalmos or a stare.

6. Objective body warmth. This is usually determined by placing the hand on the patient's chest beneath his clothes.

The chief laboratory aid in the diagnosis of goiter is pre-eminently the basal metabolic study. A basal metabolic determination should be used only to confirm a diagnosis which has already been made. To depend solely upon this laboratory procedure for the diagnosis of hyperthyroid states will lead the internist into many errors. If the first determination shows a metabolic rate above normal, it should be repeated on several occasions to make sure the patient has a toxic goiter and is not simply a psychoneurotic individual.

There are at the present time many types of apparatus for the determination of basal metabolism. By far the best one

is the Tissot gasometer used in conjunction with a Haldane gas analysis apparatus. These can be used only by very highly trained technicians and are therefore not practical for the average internist. Probably the two next most accurate apparatuses are the Krogh and the Benedict-Roth. These are very simply constructed and not much skill is required to operate them. With the idea in mind of deciding which apparatus of the two last mentioned was the more accurate, I made a series of basal metabolic determinations with each of them and compared my results with the readings made from the same patients at the same time with the Tissot-Haldane apparatus. In my hands the Krogh machine was decidedly the more accurate.

When the decision has been rendered that the patient is in a state of hyperthyroidism, the diagnosis of a toxic goiter has been made; then we know that the condition will demand surgical treatment. Another step must be taken, however, to decide whether we are dealing with multiple adenomata with hyperthyroidism, or an exophthalmic goiter. There are four important points in the differential diagnosis:

1. An exophthalmic goiter has bruits and usually thrills over the thyroid arteries, while the adenomatous goiter has not.

2. There is usually exophthalmos or at least a stare in exophthalmic goiter, while the eyes are normal in other types of goiter.

3. A symmetrically enlarged thyroid with a granular feel is found in exophthalmic goiter, but the adenomatous goiter is decidedly nodular.

4. The clinical course of the disease is important. The toxic adenomatous goiter runs a regular course, while in exophthalmic goiter the course is very irregular and interrupted by goiter crises. Because of its regular course the adenomatous goiter may be operated upon at any time

if there is no cardiac decompensation. In dealing with exophthalmic goiter, however, Lugol's solution must be given for at least six days before operation and for three months following operation. The usual dose of this drug is ten minims three times a day.

It is not necessary to discuss adenomatous goiter without hyperthyroidism except to say that the decision as to whether it is surgical depends upon the size of the nodules, and the chances of their producing pressure by reason of their location. If they are not surgical no other treatment is indicated for iodine may cause such a non-toxic goiter to become toxic.

The colloid goiter is a diffuse, soft, symmetrical enlargement of the thyroid gland. It occurs in two types, (a) vascular, (b) non-vascular. The vascular type, because of its bruits, is frequently confused with exophthalmic goiter and operated upon, but it must be borne in mind that colloid goiter occurs in adolescence and is distinctly an expression of a deficiency on the part of the thyroid gland. For this reason it is frequently associated with a sub-normal metabolic rate.

Small colloid goiters in very young individuals may be made to disappear by giving small doses of iodine in almost any form, but those of long duration must be treated with desiccated thyroid tablets.

The classic "neuro" is next considered, for from time immemorial he has been a victim of surgery, and so he is found being operated upon frequently for exophthalmic goiter, or having his thyroid gland treated with x-ray. The particular types of neuroses to which I wish to refer are those variously classified as "cardiac neurosis," "disordered action of the heart," "neuro-circulatory asthenia," "neurasthenia," and "effort syndrome."

A careful analysis of the outstanding features, both mental and physical, of hyperthyroid states and of neurasthenic types

of individuals makes the differential diagnosis quite simple. The entire demeanor of a neurasthenic patient is different from that of the person with toxic goiter. In every action the neurasthenic displays fatigue, but the fatigue is more apparent than real. The patient with a toxic goiter, on the other hand, attempts to conceal his weakness and when he finds that he is unable to step upon the examining table he is greatly surprised and makes a second attempt. The neurasthenic is "too cold" rather than "too warm," and he complains of a failing appetite. His weight is practically normal. In contrast to this, the patient with a toxic goiter is losing weight in spite of the fact that he eats one and one half to three times the amount of food consumed by a normal individual. Because of the rather unstable nervous systems, the neurotic individual may have an elevated basal metabolic rate, but this will always drop to within normal limits when the test is repeated, especially if the patient is kept in bed for twenty-four hours before the test is made. While the neurasthenic patient may have a rapid pulse, the pulse pressure is always within normal limits.

A discussion of the diagnosis of the various types of goiter along with conditions that are likely to be confused with them is indeed a big subject and no attempt has been made to cover the field with any degree of thoroughness. Diseases of the thyroid gland are quite frequently encountered by the average physician and it is surprising how often these conditions are incorrectly diagnosed and improperly treated. The great majority of surgeons who operate upon goiter have a mortality rate of nearly 10 per cent in exophthalmic goiter. If these same cases were properly treated medically in preparation for surgery this mortality rate could be reduced to less than one-half of one per cent. It is quite a frequent occurrence for a patient, who has goiter that has not been recog-

nized, to be operated upon for some condition such as a cholecystitis and then die a few days later from an acute hyperthyroidism brought on by the operation. A very large number of patients with colloid goiter, especially of the vascular type, are operated upon for exophthalmic goiter. In subjecting these people to surgery not only have they been subjected to a needless risk, but their condition has been made worse. In colloid goiter the enlargement of the

thyroid is an expression of a deficiency on the part of the gland. If, then, by surgical means a large part of the gland is removed, the thyroid deficiency becomes all the more great.

If, therefore, the writer has emphasized the very great importance of recognizing with a fair degree of clearness the most accurate methods for making the diagnosis, he has accomplished his purpose.

COLLOID GOITER (a) Vascular (b) Non-Vascular	EXOPHTHALMIC GOITER	ADENOMATOUS GOITER with HYPERTHYROIDISM	ADENOMATOUS GOITER WITHOUT HYPERTHYROIDISM
Symmetrical Enlargement	Symmetrical	Nodular	Nodular
Soft and Homogeneous	Granular and Firm	Hard Nodules	Hard Nodules
No Symptoms	Symptoms of Nervous System	Symptoms Cardiac	No Symptoms
Age Under 25	Average Age 36	Average Age 42	Usually Over 25
Eyes Normal	Exophthalmos and Stare	Eyes Normal	Eyes Normal
Vascular Type Bruits and Thrills	Bruits and Thrills	No Bruits nor Thrills	No Bruits nor Thrills
Non-Vascular—No Bruits			
No Constitutional Symptoms	Hyperthyroidism: Irregular Course	Hyperthyroidism: Regular Course	No Constitutional Symptoms
B. M. R. Normal or Below	Elevated B. M. R. 20 plus	Elevated B. M. R.	B. M. R. Normal or Below
1. Iodine Early Stages	1. Lugols at Least 6 da	Primary Thyroidectomy	No Treatment or Thyroidectomy
2. Dessicated Thyroid Later.	2. Ligation or Thyroidectomy		(Do Not Give Iodine)
	3. Lugols 3 Mos. Post. Op		

SYMPTOMS OF HYPERTHYROIDISM

1. Increase in warmth.
2. Increase of appetite.
3. Loss in weight.
4. Elevated B. M. R.
5. Quadriiceps weakness.
6. Increase in pulse pressure.
7. Tremor.
8. Rapid pulse.
9. Atrophic changes of nails.

EXOPHTHALMIC GOITER	ADENOMATA WITH HYPERTHYROIDISM
Symmetrical Enlargement of Thyroid	Nodular Goiter.
Bruits in 80% and Thrills	No Bruits nor Thrills.
Exophthalmos and Stare	Eyes Normal.
Course of Disease irregular	Course Regular.
Duration of Disease, 1-2 years	Duration 3-4 years.

A STATISTICAL REPORT OF GASTRIC
AND DUODENAL ULCER AND
DUODENAL CARCINOMA IN
CHARITY HOSPITAL, NEW
ORLEANS, FROM 1915
THROUGH 1925*

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NEW ORLEANS.

There has been much written in recent years on the surgical treatment of gastric and duodenal ulcers. With the diversified opinions, as the radical procedures of Haberer, Finsterer, Kelling, H. H. Berg and Alfred Strauss, and the conservative procedures of others, as the Mayo Clinic, etc., I should like to present a review of work done in Charity Hospital within the past eleven years (1915 through 1925) to include many phases other than the operative procedure, and also Carcinoma of the same organs, as the reports have so much in common.

GASTRIC ULCER

Charity Hospital records show 440 medical and 158 surgical cases from 1906 to 1925 inclusive. Corrected by subtraction of 14 cases of duodenal ulcer, and 6 of other pathology or none, and an addition of 2 filed under carcinoma, we have 140 surgical cases. There were 101 cases during the years 1915 to 1925 inclusive of which 26 were ruptured.

NON-PERFORATED GASTRIC ULCER

Number 1915-1925 inclusive: 75.

Race and Sex: White male 37; white female 15; colored male 23; colored female 0.

Age: Age limit 17 to 70 years.*

Age	W.M.	W.F.	C.M.	C.F.
10-20	1	0	0	0
20-30	7	4	3	0
30-40	13	5	9	0
40-50	5	2	8	0
50-60	7	2	3	0
60-70	4	2	0	0

*Note—Youngest case was recorded in a white male, aged 17 years. Admitted 9/30/15, service Dr. C. G. Cole. Clinical diagnosis, positive; x-ray report, negative; operation, post gastro-enterostomy with an enteroenterostomy. Anesthetic, ether. Result, died.

Oldest case, white male, aged 65 years. Admitted 5/17/20, service Dr. J. Danna. Clinical diagnosis, positive; x-ray, positive; operation, post gastro-enterostomy with Murphy button. Result, died.

Number per year: 1915, 13; 1916, 7; 1917, 11; 1918, 1; 1919, 6; 1920, 9; 1921, 2; 1922, 3; 1923, 6; 1924, 10; 1925, 7.

Clinical Diagnosis: These figures are acquired from the cases recorded, under above heading, from record room, and are not comparable with negative findings filed under a different diagnosis. Clinical diagnosis, positive 55; negative 9; carcinoma 3; duodenal ulcer 2; doubtful 6.

Location of lesions Pylorus 66; lesser curvature 4; cardia and lesser curvature 1; greater curvature 1; posterior wall 3.

Operators: Allan 2; Bloch 5; Batchelor 1; Cole 7; Danna 6; Elder 1; Finsterer 1; Fortier 1; Gessner 3; M. Gelpi 2; Graf-fagnino 4; Hountha 1; E. Irwin 8; Kostmayer 1; J. E. Landry 3; L. Landry 7; Leidenheimer 2; Maes 8; Matas 4; Parham 3; Richard 1; Smythe 2; Souchon 2.

Anesthetics: Ether 60; Ant. splanchnic (Braun's) 12; Post. splanchnic (Kappis) 1; Ether and Splanchnic 1; Spinal and Splanchnic 1.

Operative procedure: Posterior Gastro-enterostomy (suture) 42; (Murphy button) 3; combined with an entero-enterostomy button 12; anterior gastro-enterostomy 1.

Gastric resection, type: Finsterer 6; Billroth I—1; Billroth II, 1; Modified Polya 1.

*Read before the Surgical Section, Charity Hospital Staff, January Meeting.

Exploration: Excision of ulcer and suture, 2; excision of ulcer and posterior gastro-enterostomy 1.

Pyloroplasty: Cauterization and suture 2; enterostomy 1.

X-ray reports: Positive 37; Negative 9; Duodenal ulcer 2; not filed 27.

Blood Wassermann: Positive 2; Negative 12; not filed 61.

Results when Discharged: Improved 58; Died 17; Anesthetic used, Ether 13; Splanchnic (Gastrectomy) 3; Splanchnic and ether (Gastrectomy) 1.

Jones, 3; Jacobs, 1; Kostmayer, 7; Landry, 4; Scott, 1.

Operative procedure:

Method	No.	Improved	Result
Cauterized and sutured	9	5	4 died
Sutured	7	2	5 "
Post-gastro-enterostomy & E. E. suture	1	1	0 "
Exploratory	3	0	3 "
Gastrotomy	1	0	1 "
Suture and Post. Gast. Ent.	5	3	2 "

Results—Total, 26; 11 improved; 15 died.

Anesthetic—Local, 1; spinal, 1; ether, 24.

Wassermann (blood)—Negative 3; positive 1; not in history 22.

X-ray Report—Positive 1, not filed 25.

PERFORATED GASTRIC ULCER

Number: 1915-1925 inclusive, 26.

Race and Sex: White male 16; white female 1; colored male 9; colored female 0.

Age*	W.M.	W.F.	C.M.	C.F.
20-30	4	0	3	0
30-40	3	1	2	0
40-50	4	0	3	0
50-60	4	0	0	0
60-70	1	0	0	0

Unknown, 1.

*Youngest case, colored male, aged 22, 6/17/17. Dr. Kostmayer. Pyloric ulcer. Previous history, positive. Operated within 12 hours. Operation, sutured and post-gastro-enterostomy. Anesthetic, ether. Result, improved.

Oldest case, white male, aged 67, 2/21/18. Dr. H. Kostmayer. Pyloric ulcer (anterior wall). Previous history, none. Duration of rupture before operation, unknown. Operation, suture. Anesthetic, ether. Result, died. Autopsy confirms findings.

Number per year: 1915, 3; 1916, 0; 1917, 5; 1918, 3; 1919, 2; 1920, 2; 1921, 3; 1922, 3; 1923, 1; 1924, 3; 1925, 1.

Previous history of gastric disturbance: Positive, 15; negative, 7; doubtful, 4.

Location of rupture: Pylorus, 25; fundus, 1.

Probable duration of rupture before operation: 2 hours, 1, improved. 5 hours, 1 died (medicated). 6 hours, 3, improved 2, died 1. 10 hours, 1, died. 12 hours, 4, improved. 1 day, 3, improved 2, died 1. 2 days, 2, died. Unknown, 11.

Operators: C. Allen, 2; Bloch, 1; Elder, 1; Graffagnino, 4; E. Irwin, 1; W. O'D.

DUODENAL ULCERS.

Charity Hospital records show 121 medical and 95 surgical cases during 1906-1925 inclusive. Corrected by subtraction of 4 cases of other pathology or none and addition of 14 cases filed as Gastric, and 3 cases filed under other diagnoses, gives 108 surgical cases (1906-25 inclusive). 90 cases during years 1915-25 inclusive, of which 31 were ruptured.

NON-PERFORATED DUODENAL ULCERS.

Number of cases 1915-1925 inclusive, 59.

Race and Sex—White male 36; white female 4; colored male 17; colored female 2.

Age limit*	W.M.	W.F.	C.M.	C.F.
10-20	0	0	1	0
20-30	14	1	1	0
30-40	8	1	7	1
40-50	5	1	7	0
50-60	8	1	1	1
60-70	0	0	0	0
70-80	1	0	0	0
Total	36	4	17	2

*Youngest case recorded was a colored male, aged 18 years, admitted 12/9/24, to service of Dr. Emmett Irwin. Clinical diagnosis positive, X-ray report, gastric ulcer. Blood Wassermann negative. Operation, posterior gastro-enterostomy and cholecystectomy. Posterior splanchnic (Kappis) anesthesia. Result, improved.

Oldest case recorded was a white male, aged 71 years, admitted 2/21/16, to service of Dr. S. Stafford. Clinical diagnosis, positive (duration 2½ months); X-ray reported a 6 hour stasis in stomach. Blood Wassermann not filed. Operation, gastroenterostomy with an enteroenterostomy. Anesthetic, ether. Result, died. Autopsy, positive, duodenal ulcer.

Number per year: 1915, 4; 1916, 7; 1917, 3; 1918, 1; 1919, 3; 1920, 1; 1921, 4; 1922, 8; 1923, 9; 1924, 11; 1925, 8.

Clinical diagnosis: Positive, 37 (7 previously operated); Negative 4; Gastric ulcer 14; Doubtful 3; Not stated 1.

Location of lesion: Not satisfactorily stated.

Operators: Allen 1; Bloch and Landry 1; Bradburn 2; Cole 3; Cassegrain 1; Danna 3; Gessner 3; Graffagnino 8; M. Gelpi 6; E. Irwin 12; Jones 2; A. C. King 1; Kostmayer 1; Leckert 1; J. Landry 1; Matas 1; Maes 7; Martin 1; Stafford 1; Smythe 1.

Anesthetic: Ether 38; Anterior splanchnic (Braun) 15; Posterior splanchnic (Kappis) 3; Ethylene 1; Local and ether 1; Local 1.

Operative procedure: Post-gastro-enterostomy 38; Post-gastro-enterostomy and enteroenterostomy (Button) 3; Anterior gastro-enterostomy 1; Partial gastric resection (exclusion) (v. Eiselberg) Finsterer 6; Exploratory 5; Pyloroplasty 1; Post-gastro-enterostomy with enteroenterostomy (Button) and Pyloric occlusion 3; Cauterization 3; Cauterization and post-gastro-enterostomy (button) 2.

X-ray report: Positive 33; Negative 9; gastric ulcer 4; not in history 13.

Blood Wassermann: Positive 4; Negative 24; not in history 31.

Results when discharged: Improved 47; stationary 2; died 10.

PERFORATED DUODENAL ULCER.

Number of cases 1915-25 inclusive, 31.

Race and sex: White male 21; white female 1; colored male 9; colored female 0.

Age limit.*	W.M.	W.F.	C.M.
20-30	3	1	2
30-40	8	0	4
40-50	7	0	2
50-60	1	0	1
60-70	1	0	0
Unknown	1		
Total	21	1	9

*Youngest case on record was a white male, aged 20 years, admitted 10/22/20, service of Dr. Jerome Landry, with a previous positive history; operated three hours from the time of perforation; operation, cauterization, suture and posterior gastro-enterostomy; ether anesthesia; result, died.

Oldest case was in a white male, aged 62, admitted 6/5/21, service of Dr. P. Graffagnino; questionable previous history; operation, cauterization; anesthetic, ether; result, died.

Number per year: 1915, 2; 1916, 1; 1917, 5; 1918, 0; 1919, 2; 1920, 1; 1921, 4; 1922, 4; 1923, 6; 1924, 5; 1925, 1.

Previous history: Positive 19; negative 7; not listed 5.

Location of rupture: Anterior wall, 7; inner wall, 1; posterior wall, 1; pyloric-jejunal junction 3; first portion 3; not stated 16.*

Probable duration of rupture before operation:

Hours	No.	Improved	Died
1	1	1	...
2	1	1	...
3	1	...	1
4	3	2	1
5	1	1	...
6	1	1	...
12	1	1	...
Days			
1	3	1	2
2	2	1	1
3	1	...	1
4	2	2	...
5	1	1	...
21	1	...	1
Unknown	12	7	5
Total.....	31	19	12

Operators: Allen 1; Bradburn 2; Elder 2; Graffagnino 9; Gelpi 3; Irwin 5; Jones 2; Kostmayer 1; Larue 1; L. Landry 1; J. E. Landry 2; Tedesco 1; Keller 1.

Operative procedure:†	Improved	Died
Cauterization and suture	8	0
Sutured	13	6
Cauterization, suture and post-gastro-enterostomy	6	2
Exploratory	3	3
Cauterization, suture, post-gastro-enterostomy with button and pyloric occlusion	1	1
Total	31	12

Anesthetic: Ether 27; anterior-splanchnic (Braun) 2; local and ether 2.

Blood Wassermann: Positive 1; Negative 4; not in history 26.

X-ray report: Positive 1; negative 2; Not in history 28.

*Note—These figures as to location are indefinite as the history did not fully explain the lesion.

†Note—In all cases, abdomen was drained, except case with pyloric occlusion.

REMARKS ON GASTRIC AND DUODENAL ULCER.

Sex and race: In this series of eleven years, the total absence of gastric ulcer, two cases of non-ruptured and no cases of perforated duodenal ulcer in the colored female, is most noticeable. In gastric ulcer it is known that the ratio between male and female varies in different localities and at different periods (Dreschfeld).§

The consensus is that it is more frequent in the female. My tabulation shows gastric ulcer, male (white and colored) 85 to female 16. In duodenal ulcer there is a preponderance in the male ranging from 10 to 1, to 3 to 1. This report shows male (white and colored) 83 to female 7. The ration of white and colored male in this series is about 2 to 1. Gastric ulcer, white male 53, colored male 32. Duodenal ulcer, white male 57, colored male 26.

Age: Gastric ulcer as in other series is between 20 and 40. Duodenal ulcer does not show very marked increase in any decade.

Location: In gastric ulcer, the majority were specified as occurring at the pylorus. The location in Duodenal ulcer was unsatisfactorily stated.

Perforated ulcers: The probable duration of perforation before operation and the type of operation performed did not alter the final results to any noticeable degree in gastric and duodenal ulcers.

Operative procedure and Anesthesia: It is impossible to compare results in relation to types of operation when there are so many different operators. The different tables will show the types with their number. In passing we may show the results of the radical methods in the years 1924 and 1925. In October, 1923, Dr. Hans Finsterer operated at Charity Hospital, New Orleans, La., performing a gastric resection and cholecystectomy under anterior

splanchnic anesthesia. I have followed this case to date and he is in perfect health.

Gastric ulcer (non-perforated): Since this date, there were in 1924, five partial gastrectomies, (Finsterer type) 4, (Polya) 1; all were under anterior splanchnic anesthesia with 1 death. In 1925 there was one partial gastrectomy using splanchnic and ether and one death.

Duodenal ulcer (non-perforated): In 1923, there were 2 cases of gastric resection for exclusion (Von Eiselberg), using anterior splanchnic anesthesia, and 2 improved. In 1924 there were 3 cases of gastric resection for exclusion, 2 cases using anterior splanchnic (Braun), and 1 local and ether, and 3 improved. In 1925 there was 1 case of gastric resection (exclusion) using Posterior splanchnic (Kappis) and 1 improved.

Anesthesia: Beginning with the last quarter of 1923 through 1925, there were 19 surgical gastric ulcers (non-perforated). 4 were performed under ether anesthesia, 1 splanchnic and ether, and 14 splanchnic (13 anterior splanchnic and 1 posterior splanchnic). Of 19 cases, 5 died (1 posterior gastro-enterostomy (anterior splanchnic); 1 Polya gastrectomy (anterior splanchnic); 1 excision of ulcer and posterior gastro-enterostomy (anterior splanchnic); 1 posterior gastro-enterostomy (ether); 1 Finsterer gastrectomy (anterior splanchnic and ether).

For the same period in duodenal ulcers, Oct. 1923 through 1925, 23 cases were non-perforated 3 were performed under ether anesthesia, 1 local and ether, 1 ethylene and 18 splanchnic (posterior Kappis) 3, and (anterior Braun) 15. Of 23 cases 3 died (1 posterior gastro-enterostomy (ether), 1 anterior gastro-enterostomy (anterior splanchnic), 1 posterior gastrectomy (ethylene). Many points are in favor of splanchnic anesthesia but the foremost is that one obtains complete relaxation (no accessory respiratory movements to interfere with

§Allbutt & Rolleston—System of medicine, 3:443.

the field of operation) and the post-operative period is smooth and uneventful.

X-ray report: The same applies here as to clinical history. The findings on cases that are filed under other diseases are impossible to find, therefore a comparative record cannot be made.

Blood Wassermann: These records are not complete enough for any conclusive deduction.

Progress and end results: This is also impossible in this serious with as many surgeons operating, and the type of patient, that will not inform you, as he should, of his condition.

CARCINOMA OF STOMACH AND DUODENUM.

The record show 547 medical and 260 surgical cases during 1906-1925 inclusive. 10 additional medical cases filed as surgical make 557. Corrected surgical cases by subtracting 14 incorrectly filed, 2 missing from files and addition of 1 filed as gastric ulcer gives 245.

GASTRIC CARCINOMA (SURGICAL).

Number, 1915 through 1925: 140.

Race and sex: White male 52; white female 20; colored male 57; colored female 11.

Age: Age limits, 23 to 78.

Age	W.M.	W.F.	C.M.	C.F.
10-20	0	0	0	0
20-30	1	2	0	0
30-40	4	3	10	4
40-50	11	8	27	4
50-60	18	3	16	1
60-70	15	3	2	1
70-80	3	1	2	1
Total	52	20	57	11

*Youngest case was a white male aged 23, in the service of Dr. Urban Maes, admitted 11/11/25, with a clinical diagnosis of gastric ulcer, duration 5 months. Operation, posterior gastro-enterostomy under ether anesthesia. Result, improved at time of leaving the hospital.

Oldest case was a colored male, aged 78, in the service of Dr. John Smythe, admitted 2/12/17, with a positive clinical and X-ray diagnosis, duration 1½ years. Operation, posterior gastro-enterostomy and entero-enterostomy (button). Anesthesia, ether. Result, died.

Number per year: 1915, 9; 1916, 12; 1917, 13; 1918, 6; 1919, 9; 1920, 13; 1921, 18; 1922, 18; 1923, 9; 1923, 19; 1925, 14.

Location of lesion: Pylorus 94; lesser curvature 4; greater curvature 2; fundus and pylorus 7; entire stomach 12; cardia and fundus 4; pylorus and lesser curvature 1; fundus 3; pylorus and greater curvature 2; cardia 3; not specified 8.

Operators: C. Allen 5; J. Batchelor 7; E. Bloch 6; Bradburn 3; C. C. Cole 11; Cocram 1; J. Danna 5; Edler 1; Fortier 1; P. Graffagnino 9; M. Gelpi 6; H. Gessner 13; E. Irwin 10; W. O'D. Jones 1; Jacoby 1; Jacobs 1; Kostmayer 2; L. Landry 6; J. Landry 4; Leidenheimer 5; Lindner 2; Leckert 1; J. C. Menendez 3; E. D. Martin 3; R. Matas 5; C. J. Miller 1; Maes 10; F. Parham 5; Perkins 1; Smythe 9; M. Souchon 2.

Operative procedure: Post-gastroenterostomy (suture) 59; (button) 3; with entero-enterostomy (button) 9.

Partial gastrectomy 9; Finsterer method 6; modified Polya 1; Billroth II 2.

Pyloroplasty (Finney) 1; Exploratory 40; jejunostomy 12; post-gastro-enterostomy with jejunostomy 1.

Jejunostomy with enteroenterostomy (button) 1; anterior gastro-enterostomy 3.

Anterior gastro-enterostomy and entero-enterostomy 1; partial gastrectomy with jejunostomy 1.

Anesthetic and results:

Anesthetic	Improved	Died	Total
Ether	63	32	95
Anterior splanchnic (Braun) ..	8	6	14
Posterior splanchnic (Kappis) 3	3	1	4
Local	9	14	23
Anoci	1	1	2
Ethylene	0	1	1
Nitrous oxide	1	0	1
Spinal	0	0	0
Total	85	55	140

X-ray report: Positive 109; gastric ulcer 2; duodenal ulcer 1; not listed 23.

Blood Wassermann: Positive 3; Negative 96; not listed 41.

Autopsies: Of 55 deaths, 14 cases were autopsied and 41 were not autopsied.

CARCINOMA OF DUODENUM.

One case reported.

A white male admitted 12/1/16, in the service of Dr. J. Batchelor. Clinical diagnosis, gastric carcinoma. Duration from history 15 years. Operation, posterior gastro-enterostomy. Anesthetic, ether. X-ray report, gastric carcinoma. Result, improved.

REMARKS ON GASTRIC CARCINOMA.

Sex: As in the case of ulcer, there is a preponderance in the male and in this series they are about 3 to 1.

Race: In this series they are about equal.

Age: Majority ranging between 30 and 70 years.

Location of lesion: The pylorus is involved in the greatest percentage of cases. Fortunately to some degree for the patient as well as the surgeon if these cases (*i. e.*, pyloric involvement) can be operated early, they are benefited by surgery, even if it be radical. Unfortunate for those that the lesion is located at the cardia (the percentage being small) as surgery is of no avail.

Operative procedure: If gastric carcinoma cases can be explored in their early stage, before mesenteric glandular involvement, partial gastrectomy under splanchnic anesthesia offers the best chance for permanent relief. If the involvement is too extensive palliative means of relieving obstruction is the method of choice. The majority of cases come under the latter heading and until we can educate the laity to early interference, as in other organs that have carcinoma, we cannot expect brilliant results with radical operation on the stomach.

X-ray reports: In these cases it is not very difficult to make a diagnosis as the amount of stagnation in the stomach, etc., is an indication.

Blood Wassermann: As in gastric and duodenal ulcer, though the records are more complete in this instance, they give no information.

CARCINOMA OF DUODENUM.

A more thorough description of location of lesion may reveal more carcinoma in this organ.

CONCLUSIONS.

I have tried in my review of eleven years, to show what has been accomplished in Charity Hospital, New Orleans, La., in the field of Gastric and Duodenal surgery. With the use of new methods of anesthesia, the investigation in blood chemistry, new methods of operating, time and statistics will increase our knowledge and benefit the patient accordingly.

I am indebted to the staff of the record room at Charity Hospital, my wife, and Dr. S. C. Shepard, for assistance in compiling these statistics.

AFRO-AMERICAN THERAPEUTICS.

GEORGE M. NILES, M. D.,

ATLANTA.

When Kipling launched the phrase "The white man's burden," it was accepted as an epigram with many sides and angles. It appealed to the Caucasian practically over the entire globe, for wherever the black-skinned people come in contact with their white brethren, this burden has to be borne by the latter.

In the United States, especially in the Southern portion, an important part of the burden has been and is to conserve the health, as well as treat the sick, of the many Afro-Americans that fate has cast upon our shores, and who have become an integral part of our body politic.

I think it is accepted as a proven fact by all students of ethnology that any hybrid is more susceptible to the inroads of disease than a pure and unadulterated race.

The Afro-Americans, in this connection, represent a hybrid of every varying shade, for few there are in whose veins course the unmixed blood of their African ancestors. We see them from coal black, on upward in the mulatto scale, until we find in every community negroes who could not be known as such by any outward appearance.

These people are with us to stay, and while some have attained positions of honor and trust, the majority belong to the laboring class. They till our fields, they cook our food, they launder our clothes, they nurse our babies, they serve in our hotels, they shave our faces, they drive our automobiles, and perform multitudinous tasks of physical toil. Furthermore, they are our friends, and, as such, are entitled to our consideration. This study is, therefore, submitted in their interest, being based upon more than thirty-five years of active practice in the South, the first seventeen in an agricultural section, where the industrial potentialities of these people caused their landlords and employers to exhibit an active concern in all that pertained to health.

I might say also, that these conclusions apply only to quadroons and those of darker hue; the octaroons and those of almost pure Caucasian blood naturally partaking of the physical and mental characteristics of the whites, modified to a degree by education and environment.

The following are the approximate differences between Afro-Americans and Caucasians:

CATHARTICS

Probably in this class of agents lies the greatest difference. For instance, where two compound cathartic pills or twenty drops of fluid extract of cascara would produce free purgation in the Caucasian, this has to be increased about 50 per cent. in the negro. Those practitioners who have had much experience with this race know

full well that an ordinary laxative produces no intestinal peristalsis whatever.

EMETICS

The same rule as cathartics applies, where the emetic is taken in the stomach. When, however, emesis is to be brought about by action on the vomiting center, as by hypodermic injection of apomorphin, about 25 per cent. less than the accustomed dose will answer.

ANODYNES

I have observed that, while the negro easily gives way to pain, indulging in vociferous lamentations upon sometimes slight provocation, relief may be procured by about 30 per cent. less anodyne drugs than are demanded by the Caucasian. I have often abated apparently severe colics by hypos of 1/8 to 1/6 of morphine, while this amount in the white race, as is well known, is inadequate except to "take the edge off" the pain.

NERVE SEDATIVES AND HYPNOTICS

To these this race responds especially well. I have seldom found it necessary to administer the bromides in greater than 5-grain doses, and 10 grains of trional or 5 grains of veronal generally suffice in the infrequent cases of insomnia. "Tired Nature's sweet restorer" is a boon rarely denied these worry-free people, and "the ravelled sleave of care" is knit up with but little trouble.

ANTIPYRETICS

In these I have found no special differences between the races, though the aching pains accompanying fevers seem to be more quickly allayed by the coal tar antipyretics, and cyanosis seldom supervenes. In these so-called "bilious attacks" where intense head and back-ache were present, I have seen the pains promptly yield to 2-grain doses of acetanilid considerably before the fever appreciably varied. This may be taken as a corollary to what has been previously adduced concerning anodynes.

CARDIAC STIMULANTS AND DEPRESSANTS.

My observations to date have led me to give slightly larger doses (probably 10 per cent.) of both to the negroes. This statement I desire to fortify by further study.

DIURETICS AND DIAPHORETICS

About the same will apply as to the classes above-mentioned, only I speak with more assurance. Those who have endeavored to set up satisfactory diuresis or diaphoresis in the negroes, especially the very black ones, will readily endorse my views.

COUNTER-IRRITANTS

The epidermis of most Afro-Americans is rather thick, while the terminal sensory nerves do not appear to be normally impressionable, as a general rule. These agents, therefore, need to be used in considerable strength to produce satisfactory results. An active rebe facient that would make the average Caucasian deeply sympathize with the ancient Hebrew children in the fiery furnace, would hardly produce an audible grunt, if put on the unresponsive surface of a son of Ham.

STOMACHICS AND DIGESTANTS

It is concerning these agents, perhaps, that I have the most satisfactory data. It might be well to state in explanation, that among the uneducated of both races it is customary to style as "stomach trouble" a disturbance located anywhere in the abdomen or pelvis. Among the men, aid is often sought for even a cystitis coupled with the self-made diagnosis of "stomach trouble," while among the female contingent most of the ovarian and uterine ills are referred to that long-suffering organ. For this reason, we have seen in our gastrointestinal experience numerous negroes with supposed digestive disorders, where in reality the stomach was normal. As a test meal was taken in every instance, I am able to report on 128 cases, where the stomach was apparently not the offending portion of the anatomy, and am constrained to the belief that the normal free hydrochloric acid in the Afro-American exceeds that in

the Caucasian stomach by at least 6—probably 10 per cent. Acting on this assumption, I have given smaller doses of stomachics with good results; and, as the oxyntic cells seem slightly more active, I have found hydrochloric acid indicated in a correspondingly less proportion. The alkalis, however, are often required. Very sparing doses of these aids to digestion have generally sufficed for the gastric infirmities of our negro patients—in fact, I have many times earnestly wished that some of the prompt and satisfactory responses shown by these humble invalids could be as easily duplicated among those higher in the social and financial scale, those to whom surcease from digestive discomfort would mean bountiful emoluments to the medical attendant.

Psychotherapy among the Afro-Americans is almost like planting good seed in virgin soil. Where the blase Caucasian "from Missouri" greets the earnest efforts of the psychotherapist with a "show me" air, the negro "hears the tidings gladly," co-operates to the extent of his ability, reaping a quick and bounteous harvest. To the tyro in psychotherapy this race presents unlimited possibilities for profitable experience, and I assure my confreres who have not appealed to the emotions and the somewhat - primitively - developed mentalities of these people in treating their ailments, that psychotherapy, in addition to indicated medicinal measures, will yield highly satisfactory effects.

The reader will, I trust, pardon the somewhat dogmatic tone of these statements; but, as they represent conclusions not heretofore put in print, but which have been tried out to my satisfaction, I place them before the profession at their face value.

Should there be any doubting Thomases, who would cavil rather than investigate, I would remind them of Hamlet's words—"There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

CANCER—SOME OF THE PROBLEMS CONNECTED WITH ITS CONTROL*

WM. F. WILD, M. D.,

NEW YORK

Of all afflictions to which the human race is susceptible, there is none on which the patient must rely so totally on the physician as is the case with cancer. While it is perhaps true that for many ailments the patient can do something for himself that will benefit the condition, this cannot be said of cancer. There is nothing the patient can do, there is nothing the attending physician can tell the patient to do for himself that will have the least beneficial effect on the disease. Whatever is to be accomplished must be done by the medical profession.

Admitting the foregoing truth, it can be seen that the axis around which the entire problem of the control of cancer revolves is the medical fraternity. Of paramount importance, therefore, is the formulating of a clear and concise statement as to what is the doctor's part in this movement.

THE PHYSICIAN'S PART.

There are two primary phases connected with any effort that may be made to increase the number of cures:

First. The period of time elapsing between the discovery by the patient that something is abnormal, and the visit to the family physician.

Second. The period of time elapsing between the visit to the family physician, and the patient being referred for treatment.

The medical fraternity is concerned with both phases. With the first, because it is only through a lack of appreciation of the seriousness of the situation that people delay in ascertaining the truth about their condition, and going back further, the de-

lay may be due to a lack of knowledge of the early symptoms. The education of the laity through lectures, motion pictures, and the printed word is a matter entitled to prime consideration, and if this is to be done correctly, physicians must take a leading part.

It has been remarked that before right ideas can be instilled into the minds of the people wrong notions must be taken out, and surely in no disease is this more applicable than in cancer. So long as people imagine that tumors can be pulled out by the roots, that is just how long they will visit paste and plaster establishments. So long as people believe cancer is a blood disease, that is just how long attempts will be made to hide the condition.

Ignorance is the weapon that enables cancer to destroy thousands who might have been saved. The fight against ignorance, therefore, is as important as the fight against cancer itself. While immediate resort to tested methods of treatment at the hands of reliable skilled practitioners is often the turning point that saves a life, the individual, however, is not apt to take this action unless he is acquainted with the danger signals—the early symptoms—and is wise enough to take proper treatment.

Science is doing its share by studying the malady and the best means of eradicating or controlling it, but science cannot force a man to learn the facts necessary to his existence. He must learn them for himself.

The medical profession, by conducting a campaign of education so that every person will know that a lump in the breast or any other part of the body, the wart or mole that changes in size, color, or appearance, the unusual discharge, even though the woman be 45 years of age, the bleeding from the bladder or rectum, the indigestion that cannot be attributed to anything in particular, and the sore that will not heal by the ordinary process of

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cleanliness, and that within three or four weeks, are the danger signals—the early symptoms—of cancer, will be conferring upon humanity a lasting benefit.

While the symptoms above described are, of course, at times produced by conditions other than cancer, they are serious enough to demand immediate attention so that a physician will be visited at once and a diagnosis promptly made.

The doctor, in teaching the laity to realize that ignorance of the true significance of the disease will not cure it; postponing the time until a correct diagnosis is made will not change the nature of the condition except that it will become progressively worse; and that a fear of proper treatment will not make the disease disappear, will be doing his share to reduce that period of time between when the patient discovers something abnormal and the visit to the physician.

A review in the October, 1924, number of "Campaign Notes" of the American Society for the Control of Cancer, of the latest report of the Pennsylvania Cancer Commission to the House of Delegates of the State Medical Society, gives some useful information as to whether or not cancer education pays. The review in part is as follows:

"That the educational work which is being done under the leadership of the American Society for the Control of Cancer to bring about early, competent treatment for cancer cases is producing good results is shown by the latest report of the Pennsylvania State Cancer Commission. The delays which ordinarily result between the appearance of the first symptoms and the application of proper treatment are being reduced in a substantial manner, with the result that the patients stand a much better chance of having their lives prolonged, or of being cured.

"The Commission is made up of seven members, headed by Dr. Jonathan Wain-

wright, formerly head of the Pennsylvania State Medical Society, and a member of the Advisory Council of the American Society for the Control of Cancer. The other members are Dr. Richard J. Behan, Director, Department of Cancer, Pittsburgh Skin and Cancer Foundation, and Chairman of the American Society for the Control of Cancer for the Sixth District of Pennsylvania, Drs. Fred Fisher, Henry D. Jump, Harry H. Penrod, Edward A. Weiss, and Courtland Y. White.

"The findings of the Commission are based upon a study made in 1910 of the records of cancer cases throughout the state, and repeated in 1923 under circumstances which make the data collected for the two years comparable. When compared, the results show the improvement in the knowledge of the public and the medical profession which has resulted from the educational work of the last thirteen years. Tables are given which show the time lost formerly and now by patients after discovering symptoms of cancer and before applying to competent physicians for diagnosis and treatment, and by physicians in applying the treatment required after the patients appear.

"People are applying more promptly than they used to do for medical aid, and physicians are, for the most part, applying proper treatment with less delay. There is a small percentage of physicians who are still dilatory and inefficient, and to these, whom the Commission term 'the backward 10 per cent.,' considerable attention is given in the report.

"In two valuable tables, many detailed facts are given with reference to the delays discovered in treating cancer in the different parts of the body.

"A study of the tables gives a very definite answer to a most important question—does cancer education pay? It certainly does pay. It has reduced the time interval between the discovery of the disease and

the application of proper treatment to an extent which has immensely increased the patients' chances of recovery.

"A reduction has occurred in the delay between the appearance of the first symptoms and the application made by the patient for medical treatment in cancer in every part of the body. The details are shown in the detailed tables; the general fact is made clear in the table which follows:

TABLE SHOWING THE DELAYS DUE TO THE PATIENT AND TO THE DOCTOR, IN PENNSYLVANIA IN 1910 AND 1923.

	Delay 1910	Delay 1923
SUPERFICIAL CANCERS:		
1. Average time between first symptoms and operation.....	18 mos.	14.6 mos.
2. Average time between first consulting physician and operation	13 mos.	4.5 mos.
DEEP CANCERS:		
1. Average time between first symptoms and operation	14 mos.	8 mos.
2. Average time between first consulting physician and operation	12 mos.	3.9 mos.

"Thirteen years of education have cut down the average time between the discovery of the first symptoms in superficial cancer and the first call on the doctor from 18 months to 14.6 months, or 20 per cent. In cases of deep-seated cancer, the interval has been reduced nearly one-half.

"And in these thirteen years, the doctors of Pennsylvania have learned the importance of prompt action sufficiently to have reduced the interval between the patient's first appearance and the institution of the treatment required from 13 months to 4.5 months, or 65 per cent., in superficial cancer, and from 12 months to 3.9 months, or about 70 per cent., in deep-seated cancer.

"These are excellent results, and the Pennsylvania Cancer Commission and the people of Pennsylvania deserve the utmost credit for their accomplishment. The American Society for the Control of Cancer means to bring them to the attention of the whole country.

"The reduction in the patient's delay, the Commission says, while very real, still leaves too long an interval between the appearance of the first symptoms and the application for efficient treatment. Consequently, all proper and available methods of educating the public must be continued, amplified, and extended, so far as possible.

"The Commission states that those who are engaged in the educational movement for cancer control should feel much encouraged and stimulated to greater efforts, for, as they truly remark, it is easier to fight a winning fight than a losing one.

THE DOCTOR'S DELAY.

"A glance at the table here given shows that the doctor's delay, or the time which elapses, after the physician is first consulted, before radical treatment is begun, has diminished at a more rapid rate than the patient's delay.

"In 1910 the attitude of the medical profession toward cancer, the Commission says, gave opportunity for considerable criticism. An examination of the records of the 1249 individual case reports relating to the year 1923 has shown that most of the members of the medical profession are now serving the community well in instituting early treatment for cancer, but there still remain about 10 per cent. whose attitude is far from right. This is illustrated by reports for breast and uterine cervix cancer. These are the largest and most representative classes.

CANCER OF THE BREAST.

"In 1910 the physicians first consulted for cancer of the breast did not make a local examination in 3 per cent. of the cases. In 1923 failure to make an examination at the first visit was not noted once in the 227 breast cases reported. However, 10 per cent. of the doctors first consulted are chargeable with 77 per cent. of the doctor's delay. The average delay for the 10 per cent. was 25.9 months per case. The 90 per cent. of doctors were account-

able for an average delay of only 0.9 months per case, and 66 per cent. of the doctors first consulted allowed no delay, at all.

"Twenty-nine, or 10 per cent., of the women applied to a doctor immediately after noticing a lump in the breast, a vast improvement over 1910.

CANCER OF THE UTERINE CERVIX.

"In 1910 the physicians first consulted did not make a local examination in 10 per cent. of the cases. In 1923 the figure was 7 per cent. This was an improvement, but not enough. Ten per cent. of the doctors first consulted in the cervix cases are chargeable with 51 per cent. of the delay. The average delay for this 10 per cent. was 9.5 months per case. The remaining 90 per cent. of doctors were responsible for a delay of 0.9 months per case. Fifty-seven per cent. of the doctors who were first consulted allowed no delay at all.

"Nineteen, or 8.5 per cent., of the women applied to a doctor at once after noticing the first symptoms—again a marked improvement over 1910.

"Passing now from this notice of the principal, statistical part of the report, we may take up a consideration of a number of important comments with which the report concludes. The Commission says that these points were all generally known before, but that the insistent way in which they appear again and again has made it seem desirable to emphasize them. What follows is in the language of the report itself:

"1. Fibromyomata of the Uterus—These have been connected with cancer in two ways. In the 45 cancers of the uterine body, fibroids have been present before the malignant change in 7 cases, or about 1 case in 6. The very real danger of fibromyomata undergoing malignant change should, therefore, be definitely kept in mind in weighing the indications for operation in any given case.

"In the Cervix—Of the 268 cases, there were 9 in which a previous supravaginal hysterectomy for fibroids had been done. This shows that it behooves the surgeon who does a supravaginal operation to carefully note the condition of the cervix. It would seem that it is quite essential that at least the lacerated, eroded, and inflamed cervixes should not be left behind, but should be removed either by a primary panhysterectomy, or later by a vaginal operation, as seems best. If the cervix is not removed, the patient should, at least, be kept in close, follow-up observation. We believe that many very careful operators do not give the proper attention to the cervix in this connection.

"II. Cancer of the Skin—It seems that in skin cancer the doctor is most apt to muddle along. Table II shows the doctor's long delay in cancer of the hand, arm, face, and lip. Why this is, we do not know, unless it is that the doctor is tempted to do the best he can with local applications. At any rate, it indicates an important point of attack in the propaganda directed to the medical profession.

"III. Lectures—In many instances, where people have applied unusually early after noticing warning symptoms, the doctor has indicated the reason. The reason most frequently given, very decidedly, is "heard a lecture on cancer." Dr. Bloodgood, who has, perhaps, the most intimate, personal knowledge of cancer education and its effects, has said before that cancer lectures, especially to women, are the best means of educating the public. Our reports strongly bear out this opinion, and we hope that in future the lecture will be more and more considered the biggest gun.

"IV. *Miscoscopic Examination of Uterine Curettings*—In at least two uterine cases a fatal delay was attributable to the microscopic report of curettings for diagnosis being returned non-malignant. We think that the frequency of such an

DATA IN CASES OF SUPERFICIAL CANCER AT TIME OF APPLYING FOR OPERATION.

Site	Total Number	Average Age	Per cent Operable	Per cent showing precancerous chronic irritation	Average time lost after first cancer symptoms	Average time lost between first consulting physician and operation
Face	46	62	35	53	32 mos.	5 mos.
Lip	36	60	66	25	24 mos.	9 mos.
Tongue	19	60	24	50	17 mos.	1 mo.
Mouth	27	58	30	41	10 mos.	4 mos.
Jaw	21	56	26	62	7 mos.	3 mos.
Neck	4	59	50	....	8.5 mos.	5 mos.
Skin	16	51	77	50	15 mos.	2.5 mos.
Arm and Hand.....	9	59	37	25	26 mos.	11 mos.
Breast	227	50	77	18	12 mos.	3.3 mos.
Parotid	4	49	25	25	4 mos.	1 mo.
Penis	5	63	100	100	12 mos.	10 mos.
Testicle	3	38	100	66	21 mos.	1 mo.
Bladder & Prostate	63	63	30	20	10 mos.	7.2 mos.
Miscellaneous	12	56	50	50	11 mos.	3 mos.

DATA IN CASES OF DEEP CANCER AT TIME OF APPLYING FOR OPERATION.

Stomach	116	54	13	25	8 mos.	4 mos.
Gall Bladder	23	59	10	80	8 mos.	3.3 mos.
Rectum	95	55	40	27	8.6 mos.	3.2 mos.
Liver	18	55	6	22	6.6 mos.	3.5 mos.
Pancreas	22	53	—	40	4 mos.	2.4 mos.
Intestines	53	58	31	29	10.8 mos.	3.6 mos.
Neck of Uterus....	268	48	21	47	7.6 mos.	1.7 mos.
Body of Uterus....	45	54	50	22	10 mos.	3 mos.
Ovaries	20	48	40	40	5 mos.	2 mos.
Vagina	27	57	52	24	7.4 mos.	1.1 mos.
Bladder & Prostate	53	....	....	....	....	....
Esophagus	27	57	....	11	7.4 mos.	4.0 mos.
Larynx	19	55	31	40	16.0 mos.	5.7 mos.
Miscellaneous	34	43	32	28	15 mos.	13 mos.

occurrence is actually much larger, and we feel that it is necessary to call attention very strongly to the fact that sections of curettings, at best, represent only a very small portion of the tissue at stake; the diagnosis is often very difficult, as there is at times little or no topography; and the report from curettings must frequently be not representative. We, therefore, think that a negative report on curettings should weigh but little, if at all, in the face of a positive history, physical findings, and gross pathology.

“V. *Younger Patients Delay Less.*—It has been very encouraging to note that the reports clearly show that in general it is the younger patients, especially the younger

women, who apply for radical treatment soonest. We believe that this is a direct result of the educational campaign.

“VI. *Operability*—It is at first sight quite puzzling to note that, though patients are applying earlier than in 1910 in many instances, the percentage of operability is less. This is undoubtedly due most to the greater use of radium and X-ray, and probably, to a lesser degree, to a general and wise narrowing among surgeons themselves of the limits of operability in cancers of all classes.

“VII. *Change from Benign Tumor to Malignant*—This has already been mentioned in the case of uterine fibromyomata. In three of the breast cases the change cer-

tainly took place. In one case the benign tumor had been present for 27 years. In a considerable number of other breast cases this change was probable, but could not be accepted as definite on account of meager data. There has seemed to be a tendency recently to deny the importance of change of a benign into a malignant tumor. We deprecate this tendency and feel that this change is a real danger, and that it should always be seriously considered in dealing with non-malignant tumors. At best, they are foreign bodies."

In covering the first of the primary phases connected with the efforts to increase the number of cancer cures, we have practically covered the second, that is, the time elapsing between the visit to the family physician and the patient being referred for treatment. While it is, of course, essential that every patient receive a thorough and complete examination, and that consultation be had whenever there is a doubt, on the other hand, we have a responsibility in bringing the significance of our message to those members of the medical profession whom the Pennsylvania report terms the backward ten per cent.

Periods of intensive activity, holding of special diagnostic clinics, conducting of "dry" clinics where results of previous treatment can be demonstrated, cancer symposia at County and State Medical meetings, the distribution of the medical handbook published by the American Society for the Control of Cancer, and the preaching of cancer control in season and out of season, are not only useful in bringing the backward ten per cent. to a realization of the extreme importance of the subject, but will also act as a stimulus to the forward ninety per cent. to increase their efforts so that the greatest good will accrue to the largest number.

FACILITIES FOR DIAGNOSIS AND TREATMENT.

While the underlying factors in cancer control are to have the patient recognize

the early symptoms, to seek immediate diagnosis and be referred for proper treatment without delay, there are still other important points to be taken into consideration. At times our knowledge is put to the severest test, at other times we wish consultation to have our opinion confirmed. In many instances the type of consultation we desire is not at hand. The establishing of diagnostic clinics will serve to remedy such conditions. These clinics should never be established, or the staff appointed, without first receiving the endorsement of the County Medical Society.

Facilities for treatment, both for those able to pay as well as for the indigent, should be available everywhere. Particularly is this true for the larger centers. With the increasing importance of X-rays and radium these factors should not be overlooked in connection with treatment facilities, and as it incidentally means the expenditure of a considerable sum of money, our efforts will have to be all the greater.

THE PREVENTION OF CANCER.

In some instances the condition can be prevented, notably cancer of the mouth. It is to be remembered, while perhaps a sad commentary on our civilization, but nevertheless a fact, that practically all cancers of the mouth occur on the male side of the human race—the dirty mouth. Jagged teeth, ill-fitting plates and chewing of tobacco tend to produce chronic irritation and thus predispose to cancer. To a lesser extent, the disease can be prevented in other parts of the body, as for instance, repairing tears resulting from childbirth, and the avoidance of constipation.

THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER.

This Society which is represented in every state of the union and every province of Canada, was established to lead the organized fight against cancer by educating the public in regard to the prevention and cure of this malady and to endeavor to have facilities increased, not only for

diagnosis and treatment, but also for the prolongation of life and the amelioration of suffering of inoperable cases.

The Society, by reaching people of all classes, carrying its message into every city, town, village, and hamlet, can justly be styled the arch enemy of the cancer scourge. The reason for its existence is among the most worthy of popular and scientific movements, attacking, as it does, one of the deadliest enemies of the human race—a disease, the cause of which has long baffled the world's best scientific minds.

The organization was not founded by sociologists nor by welfare workers, but by members of the medical profession who believe that every member of the profession should be furnished with all available facts regarding cancer. The whole organized movement for the control of cancer, therefore, is one instituted by physicians and primarily and essentially a physician's undertaking and responsibility.

CONCLUSIONS.

We may distribute literature; obtain the cooperation of the press; the great mass of people may become intensely interested; the nursing profession may render every assistance within its power; and while these agencies are of great help, above all is to be placed the doctor. It matters not whether the patient is sent to the physician by a member of the family, whether urged to do so by a friend, or whether discovered by a visiting nurse, after everything is said and done, it is the physician who must make the diagnosis and it is the physician who must administer the treatment.

DISCUSSION.

Dr. W. W. Crawford (Hattiesburg): The thanks of this Society are due to Doctor Wild, as a representative of the American Society for the Control of Cancer, for having presented such an intelligent and comprehensive study of what all of us know today as the outstanding problem in public health work in the whole country. There is nothing that I might say in discussing Doctor Wild's paper other than to endorse every

word of it. He has been very thorough. He would have to be a thorough man to represent the American Society for the Control of Cancer, because as you know that Society is an unselfish organization drawing its financial support from the liberality of the profession and the public at large over the United States, and it is doing a tremendous amount of educational work both within the lay and professional public. I think, therefore, that we are to be congratulated that we have had this paper presented today. I am sure it quickens in our mind the importance of going back home and getting in close contact with the needs of the public—the public that so much lack information on this very great question.

One great trouble about cancer, as you know, so far as the lay mind is concerned, is that they have a lot of misconceptions. People must unlearn some things before they are ready to act. One of the first things that the lay mind must do away with is the conception, and it is an almost universal conception, that cancer and pain are synonymous terms, that unless you have pain you have no cancer. They forget what we know—that pain is a late symptom in cancer; that when you have pain almost invariably you have a metastasis and the patient has gone beyond the pale of your service. It is these little lumps that point the way to malignancy and we must get that before the general public if we are to reduce the mortality in cancer. One of the great troubles with which we have had to deal has been the misconception professionally in this regard. We still are not able to come out with the clearness of the noonday sun and say to the public what cancer really is and what it signifies. Multiplied millions of dollars have been spent and are being spent in the vast laboratories of the world in the study of this dread disease, and yet we have had very little light upon it.

Only a few months ago, as most of you know, Doctor Nuzum of Chicago, contributed one paper in a symposium read before the American College of Surgeons at New York. Later I had the pleasure of talking to Doctor Nuzum in Chicago on this subject of the bacterial origin of cancer. In the May number of the *Southern Medical Journal* there was an editorial commenting on this paper. Doctor Nuzum claims that cancer is beyond question due to micro-organisms, and he claims to have developed the micro-organisms as a basis for his belief. In other words, he transmitted 38 cases of this infection, from the human breast to mice and rabbits, establishing the metastasis in the liver and in the peritoneal cavity in these cases. He did not have

the temerity to carry his experiments into the human species, except in one case. One old gentleman was inoculated with this material and showed the same type of cell as came from the human breast.

I trust that the studies of Doctor Nuzum and others will bring to us a new conception of cancer, a more definite conception of cancer. The American Society for the Control of Cancer can do a tremendous amount of work and we, as members of the profession, can do a great deal of work, but until we can combat a definite something with a definite origin, until we can know just what line of attack we need, until we can go beyond the old conceptions of yellow fever and those other diseases that we fought in the dark and fought unsuccessfully, we cannot hope to accomplish a maximum of results in cancer. At the present time we are groping more or less and I think it is up to us to make use of the measures at our command and to make use of these educating things that are being sent out over the country by such men as the one who contributed the paper for our consideration today. It has been my pleasure to talk to lay audiences more than once on the subject of cancer. I have scarcely been able to get out of the room before I have been confronted by some woman who said, "Doctor, I have had a lump in my breast for a long time and I would like to find out whether or not it is cancer." Or, "Doctor, I have had some discharge that has been a little suspicious, and I would like to find out whether or not I have a malignant condition," and oftentimes on following up these cases we find we are dealing with malignancy. The tragic side is that so many of them are not getting this information—there are women, who through modesty stay at home, who are almost in the last stages. Last Saturday a woman came into my office, referred by a fellow practitioner whose office she had just visited, with a massive ulcerated breast—an enormous affair, already breaking down, and yet she had gone along with that terrible condition and of course had lost her chance of getting well. Somebody was at fault about that case; it may be she was at fault, but prejudice on the part of herself or her husband had kept her away from this information that Doctor Wild has discussed, but the chances are that her doctor had not given her the information—did not wilfully withhold it, of course, but she did not receive it. We physicians are on the firing line and it is our responsibility to see that the proper information is disseminated.

Dr. J. S. Ullman (Natchez): I do not think there is any doubt that this is one of the most

important, if not quite the most important paper that we have had presented to us. Undoubtedly the rank and file of the profession is to be blamed because this teaching has not been broadcasted more widely in the past. A great deal has been said and done, but it has not reached every nook and cranny of this broad land. Some 25 years or more ago Professor Winter of Germany, made the statement that every woman who had borne children should be examined vaginally at least once a year, and yet it is the experience of every one doing gynecological work today that few women know of the necessity of such examination. For a long time every one has been aware of the importance of consulting their dentist once or twice a year. I do not know whether the dentists have proven themselves to be better propagandists than the physicians, but it is certainly high time that people were taught that they have other organs in the body equally as important as the teeth; and the possibility of other conditions than pyorrhea and abscessed teeth that need looking after at frequent intervals.

Another point is the material sent to the pathologist. The pathologist plays a most important part in the diagnosis of malignancy and particularly in the examination of the scrapings from the uterus. This much must be said in defense of the pathologist, that a great deal of the value of the report depends upon the thoroughness with which the surgeon cures the interior of the uterus. If he makes a few slight strokes with the curet and stops simply because he has gotten out four or five large masses of scrapings, it does not mean that the pathologist will have material from every point in the interior surface of that uterus. Very often, too, after the surgeon has taken a tumor from the breast or some other part of the body, he may feel that he has to cut that tumor to see what the gross appearance is, and by the time he gets that mass into the hands of the pathologist it is no longer fit for a thorough examination.

Dr. L. S. Lippincott (Vicksburg): I want to say another word in defense of the pathologist. As a pathologist I believe that every tissue procured at operation should be examined macroscopically or grossly and then that it should be examined microscopically. We quite often get a good idea from the macroscopic examination, but I would hesitate very much to make a diagnosis of non-malignancy, or of benign tumor, without a microscopic examination, and I do not do it.

In regard to the mass that is removed, the pathologist has to take usually several sections from the different areas, but if you get only a

little blood and mucus, labelled curetings, you have no choice; you have to examine what is given to you. The trouble is there are too few tumors that are being examined. The statistics in the large clinics show that a diagnosis that is wrong has been made from gross findings in at least 25 per cent. of cases; in many of them much higher than that. The patient deserves to know whether the tumor is likely to recur, and of course the reputation of the doctor is better if he can give the patient a correct prognosis.

Dr. Joseph E. Green (Richton): I am not able to discuss cancer, but I know it is the great problem confronting the medical profession. I have had one case however, that I would like to report. Doctor Crawford saw her, too, and perhaps he will comment on it. A few months ago I had a young lady whom I had seen with another doctor, who had a large osteosarcoma of the hip joint. I referred her to Dr. Crawford, who made a diagnosis that the case was inoperable. She came back home and the trouble grew worse until she was taking from a half to one grain of morphine a day to keep down the pain. I saw that Dr. Crawford had been up north to get a new cancer cure, and I wrote to him about it. I finally took this young lady there and he gave her one shot, and that woman from that day until this has not had a dose of morphine. She was walking with a stick when she left and today she is walking the streets of the town without any aid. She has gained 15 pounds in weight and is getting well. As a result of this I sent others there and they are getting better. From the effects it had on that young woman, I think the men ought to investigate the thing, and perhaps try it. I wish Doctor Crawford would tell us about it.

Dr. W. W. Crawford (Hattiesburg): There are two reasons why I did not mention that. In the first place, I wanted to address myself to a discussion of the doctor's paper, as I was supposed to do. The second reason is that I thought I was not ready to discuss before this body of men what I have only merely hinted at, that I thought there were greater things to come in the treatment of cancer, and I trust that in a year from now I may be able to make a more definite report. I have investigated, as one or two other men living in this section of the south have done, a treatment for cancer that is just now under the ban of the medical profession, and I think Doctor Wild will tell you that the American Society for the Control of Cancer, the American Medical Association, and the Detroit Medical Society, think this fellow is a fakir. It is a treatment that is gotten out by a man in

Detroit, who has an A. B., an A. M. and a Ph. D. from the University of Michigan, and who once was Professor of Physiology in the Detroit Medical College, and who is curing cancer today. I had the pleasure of visiting his clinic. I went there and saw cases in all processes of recovery, patients from childhood up to 87 years of age, getting well, and a great many of them were cases that were of the inoperable type. We see a great many of these inoperable cases, as you know. I have seen this year many of such cases. I can only quote you what Doctor Fields, Director of the Radium Institute of New York, said when he visited this man's clinic. He said, "I do not want to see anything except that which the knife, radium and X-ray cannot reach." He says this man showed him 34 cases that seemed to have been cured.

I am treating an old man whose brother lives in the vicinity of Detroit. This man is a patient of mine from the town of Wiggins. I sent him home last November to die of cancer of the stomach, but after having made a careful analysis of his case on February 19th, I gave him one dose of this chemical and he is making rapid improvement. His hemoglobin is 90 per cent., and he has made distinct advance. I have a number of cases under this treatment, but I am not prepared to make a report. I do not believe in making a premature report and I know most of you men would ban this treatment, because the man is not in good repute. But neither was Harvey when he discovered the circulation of the blood, nor Jenner, when he introduced vaccination. This man has cured 60 per cent. of cancer. These patients have definite and violent reactions depending upon the massiveness of the cancer, over a period of three months. I am not making an official report, but within 12 months I shall have had a number of cures, or I shall have failed to cure enough of them to make an adverse report. I might say that I took the trouble to investigate this because, having operated a hospital for 24 years, I have been having these cases come to me in ever increasing numbers and have had to send them back home to die. One case that was considered an inoperable cancer of the stomach has had two doses and is now greatly improved, whether he will get well, I do not know, but nothing else did that. It makes no difference what the source of the treatment, or what the Detroit Medical Society or the American Medical Association, or what you may say about it, if we get something that cures these cases, then I shall certainly give it to them. The cases I am treating are being treated without any remuneration. I am not charging them a cent for my services.

I do not feel warranted in making any charge. You may say it is an experiment. It is, but it is an experiment that will help you and your patients, because it will place this big subject on a more definite basis and if we cure 5 per cent. of inoperable cases of cancer, then we shall save five people that otherwise would die from cancer.

Dr. Oscar Dowling (New Orleans): Does he make the preparation himself, or does he have it made, and if he does, does he know the contents?

Dr. Crawford: No, I do not know the contents. It is a synthetic chemical made by this man and he has been making it for ten years. Doctor Allen and another doctor in New Orleans, visited his clinic and both were so much impressed that they are using it. Doctor Allen told me last week that he had three or four definite cures since he began the use of it during the holidays. This man, as soon as he gets a definite recognition from a professional, wants to give these cures to the profession, but they have fought him in every way. Apparently, he is very frank and he does not have the earmarks of a charlatan. He is 39 years old and was born and reared in Detroit.

Dr. William F. Wild (closing): The magnitude of the subject of cancer cures is almost beyond comprehension, as there are so many of them. Perhaps, as Dr. Crawford says, before we come to any definite conclusion on any one cure, we had better wait awhile and ascertain if the patients who have been cured are alive a year hence. Not so very many months ago I was speaking with a physician in Chicago who at one time had similar hopes and similar information to give about a cancer cure, and he told me that the patients are now getting worse again.

There is at least one hundred thousand dollars in prize money awaiting a medical cure for cancer, so this much incentive exists not to keep a cure for cancer a secret.

It may be contended that some individuals cannot obtain from the medical profession the recognition they deserve, but we have recognized Pasteur and Koch and Lister, and almost a host of others, and perhaps we will recognize a few more if they can give definite and concrete information as to what they have and what they are preventing or curing.

The American Society for the Control of Cancer stands ready to exert every effort within its power to have investigated any cancer cure that could reasonably be expected to possess some

merit, provided the inventor, founder, or discoverer will come to us with an open formula.

I will go further than Dr. Crawford and say that any remedy that saves, not five per cent. of inoperable cases, but any, certainly deserves consideration. The question, however, in our mind, and I am not speaking of any one cure, but of the multiplicity of cures, is how much good do they do?

Relative to the discussion in connection with the pathologists reports: The part of the Pennsylvania report, that I read, dealing with pathological findings did not intend to convey that we should not rely upon the pathologists' report, but that we should be careful that the specimens submitted are representative and not simply some piece of tissue that has been curetted off.

I thank you.

LACTIC ACID MILK IN INFANT FEEDING.*

F. S. HILL, M. D.,

GRENADA, MISS.

The use of sour or fermented milk is not new. It was first used in Holland in the form of buttermilk, which is a by-product of the dairy industry. It was discovered that infants with severe intestinal disturbances could digest buttermilk when other forms of food met with failure. At first the increased digestibility was attributed to the low fat contents of buttermilk, but this was soon disproved as skim milk, which has the same percentage of fat—that is to say, 1%—did not meet with the same success. In Holland and Germany the milk was boiled so the lactic acid organisms could not be the important factor. As a result, for a number of years buttermilk was used with the knowledge that it could be taken by delicate infants with gastro-intestinal disturbances when other forms could not be tolerated, without the reason for this being known.

Within the last few years, attention has been turned by Howland and Marriott to

*Read before the North Mississippi Medical Society, June 17, 1925.

the buffer salts of cow's milk which are present in much greater quantities in cow's milk than in breast milk. These buffer substances are chiefly the increased protein and mineral contents of the cow's milk. They found that a quantity of fresh cow's milk would require three times as much N/10 hydrochloric acid to bring it to the neutral point as would the same quantity of breast milk. From this fact they reasoned that cow's milk would therefore require more acid in the stomach than would breast milk before digestion would begin, and this was found to be the important feature in the use of buttermilk.

In order to obtain a standardized milk, or rather a lactic acid milk, various organisms of the lactic acid group have been used as cultures, both in skimmed and whole sweet milk. In many cases it was important to use the whole sweet milk as it was not possible to give sufficient nourishment when the cream was removed.

The method I have used in the past three years in making lactic acid milk according to the formula has served me unusually well. No. 1: Boil one pint of fresh sweet milk, allow it to cool, put in one lactone tablet, stir vigorously for about five minutes, allow to stay in a warm place twenty-four hours or until it sours thoroughly. The length of time it takes to sour, of course, depends upon the warmth of the place in which it is kept; however, you cannot get it too sour. This pint is your culture material for making milk, and, if kept on ice, is good for seven days. No. 2: Boil one quart fresh sweet milk, allow it to cool, and add two tablespoonfuls of your culture, and stir well. Allow it to stand in a warm place twenty-four hours. Then by adding your sugar to make it more palatable, and to increase food value, the milk is ready for use.

Blue Label Karo syrup (brown) is the sugar of choice to be used as it can be used in larger quantities than any other sugar

without disturbances. I know of one baby whose mother misunderstood the doctor's directions and gave equal parts of Karo syrup and lactic acid milk. The baby was not seen until a month later and had made an enormous gain without any apparent trouble. The brown Karo syrup is manufactured by the action of sulphuric acid on corn starch, which gives a product of constant proportions: dextrin 55%, maltose 35%, glucose 10%. It differs from the other dextro-maltose compounds on the market in that the percentage of dextrin is higher. This is an important factor, as dextrin ferments quite slowly and gives greater opportunity for absorption before causing diarrhoea. These facts have appeared in the literature on several occasions, but still the use of lactic acid and Karo syrup is not very widespread.

To summarize: In infant feeding one should select a food first of all that a baby can digest: next, he should select one that can give the most without causing disturbances.

One ounce of lactic acid milk is equivalent to one ounce of whole cow's milk. They both have a caloric value of 20; by adding one ounce of Karo syrup to a quart of lactic acid milk you increase your food value approximately 120 calories. That is to say, one quart of lactic acid milk has the same food value as one quart of cow's milk plus approximately 120 calories, which goes to show that when an infant takes this and handles it well you are giving him more food than in any other milk.

I am reporting three cases fed on lactic acid milk during the past several months:

No. 1. Baby L., age six months, female, weighed nine pounds, two ounces, brought to me May 1, 1925. Physical examination showed a very pale baby, slight cranio-tabes, ribs beaded, epiphyses slightly enlarged, typical pot belly and in appearance much emaciated. This baby was put on lactic acid milk and Karo syrup, and it was requested that it be returned every ten days. It gained ten ounces the first ten days, eight ounces the next ten days, and in the next ten days it did

not make a gain. On examination I found bulging ear drums and punctured same. Five days later the baby was brought back to me for inspection of ears and I found that it had gained eight ounces. This baby is still under my care and this report carries it up to date.

No. 2. Baby E., was brought to me April 5, 1925. Boy, five months old, weighed eight and three-quarter pounds. Its parents gave a history of the baby having a severe hemorrhage from its cord, the fourth day after birth. Physical examination showed a very anemic baby; red cell count 2,400,000; rather lifeless in appearance and much emaciated. This baby was put on lactic acid milk and returned to me ten day later; had made a gain of twelve ounces; ten days later it showed a gain of eight ounces; the next ten days it made a gain of ten ounces; since that time its gain has been continuous, from six to eight ounces weekly, according to reports from the mother who lives in an adjoining town.

No. 3. Baby J., was brought to me, May 5, 1924. Female, age eight months; weight nine pounds, four ounces; rachitic and emaciated in appearance. This baby was put on lactic acid milk with some cereal feeding and vegetables, such as spinach and carrots. It was seen two weeks later, and had gained two pounds, and eight weeks later it weighed eighteen pounds. At twenty-two months old the baby is apparently a normal child, and weighs twenty-two pounds. Of course, this child had other things than lactic acid milk after the first year, but I believe the lactic acid milk started her on the road to health.

“INSULIN—AN ADJUNCT IN THE
TREATMENT OF PERSISTENT
AND PERNICIOUS VOMITING
IN PREGNANCY, WITH RE-
PORT OF A TYPICAL
CASE.”*

THOMAS B. SELLERS, M. D.,
NEW ORLEANS.

Three years ago I read a paper before this Society on “Pernicious Vomiting in Pregnancy.” Since that time I have made changes in my treatment, principally due to the discovery of insulin.

*Read before the Orleans Parish Medical Society, February 8th, 1926.

There has been much discussion about the importance of making a differential diagnosis between persistent vomiting and pernicious vomiting of pregnancy. I believe that stress should be put on early treatment, rather than on the type. In my experience at least 60% of women vomit some time during pregnancy, but pernicious vomiting is comparatively rare. Charity Hospital records show 12,185 obstetrical cases and abortions handled since Jan. 10, 1922, with 16 cases of pernicious vomiting and 24 cases of persistent nausea and vomiting.

During 1924 and 1925 Touro Infirmary records show 1,284 cases handled with 27 cases of persistent and pernicious vomiting of pregnancy.

The only available statistics we have are hospital statistics and these in my opinion show a higher percentage of pernicious vomiting cases, as most of the persistent and pernicious vomiting types are sent to an institution—while the majority of the obstetrical cases are handled at home.

There are almost as many theories advanced as to the etiology of vomiting of pregnancy as there are authors. This is proof that we know very little about the real cause.

J. C. Hirst contends that the lack of corpus-luteum is the cause of this form of toxemia of pregnancy and advocates the intravenous and hypodermatic use of corpus-luteum.

Williams has demonstrated that there is a deficiency of secretions from the adrenals and the administration of adrenalin has a curative effect. He has also shown that there is present throughout pregnancy a slight or moderate reduction of the blood alkaline reserve.

“Titus and Gevins maintain the theory that the pathological progress of a toxema is dependent upon a carbohydrate de-

iciency in the material organism in regard to the impairment of the physiological activity of the liver when unduly depleted of glycogen."

William Thalhimer believes that in pregnancy there is a fundamental change in the carbohydrate metabolism and not merely a carbon-hydrate deficiency.

From my personal observation, I am of the opinion that all cases of persistent vomiting of pregnancy are associated with a varying degree of toxemia. The toxemia starts nausea and vomiting, associated with a slight acidosis. The disgust for food and the inability to retain it, if eaten will cause a starvation acidosis which will naturally intensify the nausea. This constitutes a vicious cycle, therefore, we must first try to eliminate the acidosis.

I cannot believe that neurosis plays as big a part as is generally thought by the medical profession. Many nervous and pampered women that I have treated were not troubled with nausea—on the other hand, some of the worse cases have been women of the placid type. Much depends on getting the co-operation of the patient. By co-operation, I mean to get them to eat in spite of nausea and their disgust for food. I admit that persistent nausea is more frequently seen in the neurotic type, because they are more difficult to handle.

I agree with Thalhimer that the most plausible explanation of toxemia in early pregnancy is a defective carbohydrate metabolism, rather than a deficiency in the carbo-hydrates in the maternal organism as suggested by Paul Titus.

In my first paper I reported a case of pernicious vomiting of pregnancy in which I gave large quantities of glucose through a duodenal tube. She developed an alimentary glycosuria. At one time the urine showed 4% sugar. In spite of the excessive carbohydrates, alkalies and large quantities of fluid, the toxemia increased. We decided her condition justified emptying the uterus,

which we did. She died shortly afterwards. I am of the opinion that insulin would have helped this type of case.

I do not think it amiss to run over my routine treatment of the mild type of case.

First—I study my case psychologically and gain her confidence and interest. Then I try to help her over her difficulties—many patients are frightened, and some do not want children for various reasons. This mental depression plus nausea is hard to throw off without intelligent outside assistance.

Second—All mal-positions of the uterus are corrected. Some times it is necessary to give a short gas anesthetic to do this. I recommend my patients to take knee-chest position 5 or 10 minutes, three times a day. I only mention dilatation of the cervix to condemn it.

Third—I recommend to the patient to take nourishment every two hours and at least four meals a day, preferably, solid food, rich in carbohydrates, such as crackers, bread, bitter chocolate, raisins, dates, baked potatoes, stewed fruit, fresh vegetables, cereals, plenty of milk and water.

Fourth—It is important to keep the alimentary canal open. Often it is best to leave the type of laxative to the patient. If there is no preference, I try milk of magnesia.

I have given sodium luminal before meals (two grains), or one and one-half grains hypodermically, with excellent results in mild cases. In the more persistent cases, I isolate the patient, preferably in a hospital. A Murphy drip is started, 8% glucose and two and one-half per cent. sodium bicarbonate. After about 1000 c.c.s are given, slowly, I inject 5 to 10 units of insulin.

If this fails, I resort to giving glucose through the duodenal tube, in certain cases,

as described in my first paper, followed by the careful administration of insulin.

In the more serious cases, or cases where it is impractical to use the duodenal tube; 1000 c.c.s of 5% of chemically pure glucose solution is given preferably by the Matas-intravenous drip. For every two grams of glucose one unit of insulin is given hypodermically. This is repeated in six hours. Up to the present time, the above method has proven 100% efficient in my hands.

Mrs. M. White, age 26, admitted to the Hospital May 16, 1925. Complaint: Nausea and vomiting.

Present Illness: Four weeks ago she began having weak spells, felt as if she would faint, but did not. One week later she began vomiting bile-tinged fluid, at least 10 times a day. She was unable to sleep at night on account of nausea. Two weeks later she began to retain her food but vomited 30 or 40 minutes afterwards, and was constantly nauseated. At present, she has marked pain in the lower abdomen, especially after vomiting. She has lost about 40 pounds in weight and feels very weak, unable to get up. Bowels constipated throughout this time. For the past two days she has suffered with frontal and occipital headaches.

M. History. Menstruation began at age of 15, regular, every 28 days, until March 5, 1925. Has not menstruated since that time. Has always suffered with dysmenorrhea. No leucorrhoea.

Past History: Measles, tonsillitis; tonsils removed about seven years ago. Several attacks of nettle-rash several years ago.

Physical examination: Fairly well developed, poorly nourished, white female, face drawn and anxious and worn, very restless in bed, note yellow discoloration of sclera, eyes sunken with deep circles under them, skin dry and dehydrated; pulse from 100 to 120. Temperature 98° to 99°; head and neck negative; heart and lungs negative; blood pressure—systolic 90; diastolic 70; abdomen negative, except for generalized tenderness; urine—specific gravity 1024, acid reaction, no albumen, no sugar, acetone 4 plus, indican one plus. Microscopic negative.

Blood Chemistry:

Total non-protein nitrogen.....	37.5 mgs. per 100cc.
Urea Nitrogen.....	18.7 mgs. per 100cc.
Creatinine	1.5 mgs. per 100cc.
Uric Acid	5.33 mgs. per 100cc.
Dextrose	91 mgs. per 100cc.

On admission to the Hospital, May 16, 1925, at 6:30 P. M., a high flush was given and procto-

clysis 8% glucose and two and one-half per cent sodium bicarbonate. Also two grains sodium luminal was given hypodermically. Patient vomited several times during the night. Early in the morning of the 17th, 1000 c.c. of 5% glucose was given slowly by Matas intravenous drip. When 500 c.c. had been given, 25 units of insulin were given and at the completion of the c.c.s 20 units were given. The rapidity of her pulse had decreased 12 beats per minute at the completion of the infusion.

During the day the proctoclysis was continued, and the patient only vomited twice. The second day she retained 420 calories of food. Urine showed one plus acetone.

On the 18th she continued to improve. On the 21st the urine was free of acetone and patient took full diet.

On the 26th patient was allowed to walk, nourished well; blood pressure—systolic 110, diastolic 78. She was discharged cured on the 28th.

In my first paper, I reported from the Charity Hospital records, a mortality of 43.75% for three years, ending Jan. 10, 1922. The uterus was emptied in 18.75% of these cases.

In 1922 and 1923 Charity Hospital records showed six cases of pernicious vomiting. The uterus was emptied in one case (16.66%). There were four deaths, or a mortality of 66.66%, one of which had advanced pulmonary tuberculosis. Omitting this case the mortality was 50%. Insulin was used in one case that recovered. There were 12 cases of persistent vomiting, all of which recovered.

In 1924 and 1925, there were 10 pernicious cases, uterus not emptied in any case, four deaths, or a mortality of 40%. Two were in coma when they were admitted to the hospital, one of these had broncho-pneumonia. One had pyelitis, one toxic myocarditis. Insulin and glucose was used in five of the 10 cases treated.

There were 10 cases of pernicious vomiting and 17 cases of persistent vomiting of pregnancy handled at Touro Infirmary during 1924 and 1925. Eight of the above cases of pernicious vomiting received glucose and insulin with satisfactory results,

all of which showed a very heavy acetone reaction. Labor was induced on one case, which had received glucose by hyperdermaclysis. Another case that did not receive either glucose or insulin had a spontaneous abortion.

In concluding, I want to emphasize the importance of trying the simpler methods first and resort to the use of intravenous glucose and insulin in the more severe cases, but do not wait too long.

DISCUSSION.

Dr. E. L. King: There is one point that is of great importance in this question of the vomiting of pregnancy, and it is very difficult to determine: What is pernicious vomiting? What is the difference between the normal vomiting of pregnancy and the pernicious type? It is very hard to say. We have no reliable criteria. There are no reliable laboratory or clinical findings to which we can pin our faith in making a differential diagnosis between simple hyperemesis and pernicious vomiting. We do feel that Pinard's method is of value. This authority teaches that any woman, suffering from vomiting of pregnancy, who has a pulse which is persistently over 100, should have the uterus emptied. This appears to be rather drastic rule, but it is a point of very considerable importance.

Another valuable point is a rise in temperature, no matter if there is only a slight elevation. Then, too, we have jaundice, which is unfavorable, even if there is only a slight tinge of the sclera and a muddy tinge of the skin. Still another point upon which I place a great deal of importance is the clinical condition of the patient. If these women can be made to feel better, we are hopeful, but if, in spite of our treatment, they do not experience any improvement, we consider that we are losing ground.

The urinalysis does not help us much. We have been trying the various liver function tests recently, but have not done enough along this line to be able to express an opinion as to the value of these tests. The question of the reliability of these methods of investigation (Rosenthal dye, etc.) is a matter that is still open for discussion.

So our treatment is based upon our clinical opinion as to whether any given case is of the pernicious type or not. We have followed very

much the same line of treatment as that outlined by Dr. Sellers: rest in bed, carbohydrate feeding, and sedatives (e.g., sodium luminal). This

will suffice for the milder cases. When we get cases which we class as pernicious I believe that we should start energetically with glucose, preferably by the intravenous route. We are usually wasting time when we resort to hypodermoclysis or proctoclysis. We use a slow drip, something like that of Dr. Matas, giving 1000 c.c. in three or four hours; then we discontinue it. In twelve to twenty-four hours we give another. We use insulin in our work at the Charity Hospital along with the glucose. Titus claims that insulin should not be given, as the glucose is of value for storage, and the insulin burns it up. Thalheimer recommends the use of insulin. So we have these two men with two different ideas.

We have handled in our service seven cases in the past two years. Most of these are reported on Dr. Sellers' paper. Of these seven, four were promptly relieved. They were very sick when admitted. The fifth was absolutely hopeless. She came in with a pulse of 180, was jaundiced and comatose. We gave her glucose by the Matas drip. She died of terminal broncho-pneumonia. Another patient, last summer, had been vomiting for several weeks. We tried in her case the glucose treatment, giving it both hypodermically and intravenously. We then resorted to the intravenous drip, without success. We finally passed a duodenal tube through the pylorus. There was no more vomiting. She was fed through the tube, which was left in for five days. She died of myocarditis four weeks after the vomiting had ceased. We had advised an abortion earlier, but this was refused. In the last case we also used insulin and glucose, but in spite of treatment she became very weak, and her pulse went up to 140. A therapeutic abortion was performed, and she recovered.

I believe a short trial of intensive treatment is the best course to pursue. If, at the end of three or four days (or perhaps a week) we have not been able to secure any improvement, the patient is still vomiting, still has acetonuria, and shows no change for the better, it appears that therapeutic abortion is the only thing left. These mortality figures from the Charity Hospital, quoted by Dr. Sellers, show that we have waited too long in some instances. However, some of these patients refused therapeutic abortion. To repeat, I believe that, if there is no improvement after a thorough course of intensive treatment, it is better to induce abortion, and not to wait until it is too late, in which case interference often only hastens the end.

Dr. Walter E. Levy: I have been interested in the question of the vomiting of pregnancy and the toxemias of pregnancy in general,

especially as regards sugar metabolism. I do not think that we are always able to make a distinction between starvation acidosis and the true toxemias of vomiting cases. Nevertheless, I believe from some work that I have done at the Touro, that in toxemias of pregnancy we have a low blood sugar and a low CO-2 combining power. This is indicative of acidosis. Mann, in his work on hepatectomized dogs, has found that the blood sugar fell 50% and muscle glycogen fell 50%, and the dogs had convulsions and became comatose and died. He also found that by administering glucose, the dogs could be kept alive for a considerable period. It is the reasoning by analogy. I see no difference whether you take out a dog's liver surgically, or destroy a woman's liver by a toxin. The end result should be the same as the liver is the chief organ for sugar metabolism. We have had to date five cases of severe vomiting and we have never failed as yet with glucose and insulin. We have not had to enter the uterus since using this plan of therapy.

In our last two cases, I have purposely tried glucose by hypodermoclysis and I agree with what Dr. King said in his discussion—it is of no value. It must be given by vein. We adhere as closely as possible to the original Thalheimer technique.

Another thing that strikes me is the diet that we feed in toxemias of pregnancy. If what I maintain is right, I think we are wrong restricting proteins. I think the fats should be taken away from the diet. Another interesting thing,—until recently we have been giving alkali to combat the "acidosis." In looking up Mann's work on these dogs, I find that he says sodium bicarbonate has no effect on them. Another interesting fact is that milk sugar has no beneficial effect. According to him, there are only four or five sugars that do any good: glucose, manose, dextrin, maltose and galactose.

The question of the degree is purely a relative one. The case can go on to a state of dehydration. The thing to do, is to start treatment of some type immediately. Our most dramatic result was the first case we had. The woman was even vomiting blood. We were a little dubious about giving glucose and insulin. We tried treatment by proctoclysis and hypodermoclysis for 48 hours with no results. We then gave her 600 cc. of a 10% glucose with 20% of insulin. That night she ate soft diet and had a full tray for breakfast the following morning. Sometimes they get a slight chill, but I have never seen any untoward results.

Work done on fifty cases of the toxemia of pregnancy has shown us that the blood sugar

is lowered and the CO-2 combining power is lowered. A report of this work will shortly appear in *Surgery, Gynecology and Obstetrics*.

Dr. H. W. Kostmayer: I enjoyed Dr. Sellers' paper very much; the subject is very interesting because it is difficult to solve. I have tried to make the subject practical for my own use. From the very fact that authorities of equal weight disagree so much on the etiology, one is led to believe there are several types of vomiting of pregnancy.

We have the mild vomiting of pregnancy. In this type of case I try corpus luteum by mouth; if the case is severer, I try adrenalin, or sometimes, both. Then, there is a still severer form of vomiting of pregnancy which calls for rest in bed. I try this, with proper diet and medication, and if this is not sufficient, I move these cases to an institution. If, after a reasonable time, there is no improvement after insulin and glucose, proper diet, intestinal evacuation daily, and rest in bed, and the pulse is over 100, with vomiting and jaundice, then this is a case for emptying of the uterus. This is the way I have systematized it in my practice.

I would like to comment on the fact that in the colored obstetrical service for several years we have not seen persistent or pernicious vomiting of pregnancy. It is rather striking. There must be something in the etiology with reference to this. Perhaps it is the plainer living and diet of the negro; perhaps it is the fact she is closer to nature. The negress is not prone to any vomiting of pregnancy. One rarely sees it.

Dr. T. B. Sellers (closing): I wish to thank Dr. King for his detailed report of some of the cases treated at the Charity Hospital. Dr. King recommends emptying the uterus early, but I cannot agree with him. I am confident that glucose and insulin will solve the problem. Even before insulin was used in the treatment of pernicious vomiting of pregnancy, I questioned the advisability of emptying the uterus. The only case of pernicious vomiting in pregnancy which I lost was one that I emptied the uterus. The condition of the patient was very good three hours before we decided it necessary or wise to empty the uterus. I believe that glucose and insulin would have cured this case. Statistics from the various hospitals in New Orleans show a very high mortality in cases where the uterus was emptied.

I would like to congratulate Dr. Levy on the excellent work he is doing on the toxemias of pregnancy. I have followed his work with a great deal of interest and hope he will explain just how glucose and insulin help this type of case. My work has been entirely along clinical lines.

APPENDICITIS.*

E. S. BRAMLETT, M. D.,

OXFORD, MISS.

In presenting a paper on appendicitis I realize that there has probably been more written on this subject than on any other abdominal condition. On account of an apparent epidemic of appendicitis in the past few months, it may be worth while to say something on this subject. Should I, by chance, say anything in this paper which will stimulate any one physician to make an early diagnosis and insist on an immediate operation, I consider the time well spent. For, in my judgment, we only get the best results where the diagnosis has been early and the operation immediate. The removal of the appendix is now being performed by so many physicians that the operation is considered of a minor class. There are times, however, when the operation slips into the major class, especially when the diagnosis has been delayed or treatment has been instituted with the hope of tiding the patient over the present attack.

Recently I had referred to me for operation a little girl eight years of age. Just nine days previous her family physician was called and he made a diagnosis of appendicitis and advised operation. This the family refused. Treatment was instituted and an occasional dose of oil, an ice-bag to her abdomen, a restricted diet, was the procedure. She suffered quite a good deal until the third day, when she got easy. This was taken as a symptom that she was better, when in fact her appendix had ruptured. The pain left her for a few hours, then gradually set in again. She ran a temperature every day around 102° or 103° F. Finally, a perceptible mass appeared in the right side of her abdomen and her family, becoming alarmed, called

their family physician back to see her. He promptly told them she had a localized abscess and insisted on her being brought to the hospital. On reaching the hospital, we found her with a temperature of 102°, very emaciated, the odor of acetone on her breath, urine highly colored and full of pus. In fact, she had the clinical picture of a severe toxemia. We immediately operated upon her under ether anesthesia. The abscess was drained and the wound packed open. In the Fowler position, and by the aid of the bicarbonate drip she was able to leave the hospital after eight weeks of a severe struggle.

Just here it might be wise to mention some of the most characteristic symptoms of acute appendicitis: *First*, pain in the abdomen, sudden and severe, primarily referred to the epigastrium, but may be around the umbilical region. It soon localizes in the right iliac fossa. *Second*, nausea and vomiting, most commonly three or four hours after onset of pain. This symptom not invariably occurs and is not distressing or persistent. *Third*, muscular rigidity, especially of the right side. This symptom is found even in the mildest cases with remarkable constancy, and is a very valuable diagnostic sign. *Fourth*, elevation of temperature beginning from two to twenty-four hours after onset of pain. The temperature rarely goes over 100° in the first few hours and is a fairly constant symptom. The absence of this symptom should not prevent an early diagnosis as it may not come on for some hours after the attack has begun. *Fifth*, Leucocytosis. After you have considered all your clinical symptoms, if you are still in doubt, your leucocyte count will generally confirm your diagnosis and in advanced cases may give you a very valuable insight as to the resistance of your patient.

In making a diagnosis of appendicitis, we should not forget the pain in the right side due to pneumonia. We should always make careful examination of the lungs be-

*Read before the North Mississippi Medical Society, June 17, 1925.

fore making a diagnosis. This was very forcibly impressed upon me when I first began to do surgery. I was assisting a very able surgeon in one of our large cities. This surgeon was called into an adjoining state to operate upon a physician's child for appendicitis. He told me that when he reached the patient he hurriedly ran over her chest but detected nothing. The operation was performed and a normal appendix was removed. In a few hours a well-developed case of pneumonia showed up, and in twenty-four hours the little girl was dead. This surgeon was very much hurt over his misfortune, and upbraided himself for being too hasty. His admonition to me was: "Never operate for appendicitis until you have ruled out pneumonia."

We should also remember that pain in the right iliac fossa may be due to a pyelitis of the right kidney. The pus trickling down through the ureter may produce symptoms very similar to those of appendicitis. A careful examination of the urine will generally make the diagnosis. Renal calculi are sometimes misleading and may be mistaken for an attack of appendicitis.

In conclusion, I urge you to beware of purgatives in any abdominal cramp. It only adds fuel to fire and should the appendix be involved it will rupture the more quickly. Insist on an early operation. In my humble judgment, it is better to remove a few innocent appendices than to allow one to rupture.



LAMAR LIFE BUILDING, JACKSON, MISSISSIPPI.

JACKSON HAS WONDERFUL GROWTH AND PROSPERITY

Few cities in the South, if any, have experienced a more steady and substantial growth during the past ten years, and particularly the latter half of this period, than has Jackson, Mississippi. So great has been the growth and prosperity of this city that it has raised the question, "What are the underlying causes?" I shall, therefore, attempt to give in brief outline some of the most important things that have and are now contributing to this growth and prosperity.

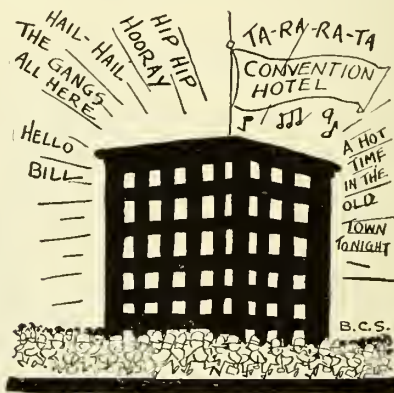
Jackson, the capital city of Mississippi, is located approximately in the center of the state on Pearl River. Its population in 1900 was 7,816, in 1910 it was 26,662, in 1922 it was 27,000, in 1924 its population was 33,456, and in 1926 it is 36,000.

Jackson's geographical location is no small factor in its growth and business expansion. As stated above, it is located near the center of the state and enjoys a unique trade territory, being from 150 to 200 miles from any of the large cities in the surrounding states. Being the largest city, therefore, in all this trade territory, it naturally attracts business from many miles distant. Jackson is very accessible, having ten railroads that reach every section of this state and extend to adjacent states. It is particularly fortunate in having at its service two trunk lines that furnish the best of railroad facilities, both in freight and passenger service. The fact that Jackson has from

thirty-eight to forty passenger trains daily has made it convenient headquarters for something like three hundred traveling men that represent goods manufactured in this city and elsewhere.

Aside from its railroad facilities, it has a most excellent system of gravel roads leading into it from every direction. These roads not only bring many tourists to the city, but also splendid arteries of trade inasmuch as they are usable the year around.

It should be noted also that Jackson is located in the midst of a great agricultural area and one which has already learned the importance of crop diversifica-



tion. Through the efforts of farmers, and with the assistance of special agents a very profitable business has been built up in the matter of truck growing, poultry and dairy business, hay, corn and cotton. Perhaps no section of the state has done more work with the boys clubs, which effort is now producing results and will continue to do so throughout the future. Jackson is, therefore, the metropolis and the great trade center for a vast agricultural area. One would naturally infer from what has already been said that Jackson is quite a distributing point and the inference is justly founded. Within the last few years many large branch houses have been established here for the distribution of its products. Not only are the





so called outside products distributed from here but the city has a large and varied industry of its own, for its own products it must secure a market. With the natural readjustment of freight rates and through the persistent efforts of Jackson Traffic Bureau, many of the barriers that formerly blocked Jackson's shipping have been removed and the city is now enjoying an enviable position in this respect.

The fact that Jackson is the capital city and centrally located has naturally brought to it many large organizations which maintain large offices and employ many people. Chief among these are the Cumberland Telephone people, the Standard Oil Company, the Mississippi Farm Bureau Cotton Association, three domestic insurance companies, many district and state insurance offices and all the state and federal offices. It can readily be seen that this furnishes a fixed pay roll that is not affected by drought or general business conditions.



MUNICIPAL AUDITORIUM—SEATING CAPACITY, 5000.

Jackson is now the financial center of the state, having recently announced the first million dollar bank in Mississippi. The city has seven strong banks, with combined resources of \$25,290,454.44, and deposits of \$21,209,541.34.

Jackson's educational institutions contribute largely to its growth and prosperity. The city is properly termed an educational center for the four standard A grade colleges in Mississippi, Hinds County in which Jackson is located, has two. Millsaps College, a co-educational institution, is located in the city, and Mississippi College for



MISSISSIPPI STATE CAPITOL.

men at Clinton, only eight miles distant over a concrete boulevard. Of the two standard junior colleges in the state, Hinds County has one, Hillman College at Clinton. Belhaven College for young women and located in Jackson is now launching a campaign for an endowment which will enable this institution to qualify as a standard A grade college. At Raymond, ten miles from Jackson, is one of the best agricultural high schools in the entire state. St. Joseph's Academy, established in 1870, has been in continuous operation since that date and is now recognized as an A grade institution, its graduates being recognized by this state and large educational institutions. It should be noted also that Jackson's splendid system of public schools attracts many people to this city for the purpose of superior training in the grades and it is conservatively estimated that



STATE CHARITY HOSPITAL

thousands of people have moved to this city for the purpose of educating their children from the primary department to the Bachelor Degree from our colleges. Two state schools for the deaf, dumb and blind are also located here. Jackson may well be called the "Athens" of Mississippi or the south central states as few cities excel her in educational and cultural advantages. There is an attendance upon all of these schools above and beyond the high school from fifteen hundred to two thousand pupils. The purchasing power of this combined student body is no small item in the business life of the city. The combined purchasing power of the faculty is also a steady and fixed income.

Closely allied with its educational and cultural life is its religious activity and atmosphere. Jackson may well be called a church going city for out of a population of 36,000, 11,500 are church members. It is not necessary even to suggest that this large church membership has paid great attention to the erection and equipment of churches and Sunday school buildings.

It is far from the intention of the writer to speak disparagingly of old age but any one who would come to this city and become acquainted with its business officials would be impressed with the fact that the business of Jackson in the main today, is handled by comparatively young men. Even her banking institutions are in charge of

comparatively young men. This youth and vigor of youth in business has been a mighty factor in the ongoing of this city. These men have ever had a forward look and have been bold in their efforts to provide the best and most up to date for this city. Jackson is practically free from the unprogressive element that would impede progress, a striking proof of which is the fact that no bond issue for schools, streets, roads or municipal government generally has ever been defeated. This is not alone due to the fact that her movements and campaigns have been carefully weighed and wisely planned.

In conclusion, therefore, I would say that back of all natural physical advantages, as well as business that has been established with sheer hard work, is the spirit of the people who live in this community. Men build cities and men tear them down. It is the indomitable spirit of the business men of Jackson that is causing this city such phenomenal growth and prosperity.



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HOSPITAL ABUSE.

Resolutions have been unanimously adopted by the Orleans Parish Medical Society and Louisiana State Medical Society, requesting the Hospital Abuse Committee to petition the Legislature to enact a suitable law to prevent the abuse of the privileges of the Charity Hospital by persons well able to seek medical attention elsewhere.

The attention of the Board of Administrators was called to the over-crowding of the Institution by its Superintendent in his last as well as in previous annual reports, and also two years ago by the Visit-

ing Staff of the Institution. In their capacity as administrators these gentlemen should be well acquainted with the condition of the rapidly increasing abuse.

Whilst we bewail the instigation of an attack on this ill use which is sapping the State Treasury, by the Physicians of the City and State, we feel that it is the bounden duty of the Doctors who know best the existing condition, to exercise their rights of Citizenship and of Tax-payers, to make an exposé of this situation.

It is our hope that the Administrators of Charity Hospital will see fit to join Organized Medicine in its demand on the Legislature for the correction of the abuse. The present situation is acute, and unless the cancer which threatens the very vitals of the institution is eradicated, the poor will be subjected to undue suffering and even be deprived of the Charity intended for them.

It is only fair that His Excellency, the Governor, the Legislature and the Tax-payers of the State be advised that this needs correction. The Hospital is at present of sufficient size, properly to care for the indigent poor of the State and City, but if the policy of the Board of Administrators is to socialize the sick, to admit anyone, rich or poor, who applies at its gates for admission, then the people of the State who bear the burden of taxation should be informed of their intent, and be told of the rapidly increasing cost of Hospitalization, which will be prohibitive unless taxes be increased.

It behooves every member of the Parish and State Societies to constitute himself a committee of one, to speak to his Senator and his Representative and to present them with a copy of the enclosed report of the Committee on Hospital Abuse.

The Committee has labored diligently, but it is only your individual help that will assure the success of the campaign.

CENSORED MEDICAL PUBLICITY.

Spring is the season for the meeting of our State medical organizations. We feel that much good is accomplished at these State meetings but unfortunately, on most occasions, little or no real news reaches the public through the press as regards the outstanding advances that are being made in the interest of public health. Many matters come before the State Medical Society that the people should be informed about. We should see that these items are given the press in proper form. Let us take our news to the press; not wait for the press to come to us. Only too often the only items appearing in the papers are those of a sensational character; material minus scientific facts to support them. Now would be a good time for the officers of our State societies to appoint publicity men among the membership to prepare proper copy for the press. The editors of our daily papers are only too glad to receive their information from reliable sources. Let us furnish the necessary co-operation.

And while on the subject of medical publicity or medical education of the public, it might not be amiss to call attention to the wide influence radio is exerting in moulding public opinion and thought. Many so-called health talks are being broadcast by the very worst type of medical fakers who, under the guise of being public benefactors, are actually advertising for their own benefit. A recent example of such an outrage on public intelligence occurred when Radio Station WSMB, at New Orleans, sponsored a series of "health talks" by a lecturer in the employ of a certain physical culture exponent who has had his name (and figure) before the public these many years. If you will investigate, you will find that it is the real desire of the owners of broadcasting stations to give out only public health information of the right sort. But they look to the medical profession for advice and counsel. Let us measure up to our duty here, as with deal-

ing with the lay press news items, and see to it, through proper legislation and committees appointed from our county societies, that radio health news in the future comes from the medical profession and not from advertising fakers.

PREVENTIVE MEDICINE.

Man himself is cheating science of her victory in the conservation of human life.

Medical science has conquered to a large degree the scourges which decimated men in bygone ages. It has almost conquered the infectious diseases of children, and is saving so many of the human young for maturity and productive citizenship that our forefathers in their day would have thought the effects of science nothing short of miraculous. It has also safeguarded the lives of women in their destiny of perpetuating the race.

Man, however, holds the gifts of science lightly. Having been saved from the perils of childhood, having escaped small-pox, typhus, cholera, typhoid fever and other diseases which killed people by the thousands thirty or forty years ago, he heedlessly abuses himself and through wrong eating habits, lack of proper outdoor activity and a life that demands too severe a strain upon his nervous system, undermines his health and manages often to die younger than did his grandfather.

Dr. William G. Exton, head of the long-evity service, maintained by the Prudential Insurance Company, in discussing the triumphs of science in the field of preventive medicine, deplored this indifference to health on the part of so many people, and emphasized the great benefits to be expected from what he called the newer, or personally applied, preventive medicine.

"Science, working for the good of all, continues to triumph over the waste of human life in the mass," said Dr. Exton. "The individual man or woman, unappre-

ciative of these efforts, forms habits that defeat the life works of countless men who have labored to vanquish disease and conserve human life.

“The fact is that while babies born to-day have many times more chance of living to maturity than they did twenty-five years ago, the person of thirty-five to-day needs help to keep as many years ahead of him as had his grandfather when he was 35 years old. The failure is that of the individual—not of medical science or physicians. Today man has everything but himself working in his favor for health and longevity.

“The public health work of the last twenty years, the fight against tuberculosis—then referred to as the ‘great white plague’—and the consequent decrease in the tuberculosis death rate, the introductions of anti-toxins for typhoid, diphtheria and now scarlet fever, has caused a material decrease in the death rate during the last twenty-five years. This decrease has been by far the greatest in the younger ages, particularly during infancy and childhood.

“The improved sanitation everywhere and its beneficent effect upon health is a development which is now taken for granted. The teaching of hygiene in the schools and this propaganda generally has made any deflection from the strictest personal cleanliness a cause of shame and embarrassment. People have also been taught much about food and its relation to the bodily processes and health.

“Yet heart and arterial troubles are making themselves felt more than they did a generation ago. The same fact holds true

of diseases of the digestive system and the kidneys. Rheumatism, neuritis, vertigo and other ailments are signs of a disregard of the organs upon which the functions of the body are directly dependent. They withstand the abuses heaped upon them without breaking down until a point is reached when structure is undermined, and then it is too late to do much in the way of repair.

“For example, diabetes may go on for years without troublesome symptoms. During this time control by simple treatment is easy if its presence be known. Certain kidney diseases are very insidious in their first stages and progress almost imperceptibly until the disease approaches the terminal stages. Simple measures would often stay their progress if applied in time.

“Similarly, tendencies to apoplexy, arterial troubles and the nervous diseases, if discovered in time, can frequently be averted, or held in check for years. It is for this reason that all enlightened physicians are urging the periodical health review habit.”

“Every normal, healthy minded person wants to live as long as he can and to enjoy his full span of life without the burden of chronic disease. But to do so he must think 20 years ahead and when he reaches thirty-five or forty have some competent physician regularly check upon his health condition. He cannot subject his body and mind to the strain of the strenuous life, eat what and when he pleases, and expect to be hale and hearty and to keep going to 70. If the average adult would pause every year long enough to take a health inventory, not so many would drop in their tracks at fifty or thereabouts.”

HOSPITAL ABUSE

REPORT OF THE HOSPITAL ABUSE COMMITTEE OF THE ORLEANS PARISH MEDICAL SOCIETY.

April 8th, 1926.

*To the Officers and Members, Orleans
Parish Medical Society.*

GENTLEMEN:

Your Committee on the "abuse by patients fully able to pay for medical attention in the Charity Hospital," reports that it has made a thorough survey of the existing conditions and finds that this abuse whilst always existing has, however, greatly augmented in the past few years.

The increased appropriation by the State for the maintenance of the hospital, the high standard established by the indefatigable efforts of the Board of Administrators, the unprecedented and efficient management of its Superintendent, Dr. Leake, the entente cordiale existing between the Administrators and the medical visiting staff, and not least, the splendid services gratuitously and cheerfully given by the visiting staff, are mainly responsible for the present large proportion of abuse of the privileges of the institution by people fully able to pay for medical attention. It is an acknowledged fact that today, the Charity Hospital offers its sick medical and surgical treatment that is unsurpassed even in our popular pay institutions. Whilst that is so, and as it should be, for our deserving poor should receive medical attention the equal of any within the reach of the richest members of the community, at the same time the grafting on the poor by persons able to pay for treatment, defeats the end for which this institution was established.

The present policy of open doors to any one who applies for treatment at the Charity Hospital must because of limited

capacity shut out some of the most deserving applicants and wreak untold sufferings and a great injustice to the indigent poor.

In the past years beds only large enough to accommodate one person were shared by two, to the extreme discomfort and even torture of these feverish, suffering patients. This fact was attested in every report to the Board of Administrators of the Hospital by the Superintendent, who, while he bewails this inhumanity, acknowledges that under present conditions he is unable to correct it.

In the Superintendent's report for the year 1925 to the Board of Administrators is found the following:

"All during the year, some patients were doubled two in a bed and many times more than three hundred were doubled. At one time a ward with nineteen beds had forty-five patients. No emphasis is necessary to point out that such a state of affairs is intolerable."

This statement of the Superintendent in the same report is interesting, "It is to be admitted that the best possible care could not be given at all times to all patients. This admission is made freely and the fact is emphasized that unless the causes for this condition are remedied, it will be impossible to render adequate care in the future." And further he makes the following recommendation:

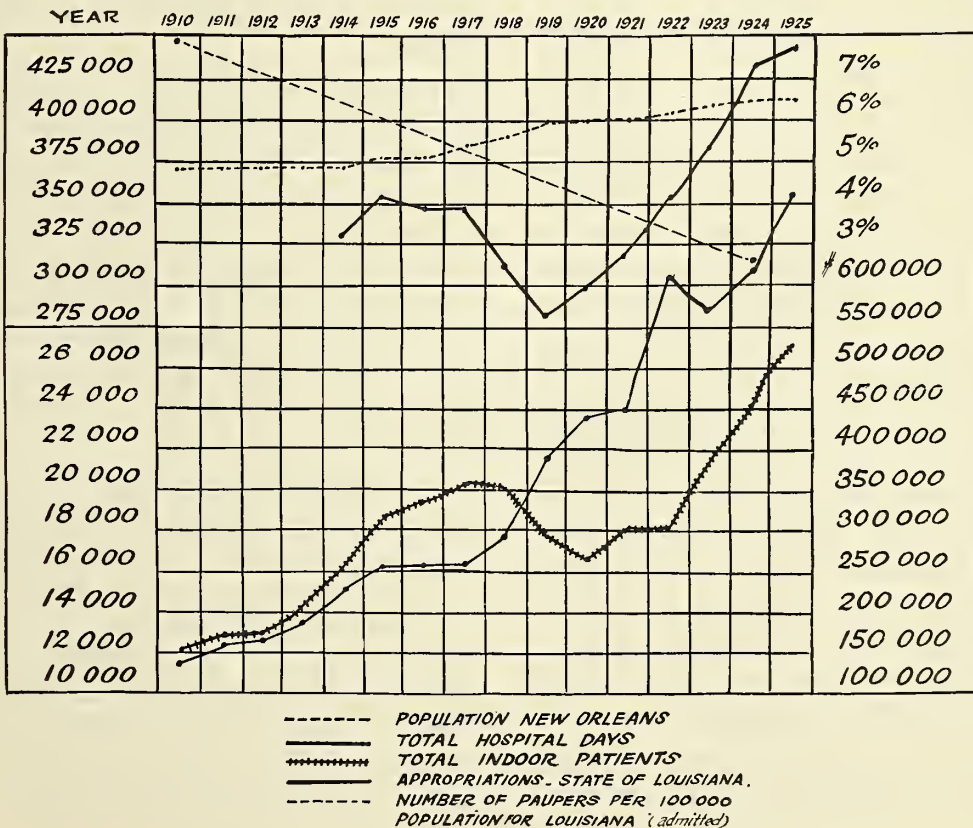
"The third cause (over crowding) may be remedied in two ways. Either by erecting sufficient buildings adequately to care for the patients, or else restrict the number of admissions. A year ago, it was recommended that either additional buildings be erected or authority given to deny admittance in excess of beds unless the condition be one of emergency. This plea is again reiterated and unless granted it

will be impossible to give the necessary attention to the patients."

From these statements the crowded condition of the institution may be appreciated. There are not enough beds and buildings to accommodate the rapidly increasing number of admissions to the institution. This deplorable overcrowding would not be existing today if previous effort had been made to exclude from the Hospital all individuals well able to pay for medical attention. For the present and in the near future the Charity Hospital is of competent size to care for the indigent poor of this city and state if this abuse of its privileges be corrected.

It is apparent that by barring from the institution those not entitled to its care the per capita expenditure may be in-

creased without an added appropriation from the state and the really deserving patients be the beneficiaries. This abuse does not proceed from the neighboring parishes, but from the City of New Orleans. This is proved by the chart and by the table showing the residence of patients admitted during the years 1916 to 1924. The admittance of patients during that period and from that source is practically uniform and seems to have been stabilized. But there has been a steady increase in patients from residents of the City of New Orleans of over 33%. In 1916 there were admitted to the Hospital 9,139 patients from the City and 8,373 from the State of Louisiana at large; in 1924, from the City 14,669, and from the State 8,964. These figures definitely establish the fact that the great increase of abuse proceeds from the City.



The following table is of interest:

RESIDENCE OF PATIENTS ADMITTED DURING THE YEARS.						
	1916	1920	1921	1922	1923	1924
City	9,139	8,580	10,102	10,059	11,926	14,669
Louisiana	8,373	6,896	6,750	6,759	8,096	8,964
Other States.....	1,139	523	457	461	570	591

The statistical chart graphically demonstrates that in recent years the number of patients admitted to the hospital has increased by unprecedented strides. The total indoor patients for the years 1910 to 1915 inclusive were 88,848, or a yearly average of 14,808, and the total indoor patients for the years 1920 to 1925 inclusive, were 126,703, or a yearly average of 21,117, or an increase per year of 6,903 or approximately 33 1/3 per cent. The largest proportion of this increase was due to an increased admittance of patients from the City of New Orleans, yet its population has only increased from 373,000 in 1910 to 414,000 in 1925, about 41,000, or approximately 11 per cent.

These statistics confirm the opinion of physicians working in the institution, and beyond the shadow of a doubt prove that this great increase in hospital work is not due to the increased proportion of indigent poor, but to an enlarged application for medical attention by those for whom it was never intended.

From these figures we can deduct that there must be an abuse of at least 20 to 25 per cent by the City patients.

The following statistics compiled by Leon E. Truesdell, Chief Statistician for population from the Bureau of Census, Dept. of Commerce, Washington, bear out the fact that pauperism has greatly diminished in the State of Louisiana:

Number of paupers enumerated in almshouses and number per 100,000 population:

	Number	Per 100,000 Population
January 1, 1904	149	10.1
January 1, 1910	187	11.3
January 1, 1923	174	9.5

Number of paupers admitted almshouses during certain years and number admitted per 100,000 population:

	Number	Per 100,000 Population
January, 1904	75	5.1
January, 1910	112	6.8
January, 1922	50	2.7

It is therefore conclusive that pauperism is diminishing in the state and that the prodigious increase in applications for admittance to the hospital must be from the ranks of those fully able to pay for medical services.

These past few years were undoubtedly the most prosperous in the history of the city, wages during this period reached their highest peak, unemployment its lowest possible level and poverty in consequence was reduced to a minimum, and whilst it is true that the "poor we have always with us," it is absurd to think that they have increased in the proportion shown by the official figures of the Charity Hospital.

The name "Charity Hospital" denotes the intent for which the hospital is maintained by the State, and that is, to limit its care to patients worthy of Charity, and besides Act 40, year 1876, the charter of the Charity Hospital of Shreveport, again shows the intent of the Legislature in the following Section of its charter: "Be it enacted, etc., That there shall be established in the City of Shreveport in the

Parish of Caddo a Charity Hospital, to be maintained at the expense of the State, for the reception and medical and surgical treatment of indigent and destitute sick and wounded persons, without discrimination of race and color, etc.”

If these Charity Hospitals were intended by the Legislature for the socialization of the sick, and had for their purpose free service for every one irrespective of social position and wealth, then the word Charity is a misnomer and the specified words “indigent” and “destitute” become ambiguous and misleading.

If some restriction be not used to curtail this ever growing evil it will soon be be-

the institution restricts its hospitalization to the poor and greatly modifies the admissions, the State will be called upon for appropriations beyond its means, and paupers as well as those able to pay for medical service will be deprived of the privileges of the Institution.

The following list of the largest city, county or State hospitals in the United States is of interest because it demonstrates that whilst our Charity Hospital is the fifth largest, it is situated in a city and state with a populaion very much smaller in comparison to the states and cities in which the hospitals enumerated below are domiciled:

City	Hospital	Beds	City	State	Total assessor or valuation of States
Chicago, Cook County Hospital		2,500	2,995,237	6,485,280	\$2,158,648,450
Philadelphia, Phil. General Hosp.....		2,100	1,979,364	8,720,017	5,769,777,327
New York, Kings County Hosp.....		1,809	5,853,356	10,385,227	9,821,620,552
New York, Bellevue Hosp.....		1,634	5,853,356	10,385,227	9,821,620,552
New Orleans, Charity Hosp.....		1,300	414,449	1,798,509	529,419,463
Los Angeles, General Hosp.....		1,283	576,673	3,426,865	2,373,897,092
Boston, City Hosp.		1,261	781,259	3,668,412	1,687,155,697
San Francisco, S. F. Hosp.....		1,072	557,530	3,426,865	2,373,897,092
Cleveland, City Hosp.		1,060	936,485	5,769,394	2,352,689,824
St. Louis, City Hosp.....		700	821,543	3,404,055	1,547,126,736
Kansas City, Mo., General Hosp.....		330	367,481	3,404,055	1,547,126,736
Newark, N. J., City Hosp.....		650	452,513	3,155,000	
Louisville, City Hosp.		474	305,935	2,416,630	828,275,022
Shreveport, Charity Hosp.		218	414,449	1,798,509	529,419,463

yond the ability of the State to maintain it, and in consequence those who really need attention and care will suffer through the inability to render it.

The dilemma is apparent: Either the State must increase its appropriation for more beds and buildings, or else as the Superintendent reports “restrict the number of admissions.”

The State has augmented its appropriations from \$132,500.05 in 1910 to about \$650,000 in 1925. Again the allotment of funds for the year 1925 has not proven sufficient for the maintenance of the institution and the Legislature will be asked for an increased appropriation. Unless

If we consider the fact that New Orleans ranks the 18th city in population and Louisiana the 22nd State in the Union, whilst in the number of beds the Charity Hospital is the fifth largest in the United States, we readily appreciate that the Legislature has been most generous in its appropriations and that the State is doing its full duty in caring for its indigent poor.

Why is it that our Charity Hospital is overcrowded although it has a much larger number of beds per population than hospitals in other localities? The only logical answer is that the privilege of the institution is sought by individuals who abuse of its charity.

From the report of the Superintendent, Dr. Leaks, and from the facts and figures quoted above, we know the hospital is overcrowded and that the best possible care could not be given at all times to all patients. The only solution to the problem is to restrict the number of admissions. This can only be done with justice in one way, and that is to limit the admissions to the institution to the really poor. We know the hospital is primarily intended for the indigent poor, and if this haven be refused them, their sufferings will be aggravated as there may not be another refuge to administer to their needs. The same conditions exist in the out door department of the institution. The Superintendent comments as follows on the crowded condition of the clinics:

"The out-door department, as you will see from the statistical report has treated more cases than ever before in its history. Attendance of the Visiting Staff has been faithful, punctual and diligent, and it is felt that patients were cared for scientifically and with much dispatch. Several years ago this department increased its floor space 33 1/3%, but growth during the past year has caused considerable crowding during the hours of greatest attendance. It is evident that either increased clinic facilities will have to be provided, or else clinics held in the afternoon in additions to these held in the morning hours." Abuse is as rampant in the clinics as in the in-door department of the hospital.

In concluding we reiterate that:

(1) The abuse of charity by people well able to pay for medical attention is great, and increasing yearly by leaps and bounds.

(2) The institution is overcrowded to the point that the necessary physical comfort to the patient is materially deminished, and the medical efficiency of the institution jeopardized.

(3) The present policy of unrestricted admission to the hospital is defeating the end for which it was intended; for it will eventually deprive the poor of the medical attention that they are unable to procure elsewhere.

(4) The appropriations from the State, especially those of the past year may be amply sufficient for the maintainance of the institution, provided the abuse is eliminated.

(5) If the increased appropriations and admissions be a criterion of what is to be expected in this respect in the near future, then it is apparent that the expenses of that institution will be beyond the revenue of the State, which is \$9,730,290.00, while the State taxes paid in the Parish of Orleans amount to \$2,944,444.28. In other words, the Hospital appropriation amounts to approximately one-third of the total taxes collected by the State on real estate in the City of New Orleans.

(6) The great increase of patients is from the city. For the last ten years the admissions from the State seems to have been stabilized. The abuse of the Charity of the hospital is mainly by individuals residing in the City of New Orleans.

Your Committee respectfully recommends that the O. P. M. S. and L. S. M. S. ask the Legislature, at its next meeting, to enact a law to eliminate from the hospital all individuals who can well afford medical attention elsewhere, except cases of emergency.

Your committee also feels that it is incumbent upon the members of the medical profession of the State and City as citizens and taxpayers to make an exposé of the crowded condition of the institution and of the sapping of the State treasury by those individuals who through penuriousness, ignorance or other motives, seek the philanthropy of the State and thereby lower the high standard of the institution to the detriment of the needy poor.

Year	Total Hospital Days	Total Indoor Patients	Consultations Outdoor Clinics	State Appropriation	Expenditures	City Population	Per Capita Cost
1908	-----	10,278	78,611	\$108,750	\$169,560	393,000	-----
1909	-----	10,358	74,585	146,250	219,862	393,000	-----
1910	-----	12,098	98,596	132,500	204,707	-----	-----
1911	-----	13,039	105,113	154,999	213,960	-----	-----
1912	-----	13,894	109,798	170,500	321,540	-----	-----
1913	-----	14,349	107,796	186,000	246,137	-----	-----
1914	327,632	16,742	127,559	224,783	320,727	-----	.86
1915	353,746	18,723	139,454	258,897	358,663	-----	.837
1916	348,890	19,484	130,642	254,000	332,851	-----	.92
1917	349,283	20,519	113,874	260,000	365,533	384,000	.98
1918	313,321	20,005	-----	297,500	-----	389,000	-----
1919	287,700	17,890	70,995	390,000	462,551	400,000	1.37
1920	298,311	16,726	69,608	442,129	592,983	400,000	1.53
1921	323,091	18,162	79,332	450,000	621,972	-----	1.61
1922	354,633	18,104	133,730	610,000	688,712	405,000	1.53
1923	383,308	21,581	143,000	570,000	707,771	409,000	1.56
1924	434,025	25,121	178,811	619,333	781,468	412,000	1.51
1925	442,558	27,029	204,618	-----	-----	414,000	1.53 1/4

JULES DUPUY,
LUCIEN LEDOUX,
JEROME LANDRY,
MAURICE PROVOSTY,
A. E. FOSSIER, *Chairman*,
*Committee on Hospital Abuse, Orleans
Parish Medical Society.*

RESOLUTION ADOPTED BY THE ORLEANS PARISH MEDICAL SOCIETY, APRIL 12, 1926.

Whereas, It is a patent fact that Hospital Abuse has existed in the past and has now increased to a degree out of proportion to the increase of population, and

Whereas, the poor of the State are made to suffer by the conditions which deprive the worthy patients of beds enjoyed by the undeserving, and

Whereas, with the abnormal increase during the past four years which entails such a great drain on the finances of the State, indicates that the increasing obligations cannot be met if things are allowed to continue.

Be it resolved: That the Committee be and are hereby requested to take this matter up at the Annual Meeting of the Louisiana State Medical Society to obtain their expression of their disapproval, and

Be it further resolved: That proper legislation be presented at the next meeting of the Legislature to enact laws which will correct the condition which has been generally recognized and condemned by Laymen as well as members of the Medical Profession.

RESOLUTIONS ADOPTED BY THE LOUISIANA STATE MEDICAL SOCIETY, APRIL 14th, 1926.

Whereas, the abuse of hospitalization in the free institutions maintained by the State for the poor and needy are now crying for redress, and

Whereas, the Orleans Parish Medical Society, a component part of the Society has adopted and presented to this Society the following resolution:

Resolution.

Whereas, it is a patent fact that Hospital Abuse has existed in the past and has now increased to a degree out of proportion to the increase of population, and

Whereas, the poor of the State are made to suffer by the conditions which deprive the worthy patients of beds enjoyed by the undeserving, and

Whereas, with the abnormal increase during the past four years which entails such a great drain on the finances of the State, indicates that the increasing obligations cannot be met if things are allowed to continue.

Be it resolved: That the Committee be and are hereby requested to take this matter up at the Annual Meeting of the Louisiana State Medical Society to obtain their expression of their disapproval, and

Be it further resolved: That proper legislation be presented at the next meeting of the Legislature to enact laws which will correct the condition which has been generally recognized and condemned by Laymen as well as members of the Medical Profession.

Be it further resolved: That this Society and the individual members thereof in their capacities as citizens, taxpayers and physicians, first declare themselves to be opposed to said abuses and second endorse and adopt as their own the above resolution of the Orleans Parish Medical Society, and third to the end of obtaining immediate redress do hereby memorialize the Legislature of the State of Louisiana to enact such legislation as may be required and do hereby respectfully request his Excellency, the Governor, Henry Fuqua, to favor the same.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

APRIL.

There was held one meeting of the Board of Directors, one Quarterly Executive Meeting and one Scientific Meeting during the month of April.

The Board of Directors have voted a maximum sum of Two Hundred Dollars (\$200.00) to be used by the Hospital Abuse Committee in carrying on their fight to the State Legislature at Baton Rouge.

They are now considering the proposed revision of the Constitution and By-Laws which in the next few months will be submitted to the General Body for their vote.

The proposed classification of Specialties in the Telephone Directory by the Cumberland Telephone and Telegraph Company was voted by the Board of Directors and Judiciary Committee as being unnecessary and unethical. The membership at the Quarterly Meeting has unanimously voted in a like manner. The Telephone Company on being notified of the action of the Society has cancelled all contracts and such a classification will not go into the present issue of the Directory.

The Domicile Committee, Dr. Paul J. Gelpi, Chairman, made a report on the Question of a permanent domicile. Dr. Gelpi stated that the Committee wanted the authority of the General Body and it has been voted that postal cards be sent to the General Body asking whether they favor that part or all of our available funds be invested in a site for our domicile.

Dr. P. B. McCutchon was elected to Honorary Membership in the Society.

The Hospital Abuse Committee, Dr. A. E. Fosier, Chairman, read the report which is published in a separate section of this issue. The Society then unanimously adopted the following resolution:

Whereas, it is a patent fact that Hospital Abuse has existed in the past and has now increased to a degree out of proportion to the increase of population, and

Whereas, the poor of the State are made to suffer by the conditions which deprive the worthy patients of beds enjoyed by the undeserving, and

Whereas, with the abnormal increase during the past four years which entails such a great drain on the finances of the State, indicates that the increasing obligations cannot be met if things are allowed to continue.

Be it resolved: That the Committee be and are hereby requested to take this matter up at the

Annual Meeting of the Louisiana State Medical Society to obtain their expression of their disapproval, and

Be it further resolved: That proper Legislature be presented at the next meeting of the Legislature to enact laws which will correct the condition which has been generally recognized and condemned by laymen as well as members of the Medical Profession.

The Condolence Committee, Dr. A. C. King, Chairman, offered the following resolutions which were adopted:

Whereas, by the will of God, Dr. O. L. Pothier, Dr. W. H. Weaver and Dr. A. Nelken, our confreres, were taken from among us.

Therefore be it resolved: That this Society desires to express to the families of Dr. O. L. Pothier, Dr. W. H. Weaver and Dr. A. Nelken its regret and sincere sympathy in its bereavement.

The various other Committees gave their reports all of which were accepted as read.

At the Scientific Meeting held April 26th the program was as follows:

"The Mercury Combining Power of Blood and Saliva; Two New Simple Tests for the Estimation of Urea Retention." With lantern slides and motion pictures. By Dr. Philip S. Hench, Mayo Clinic, Rochester, Minn.

"Some Practical Aspects of Gall-Bladder Diagnosis Through its Visualization." Lantern slides. By Dr. Jas. Thos. Case, Battle Creek, Michigan.

The following Doctors were elected to Interne Membership: Drs. J. Earle Clayton, Morris J. Duffy, Ben Goldsmith, S. C. Shepard and Fred F. Tucker.

The total membership is 478.

REPORT OF TREASURER FOR MARCH.

Actual Book Balance 2/28/26.....	\$2,129.91
Receipts during March.....	1,726.40
Total receipts	3,856.31
Expenditures	707.18
	<hr/>
	\$3,149.13
Outstanding Checks	347.50
	<hr/>
Bank Balance 3/31/26	\$3,496.63

REPORT OF LIBRARIAN FOR MARCH.

The reference calls in the Library have been constant during the month of March. Bibliographies have been prepared on subjects as follows:

- Osteogenesis Imperfecta (1921-25)
- Congenital Atresia of Esophagus
- Experimental Gastric Ulcer (1923-25)
- Myocarditis and Myocardial Insufficiency (1921-25)
- Ultra-violet and Actinic Rays (1925)
- Intracranial Hemorrhage in the New-Born (1923-25)

21 volumes have been added to the Library. Of these five were received by gift, one by subscription and fifteen from the New Orleans Medical and Surgical Journal.

New lights have been installed in the reading room, which are proving very satisfactory. One fixture is the gift of Dr. W. A. Lurie to the Society. The other we purchased. A letter of thanks has been written to Dr. Lurie, acknowledging his gift.

H. THEODORE SIMON, M. D.,
Secretary.

AUTOMOBILES MENACE CHILD LIFE.

"The automobile is as great a menace to child life today as scarlet fever and whooping cough combined," according to statistics compiled by the Metropolitan Life Insurance Company. Deaths from automobile accidents, according to the company's figures, have increased 50 per cent since 1920, two-fifths of the deaths being among children under 15. In other respects 1925 is pronounced a banner year among the Metropolitan's industrial policy-holders, who constitute one-seventh of the total and one-fourth of the rural population of the United States and Canada. Big gains were made in reducing death rates from measles, scarlet fever, diphtheria and whooping cough—the four chief children's diseases. A low record was also established for diseases associated with maternity.

BIRTHS AND DEATH REGISTRATION,
TEXAS.

Texas plans a State-wide birth and death registration campaign to gain admission to the U. S. registration areas. About 74 per cent of the births were reported in 1925. Ninety per cent must be reported before a State is included in the registration areas.

RURAL DOCTORS AND HOSPITALS.

Fewer and fewer country doctors are reported in rural areas recently studied by the U. S. Department of Agriculture. Forty Kentucky counties in 1924 had not adequate medical service, one of the counties having no doctor at all. In a Montana county of 5,000 square miles there were only 3 doctors and no hospitals, in Minnesota 127 villages were without doctors. One answer is the rural hospital. Seventeen States permit counties to levy taxes for hospital purposes. The Commonwealth Fund of New York is now offering to aid rural communities in erecting hospitals.

AMERICAN BOARD OF OTOLARYNGOLOGY.

In addition to the examination held at Dallas on April 19th and at San Francisco on April 27th, another examination will be held at the Otolaryngological Clinic, Royal Victoria Hospital, Montreal, on Tuesday, June 1st.

Information may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

LOUISIANA STATE MEDICAL SOCIETY.

The following officers of the Louisiana State Medical Society were elected at the 1926 Annual Meeting at Monroe:

President—Dr. S. M. Blackshear, New Orleans.

President-Elect—Dr. A. A. Herold, Shreveport.

First Vice-President—Dr. J. A. White, Alexandria.

Second Vice-President—Dr. C. P. Gray, Monroe.

Third Vice-President—Dr. R. G. Ducote, Bordeloville.

Chairman, House of Delegates—Dr. L. J. Menville, New Orleans.

Secretary-Treasurer—Dr. P. T. Talbot, New Orleans.

Councillors:

First District—Dr. H. E. Bernadas, New Orleans.

Second District—Dr. Foster M. Jones, New Orleans.

Fourth District—Dr. S. C. Barrow, Shreveport.

Fifth District—Dr. F. C. Bennett, Monroe.

New Orleans, Louisiana, was selected as the next meeting place for 1927.

MONTHLY BULLETIN OF THE SHREVEPORT MEDICAL SOCIETY, APRIL 1926.

The regular monthly meeting of the Shreveport Medical Society was held March 2nd, 1926. Forty-eight members were present.

Scientific Program.

Dr. L. W. Gorton gave a very interesting and instructive paper on the Indications for Sub-mucous Resection of the Nasal Septum. His paper was discussed by Drs. Smith and Boaz.

Dr. C. E. Hamner presented a very valuable discourse on the value of red, white and deferential blood findings. This paper was discussed freely by Drs. Butler, Ragan, Cassity, Bodenheimer, Thomas, Rougon and Herold.

Dr. Bodenheimer made a motion that the membership of the Medical Society have a physical examination annually. This was seconded by Dr. Cassity and passed.

LAFAYETTE PARISH MEDICAL SOCIETY.

Dr. A. J. Comeaux of Youngville was elected President of the Lafayette Parish Medical Society for the New Year at the annual banquet meeting of the Society at the DeLuxe Cafe, Lafayette, La. Dr. L. B. Long of Scott was elected Vice-President

and Dr. Harold G. F. Edwards of Lafayette was re-elected Secretary-Treasurer. Dr. O. P. Daly of Lafayette was elected delegate and Dr. C. E. Hamilton also of this city alternate to the State Medical Meeting at Monroe.

The 1926 officers of the Lafourche Parish Medical Society are: President, Dr. F. T. Gouaux; Vice-President, Dr. C. J. Barker; Secretary-Treasurer, Dr. P. Dansereau; Delegate, Dr. J. J. Ayo.

The 1926 officers of the Lafourche Valley Medical Society are: President, Dr. J. J. Ayo; Vice-President, Dr. W. W. Pugh; Secretary-Treasurer, Dr. P. Dansereau.

The School of Medicine acquired through the will of Dr. Marcus Feingold, Professor of Ophthalmology, whose death occurred on December 26, 1925, his valuable ophthalmologic library. The Faculty mindful of this great and rare legacy, treasures this gift as one of its most highly prized possessions, to be preserved and perpetuated in all its usefulness as a special division of its college library, where it is now known as the Feingold Collection, as an inspiration of the abiding spirit of the doctor.

SIXTH DISTRICT MEDICAL SOCIETY.

The Eighth Annual Spring Meeting of the Sixth District Medical Society was held at Our Lady of the Lake Sanitarium, Baton Rouge, Louisiana, on Thursday, March 25th, 1926. About sixty of the regular members were present. The following guests were present: Dr. H. J. Achard, Glendale, California; Dr. E. Denegre Martin, New Orleans, La.; Dr. E. O. Denny, Iberville, La.; Hon. L. B. Baynard and Father Caillouet, Baton Rouge, La.

The meeting was called to order by the President, Dr. W. L. Grace, of Plaquemine, La., and introduced Father Caillouet, St. Joseph Catholic Church, Baton Rouge, who then delivered the Invocation.

An address of welcome was made by Dr. T. Jeff McHugh, City Health Official, Baton Rouge, La.

After dispensing with the usual business, a most excellent scientific program was enjoyed by all present.

Dr. E. O. Denny, Superintendent of the Lepers Home, Iberville, La., gave a lecture on "How to Diagnose Leprosy," illustrating the cases with many beautifully colored lantern slides.

Dr. E. Denegre Martin, President of the Southern States Association of Railway Surgeons, New Orleans, La., gave a lecture on "Emergency Surgery," dealing especially with the medico-legal aspect of it.

Dr. H. J. Achard, Ex-Editor of Clinical Medicine, Glendale, California, read a paper entitled "The Place of Endocrines in Pathogenesis and Therapy."

Dr. R. McG. Carruth, New Roads, La., read a paper on "Our State Marriage Law," explaining the necessary amendments to make it more efficient.

Hon. L. B. Baynard, Treasurer of the State of Louisiana, Baton Rouge, La., delivered the Annual Oration, pleading for closer and more intimate co-operation between the Doctors and the Druggists. The subjects were discussed.

Election of Officers: The following were elected: President, Dr. Robt. B. Wallace, Baton Rouge; Secretary-Treasurer, Dr. Thomas C. Paulsen, Baton Rouge; Delegate to State Society, Dr. J. O. St. Dizier, Walls. The new President then appointed for Vice-Presidents: Ascension Parish, Dr. T. W. Hanson, Donaldsonville; East Baton Rouge Parish, Dr. T. J. McHugh, Baton Rouge; East Feliciana Parish, Dr. E. M. Toler, Clinton; Iberville Parish, Dr. B. O. LeBlanc, St. Gabriel; Livingston Parish, Dr. N. T. Bray, Springfield; Pointe Coupee Parish, Dr. M. O. Becnel, New Roads; St. Helena Parish, Dr. A. J. Newman, Montpelier; St. Tammany Parish, Dr. A. G. Maylie, Covington; Tangipahoa Parish, Dr. Lucius McGehee, Hammond; Washington Parish, Dr. J. H. Slaughter, Bogalusa; West Baton Rouge Parish, Dr. J. H. McCaa, Chamberlin; West Feliciana Parish, Dr. A. F. Barrow, St. Francisville; as delegate alternate, Dr. B. O. LeBlanc, St. Gabriel.

Unfinished Business: Drs. E. O. Denny, E. Denegre Martin and H. J. Achard were made honorary members of the Society.

The Society accepted the cordial invitation of Dr. W. L. Grace and Dr. E. O. Denny to come to the Lepers Home at Carrville for the fall meeting.

A most delightful dinner was served by Our Lady of the Lake Sanitarium following the program, with musical numbers by Mrs. H. C. Falcon, Miss Anna Wallace, and Dr. and Mrs. E. O. Trahan, all of Baton Rouge.

Hotel Dieu has established an Electrocardiographic Department, in charge of Dr. A. E. Fossier.

The public school teacher of the future in New York State will recognize that her responsibility

goes far beyond the R's; she will be more interested in the health of her pupils than the teacher of the past and she will know how to safeguard the health of her children, particularly their eyesight, to a greater degree than before—this was the substance of a report made here today by Dr. Emily A. Pratt, Eye and Ear Specialist of the Medical Inspection Bureau, New York State Department of Education, in a conference with the officers of the National Committee for the Prevention of Blindness.

Under the joint auspices of the National Committee and the State Department of Education, Dr. Pratt has during the last three months given a course of lectures in each of the normal schools throughout the state as the result of which it is expected that every prospective teacher at present enrolled in a New York state normal school will understand the structure of the eye, scientific measures of testing vision, and the most progressive methods of conserving the sight of children. Dr. Pratt will continue giving these lectures in New York state normal schools until May 1st. The lectures to normal school pupils are being supplemented by lectures and demonstrations in public schools, in talks to Parent Teachers Associations and in conference with school superintendents throughout the state. Included in Dr. Pratt's itinerary are the normal schools at Plattsburg, Oswego, New Paltz, Geneseo, Oneonta, Brockport, Buffalo, Cortland, Fredonia and Pottsdam.

Following the conference, Lewis H. Carris, Managing Director of the National Committee, declared:

"It is clear from Dr. Pratt's report that the new school teacher has a decidedly better health point of view and will, in fact, become an important factor in the organized movement for the prevention of blindness and the conservation of vision. As the result of the excellent work by Dr. Pratt, which has been made possible through a co-operative arrangement between the State Department of Education and the National Committee for the Prevention of Blindness, new teachers in New York will not only be enabled immediately upon their graduation from normal schools to carry out the laws requiring periodic examination of the eyesight of school children, but will have a grasp of the fundamental principles of good illumination, of ocular hygiene and of sight conservation in general. As the result of this arrangement, fewer children in New York State will be retarded in their school work because of the teacher's failure to recognize in many cases that defective vision rather than a mental defect has been the cause of lowered scholarship."

CHILD LABORERS IN GERMAN FIELDS.

Poverty, labor shortage, higher wage demands by adults, and the large influx of school graduates into industry are blamed for the increased number of children found to be working on German farms by the National German Society for the Protection of Children. The average age at which these children began to work was 10 years, but some began work at the age of 4 to 5. The hours of work varied from 2 to 5 in winter and from 2 to 12 the rest of the year. In many cases working conditions were bad and the work unsuited to the strength of children.

The loss of eyes in industrial accidents cost the employers of Pennsylvania more than \$800,000 during the last year and more than \$8,000,000 since the enactment of the State Workmen's Compensation Law, according to an analysis of the annual report of the Pennsylvania Department of Labor and Industry made public here today by Lewis H. Carris, Managing Director of the National Committee for the Prevention of Blindness.

"It has always been the conviction of the National Committee for the Prevention of Blindness that eye hazards are the more serious of all non-fatal industrial accident hazards," declared Mr. Carris' statement. Striking evidence of this fact may be had in the 1925 accident report of the Pennsylvania Department of Labor and Industry which shows, for instance, that both during the last year and during the entire period since the passage of the Workmen's Compensation Law the employers of Pennsylvania have found it necessary to pay more money as compensation for loss of eyes than for all accidents resulting in loss of legs, loss of arms and loss of hands combined.

The Pennsylvania report shows that 538 eyes were lost in industry in that one state last year and that a total of \$800,598 was paid to workmen as compensation for this loss. At the same time a total of \$793,952 was paid for the loss of 97 legs, 73 arms and 190 hands. Altogether since the enactment of the Pennsylvania Compensation Law, the employers of this state have spent \$8,011,259 as compensation for loss of eyes and \$8,007,862 as compensation for loss of legs, arms and hands combined. During this period the vision of 5,885 eyes were destroyed through industrial accidents.

UNITED STATES CIVIL SERVICE
EXAMINATIONS.

The United States Civil Service Commission announces the following open competitive examinations:

Head Nurse—Receipt of applications for head nurse will close May 11. The examination is to fill a vacancy at Freedmen's Hospital, Washington, D. C., at \$1,140 a year, plus room, board and laundry, and vacancies occurring in positions requiring similar qualifications.

Applicants must have been graduated from a standard four years' high school course, and from a recognized school of nursing requiring a residence of at least three years in a hospital having a daily average of fifty patients or more giving a thorough practical and theoretical training; also they must show evidence of State registration, and must have had one year's hospital experience as a graduate nurse.

Freedmen's Hospital is an institution for the care of colored patients. Under supervision, the appointee will be responsible for the patients and personnel in a ward.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Trained Nurse (Psychiatric).—Receipt of applications for trained nurse (Psychiatric) will close May 15. The date for assembling of competitors will be stated on the admission cards sent applicants after the close of receipt of applications.

The examination is to fill vacancies in the Panama Canal Service.

The entrance salary for female nurse (psychiatric) is \$135 a month, with promotion at the end of each year of service of \$5 a month until a maximum of \$150 a month is reached. The entrance salary for male nurse (psychiatric) is \$140 a month, with promotion at the end of each year of service of \$5 a month until a maximum of \$155 a month is reached.

Applicants must have been graduated from a recognized State or Federal hospital for the care of the insane, requiring a residence of at least two years and giving thorough practical and theoretical training; or they must have been graduated from a recognized general hospital after at least two years of residential training, and in addition, have had at least one year's experience in a hospital for the care of the insane.

Competitors will be rated on practical questions in anatomy, hygiene, and nursing; and education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or custom house in any city.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

DR. GILES SANFORD BRYAN.

Dr. Giles Sanford Bryan, of Amory, Mississippi, the President of the Mississippi State Medical Association, was born at Amerdeen, Mississippi, in 1863. His mother died when he was nine months old, and he was brought up by his maternal aunt.

At the age of eight, he removed to a farm with his father, and, as there were very poor school advantages in the community, most of his early education was received at the hands of his father, who must have been a very good teacher, as results have proven.

In the early teens, he attended some of the common schools in his locality, and then entered the University of Mississippi, but because of financial reverses was unable to stay to get his degree.

After leaving the University, he taught county schools until able to attend medical college. He was graduated from the medical school now known as the Medical Department of the University of Tennessee, and then assisted Dr. W. B. Rogers in his surgical work, and as interne in his private hospital in Memphis.

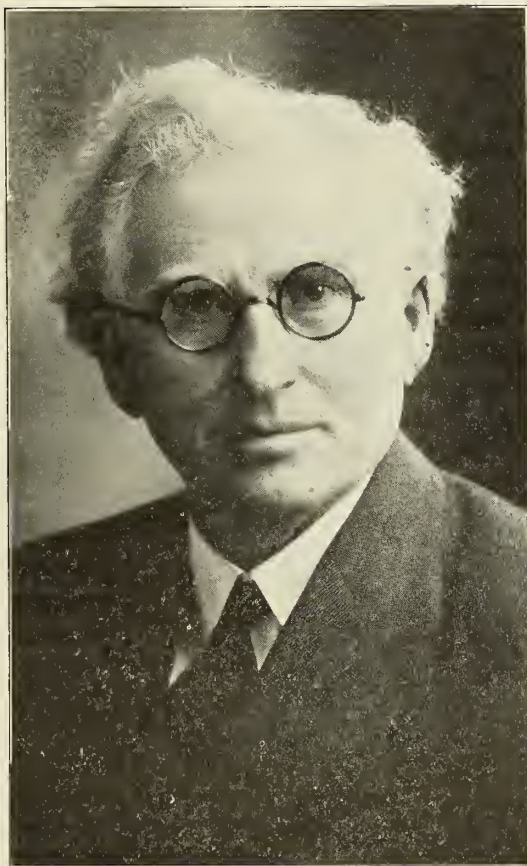
Next came a practice of fifteen months in Jasper, Alabama. Thence he moved to Amory, Mississippi, where he still lives and works.

A short while after moving to Amory, he married Miss Mollie Little, of Jasper, Alabama. There are two daughters, both college graduates, and both doing diagnostic work in health units. One daughter is married.

For the past twenty-five years, Dr. Bryan has acted as Division Surgeon for the Frisco Railroad.

He has been a member of the State Medical

Association for over twenty years and has missed one meeting only, and that because of serious sickness in the family.



DR. G. S. BRYAN,
President Mississippi State Medical Association.

He has always been a keen student of medicine, and for eight years was a member of the State Board of Health, taking quite a part in starting progress that has brought Mississippi up to the front rank in Public Health work.

MISSISSIPPI.

The Homochitto Valley Medical Society held its quarterly meeting in Natchez April 8th, with Dr. L. H. Lamkin in the chair.

Dr. Jas. C. McGehee, of Bude, Miss., and Dr. W. J. Grady and Dr. J. W. Dugger of Stephenson, Miss., were elected to membership.

The following papers were read:

"Hyperemesis Gravidarum," by Dr. J. C. McNair, Natchez, Miss.

"Empyema," by Dr. E. E. Benoist, Natchez, Miss.

The committee appointed last fall to look into the establishment of a library reported progress to the extent that the library would probably be quartered in the basement of the Natchez Sanatorium. They recommended that it be known as the "Homochitto Valley Medical Society Library." It was further recommended that inasmuch as the Natchez physicians would derive the greatest benefit from this library the greater part of the expense should be borne by them and that the expense would probably have to be met by voluntary contributions rather than by assessment. The committee was continued and requested to report at the July meeting.

Jackson, May 11-12-13.

If you have not paid your dues get in line by doing so now. Don't wait until your overburdened Secretary is forced to ask you for them. Delinquent members have no Medico-Legal Defense, and you cannot get Reciprocity unless you are a member of your State Association.

Jackson, May 11-12-13.

On March 24th at the Elks Club the Clarksdale and Six Counties Medical Society held its regular semi-annual meeting, at which the following delegates and alternates were elected:

- Coahoma—E. LeRoy Wilkins, Delegate.
- Quitman—J. E. Furr, Delegate.
- Tallahatchie—J. A. Harris, Delegate.
- Tunica—G. M. Shaw, Delegate.
- Coahoma—W. H. Eason, Alternate, Delegate.
- Quitman—A. C. Covington, Alternate Delegate.
- Tallahatchie—G. D. Hightower, Alternate Delegate.
- Tunica—J. P. Hitt, Alternate Delegate.

Dr. A. C. Harrison of Charleston was elected to membership.

At the banquet given to the members of the Society at the Alcazar Hotel Dr. R. R. Kirkpatrick presided as toastmaster.

There were about sixty doctors present, of which fifteen were visitors.

The scientific program presented at this meeting was as follows:

AFTERNOON SESSION.

1. Treating Malaria with Intravenous Injections of Quinine.....J. L. Nichols, Alligator
2. Ectopic Pregnancy, with Report of CasesJ. W. Ellis, Coahoma
3. Intestinal Obstruction with Special Reference to Pre- and Post-Operative Care.....Andre B. Carney, Ft. Smith, Ark.
4. A Paper.....G. D. Hightower, Webb, Miss.

EVENING SESSION.

1. Business Session—Election of Delegates.
2. A Case Report.....Thos. J. Crofford, Charleston
3. Focal Infections of the Head in Relation to Obscure General Conditions.....Cameron Montgomery, Greenville
4. Mobilization of Joints with Bony Ankylosis—Illustrated by Animated CartoonsWillis C. Campbell, Memphis

Jackson, May 11-12-13.

PROGRAM OF WINONA DISTRICT MEDICAL ASSOCIATION.

This Association held its regular meeting on April 2, 1926, at Grenada, Miss.

1. Diathermy Clinic, 10 A. M. to 12 M.....Dr. Austin Rosedale
Results in High Blood Pressure, Tuberculosis, New Growths, etc.
2. Pediatrics.....Chick Rucks, Memphis
3. Resume of Mercurochrome.....T. W. Holmes, Winona
4. Some Urological Problems.....Russell A. Hennessey, Memphis
5. A paper on Eye, Ear, Nose and ThroatCameron Montgomery, Greenville
6. Peptic UlcerR. L. Sanders and C. H. Halcock, Memphis
7. Election of officers.
President—J. H. Brown, Europa.
Secretary and Treasurer—J. K. Avent, Grenada.
Vice Presidents and Delegates—W. D. Arnold, Ackerman; J. O. Ringold, Winona; F. B. Coats, Hardy; V. V. Wallace, Carrollton.

Jackson, May 11-12-13.

TENTATIVE PROGRAM MISSISSIPPI STATE MEDICAL ASSOCIATION.

GENERAL MEETING—FIRST DAY.

Tuesday, May 11, 1926.

Sessions 9:30 A. M. to 12 M.—1:30 P. M. to 6 P. M.
Edwards Hotel.

Opening Exercises.

1. Call to order.....President G. S. Bryan, Amory
2. Invocation.....Rev. H. S. Spraggins, Jackson
3. Report of Committee on Arrangements.
Section on Eye, Ear, Nose and Throat.
C. A. McWilliam, Chairman, Gulfport, Edwards Hotel.

1. Extra-Ocular Foreign BodiesW. C. Cheek, Springfield, Mo.
Discussion to be opened by H. L. Arnold and L. S. Gaudet
2. Complications of Nasal Sinus Diseases in Children.....D. C. Montgomery, Greenville
Discussion to be opened by B. S. Guyton and E. L. Posey.

Section on Surgery.

V. B. Philpot, Chairman, Houston.

1. Symposium on Cancer:
 - a. Malignancy.....W. W. Crawford, Hattiesburg
 - b. Treatment of Carcinoma of the UterusJ. S. Ullman, Natchez
 - c. Radium in Treatment of Cervical Carcinoma.....J. P. Wall, Jackson

- d. Surgery vs. Radium for the Pathological Uterus.....W. H. Anderson, Booneville
 Joint discussion to be opened by A. G. Payne, B. B. Martin, Julius Crisler

2. Surgery of the Peritoneum.....
E. M. Holder, Memphis
 Discussion to be opened by E. C. Parker, M. L. Flynt, Willis Walley
3. Pain in the Right Iliac Region.....
R. B. Yates, Greenwood
 Discussion to be opened by C. R. Berry, W. J. Coleman, E. L. Gilbert
4. Important Facts in the Operative Cure of Hernia.....
H. R. Shands, Jackson
 Discussion to be opened by J. C. Culley, John Darrington, David Walley
5. Surgery of the Spleen.....
H. A. Gamble, Greenville
 Discussion to be opened by W. G. Gill, J. W. Barksdale, C. F. Chamberlain.
6. Surgical Procedures in Special Forms of Intestinal Obstruction.....I. C. Knox, Vicksburg
 Discussion to be opened by D. P. Street, T. W. Holmes, Price Ivy.
7. Prostatectomy Under Local Anesthesia.....
Carroll W. Allen, New Orleans
 Discussion to be opened by Paul Gamble, W. H. Sutherland, W. L. Britt.
8. Liver Function and Gall-Bladder Surgery.....
M. Q. Ewing, Amory
 Discussion to be opened by A. E. Gordon, H. N. Mayes, R. H. Foster.
9. Safeguarding Our Bad Surgical Risks.....
S. H. Hairston, Meridian
 Discussion to be opened by E. H. Gallo-way, R. H. Cranford, A. Street.

EVENING SESSION

Tuesday, May 11, 1926.

Edwards Hotel Eight O'Clock

To Which the Public is cordially invited.

1. Invocation.....Rev. H. M. King, Jackson
2. Addresses of Welcome—
 On behalf of the City of Jackson,
 Mayor W. A. Scott.
 On behalf of the Central Medical Society,
 Jno. Darrington, President,
 Yazoo City.
3. Response to Address of Welcome.....
W. H. Anderson, Booneville
4. President's Address: "Our Association: Its Record, Its Opportunities and Its Obligations"G. S. Bryan, Amory
5. Annual Oration: "Diagnosis"
W. A. Bryan, Nashville

GENERAL MEETING—SECOND DAY.

Wednesday, May 12, 1926.

Sessions 9 A. M. to 12 M.—1:30 to 4 P. M.
 Edwards Hotel.

Section on Hygiene and Public Health.
 W. E. Noblin, Chairman, Yazoo City.

1. The Body Surface as a Neglected Field for Preventive Medicine.....R. W. Hall, Jackson
 Discussion to be opened by R. M. Adams.
2. A Paper.....Gilruth Darrington, Vicksburg
 Discussion to be opened by W. A. Dearman.
3. Why We Do Not Eliminate Malaria More Rapidly Than Is Being Done.....
J. A. LePrince, Memphis
 Discussion to be opened by R. R. Kirkpatrick, Clarksdale.
4. The Relation of a Sanitary Inspector to a Part-Time Health Unit.....
H. C. Pugh, Yazoo City
 Discussion to be opened by J. B. Black, Jackson.
5. The Heart.....J. E. McDill, Jackson
 Discussion to be opened by G. W. F. Rembert, Jackson.
6. Some of the Common Mental Diseases, with Suggestions as to the Treatment and Prevention by the County Health Unit.....
H. L. Clark, Jackson
 Discussion to be opened by H. H. Ramsay, Ellisville.
7. What Needs to Be Done for the Pre-School Child.....F. J. Underwood, Jackson
 Discussion to be opened by N. C. Womack, Jackson.

Section on Medicine.

C. R. Stingily, Chairman, Jackson.

1. Pyelitis in Children.....G. Y. Gillespie, Greenwood
 2. Shall the Practice of Medicine be Called a Specialty?.....J. A. Rayburn, Ecu
 3. The Present Trend of Scientific Medicine.....
R. C. Elmore, Durant
- Section on Eye, Ear, Nose and Throat.*
 C. A. McWilliams, Chairman, Gulfport.

Special Session.

Mezzanine Floor, Edwards Hotel
 Wednesday, May 12, 9 A. M. to 1 P. M.

1. Vertigo: Its Importance to the Aurist, the Oculist, and the General Practitioner.....
Fern Champenois, Hattiesburg
 Discussion to be opened by G. E. Adkins and W. A. Jones.
2. Trachoma.....H. L. Arnold, Meridian

3. Headaches.....C. C. Buchanan, Hattiesburg
Discussion to be opened by L. W. Dotson and E. H. Jones.
4. Focal Infections from the Ophthalmologists' and Oto-Laryngologists' View
.....L. S. Gaudet, Natchez
Discussion to be opened by D. C. Montgomery and W. S. Harper.
5. The Normal and Pathological Development of the Sinuses.....John J. Shea, Memphis
Discussion to be opened by E. L. Posey and E. F. Howard.
6. The Todd Tucker in Muscular Work, and Report of Some Cases.....E. L. Posey, Jackson
Discussion to be opened by H. L. Arnold and L. S. Gaudet.
7. A Typical Glaucoma
.....Jas. B. Stanford, Memphis
Discussion to be opened by B. S. Guyton and H. L. Arnold.
8. A Double Pneumatic Mastoid.....
.....G. E. Adkins, Jackson
Discussion to be opened by Fern Champenois and E. L. Wilkins.
9. Diagnosis of Foreign Bodies in the Lungs
.....F. E. LeJeune, New Orleans
Discussion to be opened by E. F. Howard and W. B. Dobson.
10. Nasal Surgery Under Rectal Anesthesia
.....Edley H. Jones, Vicksburg
Discussion to be opened by L. S. Gaudet and D. C. Montgomery.

GENERAL MEETING—THIRD DAY.

Thursday, May 13, 1926.

Sections 9:30 A. M. to 12 M.—1:30 P. M.
to 4 P. M.*Section on Medicine.**(continued)*

C. R. Stingily, Chairman, Jackson.

1. New Developments in the Treatment of Malaria.....Wm. Krauss, Memphis
2. Intra-Ocular Manifestation of Some Systemic Diseases.....W. S. Sims, Jackson
3. Arterial Hypertension.....Jno. B. Howell, Jackson
4. The Association of Acute and Chronic Infections to Mental Diseases.....
.....L. R. Brown, Little Rock, Ark.
5. The Significance of Gastric Symptoms.....
.....L. B. Neal, Jackson
6. A Practical Consideration of Diabetes.....
.....G. W. F. Rembert, Jackson
7. Surgery of Diabetes.....J. W. Barksdale, Jackson
8. Diabetes Complicating Tuberculosis
.....Henry Boswell, Sanatorium

9. Real and Alleged Dangers of the Prevention and Treatment of Diphtheria with AntitoxinL. D. Hudson, Hattiesburg
10. Who Is Insane.....J. M. Buchanan, Meridian
.....
Jackson, May 11-12-13.

PROGRAM

WOMAN'S AUXILIARY MISSISSIPPI STATE
MEDICAL ASSOCIATION.*Tuesday, May 11, 1926.*

Mrs. Sydney Johnston, Vicksburg, President.

8:00 A. M.—Registration, Edwards Hotel.

3:30 P. M.—Executive Board, Y. W. C. A.

Wednesday, May 12, 1926.

Y. W. C. A.

9:30 A. M.—Call to order.

Invocation.

Address of Welcome:

On behalf of the Woman's Auxiliary to Hinds County Medical Society, Mrs. H. F. Magree, President.

On behalf of the City of Jackson—Mrs. H. F. Garrison.

Response to Addresses of Welcome—Mrs. W. H. Frizell, Brookhaven.

Roll calls.

Appointment of Committees.

Reports.

Address—Dr. F. J. Underwood, Jackson.

12:00 M.—Adjournment for Lunch.

1:00 P. M.—Report of Woman's Auxiliary, A. M. A., Mrs. H. R. Shands, Jackson.

Report of Auxiliary Southern Medical Association—Mrs. N. C. Womack, Jackson.

2:00 P. M.—Adjournment.

4:00 to 6 P. M.—Tea at Governor's Mansion.

Thursday, May 13, 1926.

9:30 A. M.—Session Y. W. C. A.

Invocation.

Reading of Minutes.

Reports.

Election of Officers.

Unfinished Business.

Address—Dr. Bryan.

12:00 M.—Luncheon. Edwards Hotel.

Afternoon Ride over Jackson.

Mrs. C. C. Applewhite of the Jackson Auxiliary of the M. S. M. A. in presenting the above program for her committee states that they are looking forward with pleasure to the coming Convention and hopes that there will be a splendid attendance not only of the Doctors but of their wives as well. She states further that in all probability there will be other social features for the visitors in addition to those mentioned in the program.

Jackson, May 11-12-13.

The North Mississippi Six Counties Medical Society meeting was held March 17th, 1926, at Water Valley in the Masonic Hall, with President Mayfield in the chair. It is stated that this was one of the best meetings that this Society has held. Every paper on the program, with one exception, was presented, and the program, which was as follows, was finished on time:

1. Invocation.
2. Headaches
.....Dr. Chas. D. Blassingame, Memphis
3. Diarrheas and Their Treatments
.....Dr. F. S. Hill, Grenada
4. Irregularities of the Heart.....
.....Dr. J. P. Henry, Memphis
5. Treatment of Fractures
.....Dr. Henry G. Hill, Memphis
6. A Paper.....Dr. C. M. Speck, New Albany
7. Leukemia and Pregnancy, Report of Case
.....Dr. Geo. Brown, Water Valley

Following this program the Society was a guest of the Water Valley doctors at a dinner.

The next meeting will be held at New Albany, July 21st, and will be an all day session.

Jackson, May 11-12-13.

OFFICERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION.

- President—G. S. Bryan, Amory.
Vice-President—F. G. Riley, Booneville.
Vice-President—O. N. Arrington, Brookhaven.
Vice-President—E. S. Bramlett, Oxford.

Councillors.

- 1st District—J. W. Lucas, Moorhead.
2nd District—J. S. Donaldson, Oakland.
3rd District—W. M. Robertson, Rienzi.
4th District—T. W. Holmes, Winona.
5th District—D. W. Jones, Jackson.
6th District—W. G. Gill, Newton.
7th District—T. M. Dye, Clarksdale.
8th District—W. H. Frizell, Brookhaven.
9th District—D. J. Williams, Gulfport.

Delegate to American Medical Association—
S. W. Johnson, Vicksburg.

Delegate to Arkansas State Medical Association—S. W. Glass, Lyon.

Delegate to Tennessee State Medical Association—I. B. Seale, Holly Springs.

Delegate to Alabama State Medical Association—A. C. Bryan, Meridian.

Delegate to Louisiana State Medical Association—I. W. Cooper, Meridian.

Committee Appointments.

Public Policy and Legislation—Drs. Underwood, Cooper, Willis Walley.

Teachers' Association—Drs. W. H. Frizell, Henry Boswell, F. J. Underwood.

Publication—Drs. Dye, Dearman, Folkes.

Scientific Work—Drs. Dye, H. L. Scales, D. W. Jones.

Necrology—Drs. J. Rice Williams, J. B. Howell, C. A. Sheely.

Hospitals—J. M. Acker, S. H. Hairston, Jno. Darrington.

Medical Education—W. H. Anderson, J. P. Wall, W. W. Crawford.

Chairmen Scientific Sections.

Medicine—C. R. Stingily.

Hygiene and Public Health—W. E. Noblin.

Eye, Ear, Nose and Throat—C. A. McWilliams.
Surgery—V. B. Philphot.

President, Woman's Auxiliary

Mrs. S. W. Johnston, Vicksburg.

Jackson, May 11-12-13.

The Central Medical Society at their meeting April 13th, announced the following committees to look after the arrangements for the call meeting of M. S. M. A. in Jackson next month:

Finance Committee—Dr. A. E. Gordon, Chairman.

Entertainment Committee—Dr. H. R. Shands, Chairman.

Reception Committee—Dr. G. S. Adkins, Chairman.

Executive Committee—Dr. John Darrington, Chairman; Ren Hall, Secretary.

BOOK REVIEWS

Gynecologic Urology: By Lynn Lyle Fulkerson, A. B., M. D., F. A. C. S. Illustrated. Philadelphia. P. Blakiston's Son & Co. 1925.

This work embraces a comprehensive review of literature on urology in the female. Seldom does one find a volume with as much valuable up-to-date information in so few pages. The work is to be highly recommended to all students of this subject.

C. L. PEACOCK, M. D.

Medical Formulary: By E. Quin Thornton, M. D. Twelfth edition, revised. Philadelphia and New York. Lea & Febiger. 1925.

The twelfth edition of this pocket volume has been extensively revised in order to conform to the latest revision of the United States Pharmacopoeia. The general plan of the book has not been changed. The diseases, conditions or symptoms are given in alphabetical order, and under each heading is given from one to half a dozen or more prescriptions which may favorably influence the disease or the local condition.

G. R. HERRMANN, M. D.

Clinical Features of Heart Disease: By Leroy Crummer, M. D., New York. Paul B. Hoeber. 1925.

In this book the author clearly presents the subject of Heart Disease as it appeals to the clinician. He presents in a rational way our knowledge, at the present day, of the various disfunctions of the heart, both infectious and degenerative.

The chapter on auscultation, alone, will reward the reader for the time consumed in reading the entire book, laying before the profession, the necessity of and the value of ascertaining the characteristics of the two heart sounds, left and right, especially, the first sound left and the first sound right.

Cardiac Emergencies, are discussed in a chapter by themselves this discussion, making a very interesting subject and should be enlightning to practitioners as well as to the medical student, anticipating early practice.

The entire volume is presented in a concise and readable manner, being very complete, and correct in detail, should be of particular value to the general clinician, and especially the general practitioner, who has not the time to keep abreast with the latest facts in clinical cardiology. The entire subject is brought up to date.

B. R. HENINGER, M. D.

Modern Treatment and Medical Formulary: By W. B. Campbell, M. D. Seventh rev. and enl. ed. Philadelphia. F. A. Davis Co. 1924.

This seventh revision of the original work by W. B. Campbell, M. D., appears to make no claims

to originality on the part of the author, and the revisers. Therapeutic measures and prescriptions are given and their source credited. Some of these sources are foreign.

This book is not one that discusses the merits or action of drugs, but is a comprehensible and condensed accumulation of favorite treatments and prescriptions in use by well known physicians.

Indexing of this work follows the plan of naming the ill and under it listing the drugs and combinations of drugs.

It would appear that Campbell's Handbook would be equally interesting to medical students and physicians in practice as a vast amount of material has been culled by the authors so as to furnish the reader what, in their opinion, is the most valuable treatment of the ailment at hand. The lack of unnecessary reading and the brevity of the text is particularly acceptable, although there is a tendency toward "shot gun" therapy in some of the prescriptions.

W. A. LOVE, M. D.

Physical Diagnosis: By W. D. Rose, M. D. Fourth edition. St. Louis. C. V. Mosby Co. 1924.

This volume in its fourth edition endeavors to cover a large field in about 700 pages of print and the author is, in the reviewer's opinion, fairly successful in his effort.

About two-thirds of the book is given over to the diagnosis of the chest and its contained organs and the discussion includes radiography and cardiography in addition to the usual methods of examination.

Preceding the chapters on examination of the chest and abdomen, there are valuable, short and concise descriptions of the clinical anatomy of these parts.

In discussing the examination of the abdomen, the contained organs are treated separately. This is of especial advantage to the reader as he does not have to go over a mass of material to find what he is looking for.

It appears that the author has attempted to be too brief in the latter part of the volume when he covers the examination of the head, neck, face, upper and lower extremities, skin and nervous system in ninety pages.

Analyzing the book as a whole, it is one of value on account of the excellent description of methods of examination, its brevity, and freedom from repetition in the subject matter. If there is a fault to find in the book, it would be that, on account of its conciseness, there may be some errors of omission.

W. A. LOVE, M. D.

William Cadogan, His Essay on Gout: By John Ruhrah, M. D., New York. Paul B. Hoeber, Inc. 1925.

To one who comes fresh from a pleasant hour with George Saintsbury's "Notes on a Cellar Book," this volume is a joyful contrast; for whereas the learned litterateur pleads the cause of the appetite, "Sweet Willy" Cadogan delights us with a plea for moderation. Let his words fall from his own lips: "I have already shown that the causes of these evils (chronic diseases, more particularly the gout) are indolence, intemperance and vexation; and if there be any truth or weight in what I have said, the remedies are obvious: Activity, Temperance and Peace of Mind."

Evidently Cadogan was a violent heretic among his contemporaries, both medical and lay. The scathing but brilliant verse (appended to the essay) hurled at him by one Stella testifies to this. We cannot in some respects doubt the soundness of his thesis however faulty its development may be; it is an eighteenth century version of the familiar Celsian aphorism: Rest and abstinence are the best of all remedies, and abstinence alone cures without any danger.

The distinguished physician-scholar of Baltimore, merits our gratitude for rescuing from oblivion this interesting soul, damaged in his own day, and forgotten in ours. We would be altogether at sea, were it not for Doctor Ruhrah's enlightening and charming introduction.

M. MALLOWITZ.

Book of Prescriptions: By E. W. Lucas, C. B. E., and H. B. Stevens, O. B. E. Eleventh edition. Philadelphia. P. Blakiston's Son & Co. 1926.

This small volume has achieved a very great popularity. It first appeared in 1856 and has been revised from time to time until the present date. Just how its popularity has been retained is not clear to the reviewer, but since it has proved itself by seventy years of continuous publication, the isolated opinion of one individual is hardly of much value. The prescriptions contain many drugs unknown to the United States Pharmacopoeia and the directions are so succinct and brief that they can be of very little value to the physician who has no more than elementary knowledge of medicine.

G. R. HERRMANN, M. D.

Chronic Disease: By E. Bach, M. B., B. S., D. P. H., and C. E. Wheeler, M. D., B. S., B. Sc. New York. Paul B. Hoeber, Inc. 1925.

The attempt to explain chronic disease on the basis of intestinal toxemia has been tried by the authors. They not only make an attempt, which to the reviewer does not seem in any way to be based on scientific observations or clear reasoning, to elucidate the mystery of chronic disease, but they

even go a step further and claim that with a suitable dietary and with a vaccine prepared from the intestinal flora they have produced cures in a great many conditions. The organisms that they believe produce various types of chronic disorders are Gram negative, non-lactose fermenting bacteria. These organisms are responsible for a host of diseases ranging from chronic gastritis and chronic colitis to anemia and neurasthenia. The reader may successfully evaluate the worth of the book when he is told that in addition to the large number of diseases supposedly caused by intestinal toxemia, the authors, in a separate chapter devoted to cancer, feel that they have done much to alleviate this malignant disorder by diet and autogenous vaccines.

J. H. MUSSER, M. D.

Headache: Its Causes and Treatment. By Thomas F. Reilly, M. D. Philadelphia. P. Blakiston's Son & Co. 1925.

It may be unfair to judge a book by superficials, but the reader is naturally affected by careless typography or by apparent purposeful incorrect use of capitals. When the greater number of diseases are capitalized, when nitroglycerin is spelled with a capital N and a capital G in one place and seven lines lower it is spelled with a capital N and as one word, such carelessness is apt to be considered an index of the character of the book. If capitals are used throughout incorrectly one is apt to believe that other incorrect manifestations may occur which may be decidedly more relevant and more important. It is a great pity that such is the case in this present volume because the discussion of headache, for the most part, is sensible and logical. The critical reader may question the assertion that disease of the uterus is likely to produce headache and that rather similar remote disturbances may be responsible for a headache directly or reflexly. However, few such possibilities are given and we no longer see mentioned headaches due to almost every conceivable anatomical or pathological disturbance of the body. The discussion of mechanical headaches seem particularly well handled, although there is no especial complaint to be made of the other divisions of headaches, namely toxic and reflex.

J. H. MUSSER, M. D.

Development of Our Knowledge of Tuberculosis: By Lawrence F. Flick, M. D., L. L. D. Philadelphia. Author. 1925.

The author takes the most complex and most difficult subject in medicine and brings it before us in a most interesting and complete manner. He deals especially with the development of our knowledge of the disease. Beginning with the period 2250 years before the Christian era, we are car-

ried through the various periods and the opinions and writings of the greatest medical men of each period are revealed. The interesting work of Koch is discussed in detail. The book is well written and is a wonderful treatise which covers the subject completely. It is worth the time of any physician to read the book. Any persons especially interested in the subject of tuberculosis cannot afford to miss reading it.

SHIRLEY C. LYONS, M. D.

Scoliosis: Rotary Lateral Curvature of the Spine:
By Samuel Kleinberg, M. D., F. A. C. S. New York. Paul B. Hoeber, Inc. 1926.

This publication, by Kleinberg, who has probably done more constructive work in an effort to overcome this almost uncorrectable deformity, is a very splendid review of a great deal of the work generally done for this condition, but principally a concise and comprehensive review of his own experience in treating the deformity.

The deformity is one which is probably the most discouraging, from a standpoint of complete recovery, than any other of the deformities occurring in the practice of orthopaedic surgery. This book is of primary value to orthopaedic surgeons and will fulfill a long felt want in their libraries. The author's work is well known among orthopaedic surgeons and needs no recommendation to bring it to their attention. Dr. Kleinberg's work at the Hospital for Ruptured and Crippled has extended over a long period and has added value because of his association with such men as Gibney, Whitman, Taylor and Roberts. It is impossible to describe in detail the many methods of treatment which he shows so well in this profusely illustrated treatise on Scoliosis. It is recommended very heartily to all who are interested or whose practice brings them cases of scoliosis.

JOHN T. O'FERRALL, M. D.

Text Book of Orthopedic Surgery for Students of Medicine: John Warren Sever, M. D., New York. The Macmillan Co. 1925.

This text book is of especial value to the medical student and to the general practitioner or general surgeon who wishes a concise digest of any particular subject. As Dr. Sever says in the preface, he has made an attempt to present his subjects in a brief and didactic way to avoid confusion and frequent references to large amounts of

literature. Only standard procedures of treatment are given, and anyone referring to the book can get the desired information quickly and be sure that it is correct.

The standard types of apparatus indicated in the usual deformities found is an important part of the book. Profuse illustrations of deformities and appliances also lend to its value. For the medical student beginning his studies of deformities of children and to the graduate physician who wishes to refresh his memory, it will be found a most valuable volume.

Dr. Sever's association for a large number of years with the staff of prominent orthopaedic surgeons connected with the Children's Hospital of Boston, makes the book immediately interesting and of unusual importance. This book can be recommended, without hesitation, for its value and the concise way in which the information is arranged.

JOHN T. O'FERRALL, M. D.

PUBLICATIONS RECEIVED.

Williams & Wilkins Co., Baltimore: "Medicine, an Historical Outline," by M. G. Seelig, M. D.

C. V. Mosby Co., St. Louis: "Modern Methods of Amputation," by Thos. G. Orr, A. B., M. D., F. A. C. S.: "Handbook of Diseases of the Rectum," by Louis J. Hirschman, M. D., F. A. C. S. 4th ed. rev.

P. Blakiston's Son & Co., Philadelphia: "Gould & Pyle's Pocket Cyclopaedia of Medicine and Surgery," 3d ed. rev. enl. & ed. by R. J. E. Scott, M. A., B. C. L., M. D.; "Medical Diagnosis," by Charles Lyman Greene, M. D., 6th ed. rev. & enl.

Gov't Printing Office: "Medical Department of the U. S. Army in the World War, v.8, Field Operations," by Charles Lynch, M. C., and others.

Medical Life Press, New York: "Sixty Years in Medical Harness," by Charles Beneulyn Johnson, M. D.

The Macmillan Co., New York: "Comparative Physiology," by Lancelot T. Hogben.

REPRINTS.

"The Treatment of Breast Cancer," by Rex M. Duncan, M. D. and Edwin D. Ward, M. D.

Second Report of the International Hahnemanian Committee on the Abrams Phenomena.

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2	3 to 4	7
3	4 to 5	7
4	5 to 6	6
5	5 to 7	5
6 to 9	6 to 8	5
9 to 12	7 to 9	5

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No. 12

PRESIDENT'S ADDRESS.*

G. S. BRYAN, M. D.,

AMORY, MISS.

*Ladies, Gentlemen, Fellow-Members,
Friends:*

I wonder if the public has ever given thought to the record that this Association has made? I wonder if our own membership has taken time from the carking cares of an arduous life to review the history that we have made as an Association? I wonder if we understand and appreciate the opportunities and possibilities that are ours, even now, for service to the people? And I wonder if we realize, as we should, that with every opportunity for achievement and service there is an attendant and binding obligation? Having propounded these inquiries, I shall, as briefly as I may, recount some of the things for which as an Association we have stood, as well as some of the things that we have accomplished. I am well aware that the task that I have set myself is prosaic and that I can not hope to make it interesting and entertaining, but I promise that I shall omit details as much as possible in my narration.

The first meeting for the purpose of organizing a state-wide association of medical men was held at Jackson on the fifteenth of December, 1856. At that time officers were elected and a constitution and by-laws were adopted, and delegates to the

American Medical Association were chosen. The meeting then adjourned to meet November of the following year. But this meeting was not held—in fact no other meeting was held until after the war between the States. To be exact, the next meeting was held at Jackson on the twentieth of April, 1869. This meeting was called by a group of Vicksburg doctors. At that meeting this Association really had birth; for while some changes have been worked out, there has been no failure to meet and function since then. At that meeting an effort was made to organize component county societies somewhat after the idea and plan that is now followed. The next meeting was held in Vicksburg and besides rendering a scientific program, a committee was appointed to memorialize the legislature and request the creation of a licensing board. This seems to have been the first awakening of the public conscience on the subject of protection of public health.

For the next few years history is silent as to what may have been done in and by the Association beyond the fact that regular yearly meetings were held. But at a meeting held in Grenada in 1877 a committee report was made that showed a bill had been passed by the legislature creating a board of health. But the bill proposed by the Association had been so emasculated as to render it useless. At this meeting the Association went on record as favoring reporting and keeping vital statistics. Nothing of importance was done at the 1878 session. The 1879 meeting, which was held

*Read before the Mississippi State Medical Association, Jackson, May 11-13, 1926.

at Aberdeen, resolved into a lodge of sorrow held in memory of members who had given their lives a willing sacrifice in the battle against yellow fever in the fearful epidemic of 1878.

Permit me to digress here that I may say there were giants in those days in the ranks of those who composed the membership of this Association. They were not giants only, but they were heroes and patriots as well. While these men lived and loved, labored and died before our day and generation they left us an example of heroism and patriotism, devotion and consecration to science and to duty that we should delight to extol and to emulate. I should like to call the roll of names of men, who dying in fearless discharge of sacred duty, richly deserve to have their names inscribed in bold and glittering type on the brightest page for our illustrious dead. But for fear that I might not be able to call them all I shall not name any. But let us not forget that these men are just as worthy a place in our halls of fame as those who gave their lives on the field of carnage in fratricidal conflict.

Nothing beyond regular meetings seems to have been accomplished for a few years at this time in the Association's history. But it should be remembered that the question of a charter for the Association and the passage of an effective medical practice act was agitated and urged at each annual meeting. As a result of this agitation, the legislature at its 1882 session passed a law which required all those then engaged in the practice of medicine in the State to register in the county in which they held residence. It also required all who might desire to begin the practice thereafter to undergo examination as to qualifications and to submit evidence of moral fitness. This law provided for a licensing board for each congressional district. Of course that meant that different standards would prevail in different districts. For some years nothing more than the adoption of a constitution and by-laws was entered on record.

I might say, however, that the Jacksonville outbreak of yellow fever, which occurred in 1888, caused great alarm and confusion throughout the State and as a consequence a large sum of money was put at the disposal of the Board of Health and its committees. While I believe that this money was as wisely and judicially expended as was possible under the existing circumstances, still I suspect that no real good came of its use; for at that time nothing was known as to the etiology of yellow fever, hence no effective means of prevention could be used. This year and this epidemic, I think, saw the last of the old time shot-gun quarantine.

In 1889 Dr. B. F. Kittrell presented a paper in which he advocated the creation of a single licensing board in lieu of the district boards then in vogue. No important history was made by the Association for the next few years, but through its committees and through the efforts and influence of its individual members the legislative mind was being molded and directed, insomuch that in 1892 a single board displaced the district boards. A special meeting of the Association was held in Jackson on the second of November of this year, at which meeting five members of the examining board were elected and a draft for a new constitution and by-laws was considered and referred to the next regular meeting.

In 1895 the Association urged the creation of a Board of Health—also that a medical department of the State University be established. It also appointed a committee to prepare a draft for a charter for the Association. This draft was made and submitted for approval and on September 20, 1895, it was approved by Gov. John M. Stone. The Association now runs under this charter. The legislature having acted favorably on the suggestion that a Board of Health be created, this was done at the 1898 meeting. It was set forth and declared that the object of this Board should be the

collection of vital statistics, the development of medical literature and a general superintendence over the health interests of the State. For some years the chairman of the Board made a report of its activities to the Association. This Board was separate and apart from the licensing board. Interest soon waned, however, and this Board ceased to function.

From 1895 until 1903 nothing beyond regular meetings and scientific programs was accomplished. Dr. McCormick, who was the field representative of the American Medical Association, attended the 1903 meeting and delivered an address in which he urged re-organization along the lines suggested by the A. M. A. A special committee was appointed to study these plans and make suggestions thereon. After careful consideration they recommended that these suggestions be adopted. By this vote the Association became affiliated with and a component part of the A. M. A. At the next meeting, in the spring of 1904, after one year's membership with the A. M. A., the councillors' report showed organization of component societies in forty-six counties, with an aggregate membership of five hundred and twenty. I trust I may be pardoned for a personal reference when I say that your president became a member of this Association in this year, 1903-4. My home county, Monroe, was organized in the summer of 1903 and I was made its first secretary and chosen as its first delegate to this Association. I attended the meeting held in Jackson beginning on the twentieth of April, 1904. Since then I have failed to attend but one meeting and I failed then because of serious sickness in my own family. And but for the encouragement, stimulation and inspiration I have received, and the joy that has come into my life from association with my fellows, I do not believe that I could have carried on till now.

While it may not be easy to point out many brilliant or important achievements

of the Association during its first three decades, still all that it has since accomplished, as well as all that we confidently predict and expect shall yet be done, is because of the dreams and hopes and aspirations of those who came before us and planned so well and labored so assiduously. At the 1904 meeting the President's address was conspicuous because of the thought and logic and brilliance of it. This president had for the preceding four years been a member of the Board of Health as well. In this address he pointed out the complex situation that confronted the Association. He emphasized the fact that the conservation of health and the preservation of life was a duty devolving upon doctors, and this duty could only be discharged by men who were fitted and prepared. He stressed the fact that the need of the hour was not for *more* doctors but for *better educated* doctors. He stated that during the four preceding years, seven hundred and fifty young men had applied for license to practice medicine and that three hundred and fifty-two had failed—that three-fourths of those that failed were astonishingly ignorant, devoid of the least education—that they failed because they knew no medicine and could never learn medicine because they had no foundation on which to build—no collateral education. He argued that the medical student should be liberally educated—in fact should possess a college education before being admitted into a medical school. He also urged the establishment of a Bureau of Vital Statistics. He urged the employment of capable County Health Officers. He also suggested the provision of free diagnostic laboratory facilities and the building and equipment of sanatoria for the treatment of the tuberculous. This address, I think, was the clarion note in the chorus that aroused the public conscience on public health protection. But since all reform movements come slowly, it was not until 1907, at the historic Gulfport meeting, when the Association spoke in unmistakable tones of command that a

real progressive program was inaugurated. But it was realized that nothing worthwhile could be done unless more liberal financial support should be given the health department, since only twenty-five hundred dollars per year was then being allowed to cover the entire expense of all public health activities. So the five Association members of the Board of Health chosen that year went to Jackson, at their own personal expense, when the 1908 session of the legislature convened, and plead for more money to be used for the public health. A very small increase in the appropriation was made for the biennium, with the understanding that the whole program should be abolished if the Board should fail to make good. The Board decided to use what money there was available in waging a campaign of education before the general public. After casting about for a suitable man to carry the gospel of sanitation and public hygiene direct to the people, Dr. Frederic J. Mayer, of Louisiana, was selected. In my opinion, no better selection could have been made. He was a most entertaining and instructive speaker—one who was not only gifted and fluent, but one who knew his stuff and had the human touch so necessary when something new and worthwhile is to be put across to the people. This campaign was inaugurated in October, 1908. For some eight or ten months Dr. Mayer canvassed the State, visiting every county and almost every community in each county, delivering from two to four lectures every day. These lectures were delivered before schools, churches, civic clubs and women's organizations. More than one-third of the money appropriated for the biennium was expended on this campaign. No real health work was undertaken, and yet the public was so impressed with the needs and possibilities in health work that the same legislature that had given so reluctantly in 1908, doubled the appropriation in 1910.

So far as I am able to learn this is the first time in history that any State or Government ever went direct to the people with a program or propaganda of this kind. The truths taught—the doctrines promulgated by Dr. Mayer during this campaign were, of a truth, seed sown in good ground and they sprang up and have borne and are still bearing much fruit. Soon after this time Dr. W. S. Leathers was induced by the Board of Health to assume the duties of Chief Health Officer of the State. His splendid work in the dual role of Director of all public health activities and Dean of the Department of Medicine at the University is too well known and too highly appreciated to need discussion further than to say that under his wise and judicious administration, each succeeding legislature was more liberal in financial support than its predecessor. Not only was there more money provided for State-wide public health work, such as the establishment and maintenance of a first class hygienic laboratory and the establishment of a vital statistics bureau whereby the State was admitted into the registration area, but a keen and wholesome interest was built up in almost every county in the State until efficient county and district health departments are functioning throughout the State.

Until 1910 anyone who desired might apply for examination for license to practice medicine, regardless of educational qualifications or medical training. But under the influence and at the insistence of the Association it was then made requisite that all applicants hold a diploma from a "Class A" college. Prior to the development of our very efficient health department, the morbidity and mortality rate was so high in the State that outsiders were loth to invest capital or to take up residence with us. That was true to such an extent that, even now, people are surprised and skeptical when we tell them that among our white population the death rate is lower than in any State in the Nation. But for this As-

sociation we could not claim to have, perhaps, the best equipped and the best administered tuberculosis hospital in the Nation, nor could we point with such pride to our hospitals for the insane and our home for feeble-minded.

I wish I might be permitted to go further into details touching the splendid record of our Association, but it would be unwise and possibly unkind to my hearers. But as satisfying as our record for such splendid achievements may be, let us remember that our opportunities for still better and greater achievements are greater now than they have ever been. In fact, as I see it, there is nothing legitimate or desirable that we may not do. This Association could, if it would, direct the thought, mould the morals, and dictate the legislation of the State. We have about two thousand members. There is no other class or profession in the State that can muster so many men with as much intelligence, education and culture. There is no other body of men that comes into such close touch and intimate relations with all the people. The members of this Association know, or should know, the needs, the hopes, and aspirations of the people as no other group of men does. If this Association will but extend its program, broaden its horizon, enlarge its vision there is no limit to its possibilities to stimulate higher education, to develop a purer, better citizenship, to eliminate poverty, sickness and distress, to lengthen the span of human life and to multiply the joy and happiness in the hearts and lives of our people.

Much apprehension is felt with regard to the outcome of the apparent spread of influence of certain fads and cults. Personally, I do not care for this so far as it may affect our profession from a financial standpoint only. For I believe that those who practice medicine only that they may make money, or simply to obtain the means for a livelihood, can well be spared from our ranks. But it is pitiful to see people who

really stand in need of conscientious and scientific medical care deluded into the hope and belief that relief may be had through these quacks and impostors. You ask what can be done to relieve the situation? I think that along with every opportunity for doing good there always comes an attendant obligation. One of our many obligations—and perhaps the greatest—is to teach the people, everywhere, the physiology of health, and the nature and etiology of disease. Understanding health and knowing the nature and cause of sickness, the means of prevention is almost always near at hand. If every member of this Association would do his whole duty as a teacher it would not be long until every man and every woman and all children of teachable age would know that most sickness is preventable. They would know that such loathsome and death-dealing sickness as small-pox, typhoid fever and diphtheria can be entirely eliminated from the State. When the people have a true knowledge and correct understanding along these lines you need not be concerned about them who teach or follow these fads and fallacies. When such knowledge becomes universal, as it should, it will almost be a crime for anyone to fall sick of a preventable disease. And until such knowledge does become universal, I believe that we can be indicted for failure to meet and discharge a most sacred obligation; for we have voluntarily assumed the role of doctor of medicine. We ask for fees and rewards. In my opinion, we can not honestly shirk or escape the responsibilities and obligations.

In conclusion, I wish to say that this is a momentous occasion to me; for it is the closing hour of the year of my greatest opportunity to render service to Mississippi State Medical Association, and through it to the people of Mississippi. And yet I feel that I must apologize to the Association and to the people for having done so little. As limited as my ability to do con-

structive work is, I feel that I have not done my very best as I had hoped to do and as I promised I would do. I have discovered that I am a bit lazy and a bit selfish too. I have too often failed to do or to undertake to do certain things that I thought should be done. Sometimes because of the effort required to do them and sometimes because my personal affairs seemed to need my time and thought. But the little that I have done has been cheerfully done because it has been a labor of love.

Then, I wish to say that I fully realize that a great honor was conferred upon me when I was chosen to be the president of this Association. There is no man living in the State whose attainments, ability or brilliance can match this honor. Realizing this fact, I have been puzzled to understand why I should have been so signally honored. I am sure you will believe me when I say that I neither sought nor desired this honor. The only honor I have craved at your hands was that I might be recognized as a loyal and faithful member and that I might have and hold the respect and confidence of the entire membership and that I might feel sure that I had the true friendship and love of, at least, a few of the choice souls among you. I am indeed thankful that I have been given to realize all this. My best friends—and no man ever had better or truer friends—are the men I have met and known in this Association. I pity from the depths of my heart the man who will not give enough of his time and of himself to become fully identified with this Association; for I would not exchange the friendship and love that have come to me through membership in this Association—not to mention the help and development and scientific knowledge that I have acquired—for all the fees and emoluments that have come to me during all the years.

My friends, I salute you and may Heaven smile upon you!

STERILITY: AIR INSUFFLATION AS AN AID IN DIAGNOSIS.*

P. GRAFFAGNINO, M. D.,

NEW ORLEANS.

Sterility is not only important from a medical standpoint, but also from a social aspect; every gynecologist who has been in active practice for a number of years knows that, primary as well as secondary, sterility is on the increase, and that in the majority of cases he is unable to relieve or cure the condition.

I am frank to confess that the present practice of the profession at large, and many of the gynecologists, in ascribing stenosis of the cervix as the cause of sterility, is fallacious in the majority of cases, and that operations for the relief of this condition are not only doomed to fail, but also in a great many instances produce mild and insidious infections which chiefly involve the tubes and if not already sterile these procedures will render them so. Dilatation and curettage, the stem pessary and cutting operations on the cervix cure but few patients. If a woman has a cervical canal large enough to discharge the menstrual flow, the canal is surely large enough for the spermatozoon to pass through. The time has come when most of the operations aimed at the correction of the so-called mechanical cause of sterility should be abandoned, and that operations of any kind, without first determining the condition of the tubes by the various patency tests should be considered pernicious.

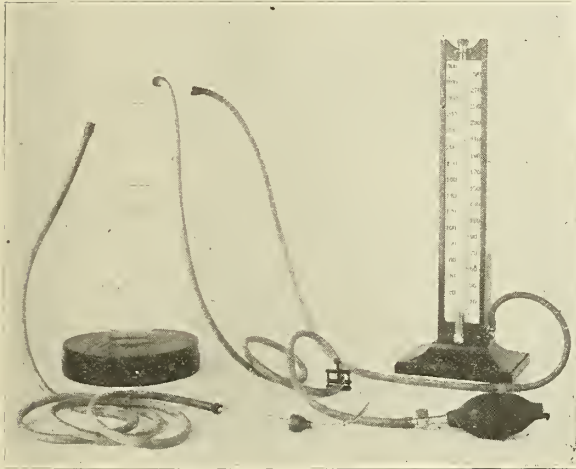
The work of Stein and Stewart in this country, reawakening interest in peritoneal gas inflation, followed by roentgen examination, has enabled Rubin of New York to give to the profession the valued Test that carries his name, and he must be given the credit of really adding a new diagnostic point which is definite and cer-

*Read before the Orleans Parish Medical Society, February 22, 1926.

tain if properly carried out and which is of great aid in our study of sterility.

The treatment of sterility is incomplete unless the patient is examined for patency of the tubes. Unfortunately, however, there are a great number of cases in which tubes are patent and, notwithstanding treatment, remain sterile.

More than three years ago a study of Fallopian tube patency was begun at Charity Hospital, using the Rubin outfit-carbon dioxide, as described by him in some of his publications. Since then more than two hundred examinations have been made in the Clinic with this apparatus



Modified Rubin Apparatus.

and we have found that at all times it has given definite information, without any serious complication other than an occasional fainting spell or marked discomfort following a too large injection of gas.

From time to time, as different modifications of the Rubin method have appeared in the literature, we have tried them out in the hopes of finding out some simple portable method that could be used in office, operating room, or patients' home. Most of these methods will give a certain amount of information, are simple, but none of them give the entire satisfaction of the Rubin apparatus, nor do any of them fulfill the requirements that are so

essential to obtain the maximum amount of the information from the test.

For the past few months, we have used a portable modification of the Rubin apparatus that meets all these requirements, i. e.

1st. That a constant low pressure of gas or air can be automatically maintained.

2nd. The rate of flow of the gas or air can be accurately regulated.

3rd. The volume of gas or air which passes into the abdomen can be measured.

4th. Intrauterine pressure can be recorded by means of the mercury monometer.

By the illustration you will note that all that is required for this apparatus is a siphon flow meter and a regular blood pressure apparatus added to the perforated intrauterine cannula. The rubber ball of the blood pressure apparatus forces the air through the siphon flow meter, through the cannula into the uterus and Fallopian tubes and, if patulous, into the peritoneal cavity. The mercury column of the blood pressure apparatus records the amount of pressure used to force the air through.

In the study of our cases we have classified them as patent, partially occluded, or occluded, according to the level of intrauterine pressure at which the gas or air passes through the tubes into the abdomen. These levels as suggested by Rubin are:

1st. If gas passes into the abdomen at an intrauterine pressure below 150mm. the tubes are considered patent.

2nd. If a pressure of 150mm. or more was required before gas passed into the abdomen the tubes are classified as partially occluded.

3rd. Manometer readings of 200 mm. on repeated trials are considered to be occluded.

THE TECHNIQUE.

The examination must be carried out under the most rigid aseptic precautions. The patient is examined in the lithotomy position. The vagina and cervix are carefully cleansed; the latter is exposed by use of weighted vaginal speculum or bivalve speculum. The cervix and cervical canal are painted with 3½% iodine, the anterior lip is grasped with vulsella or bullet forceps, leaving the cervical canal unobstructed, the sterile intrauterine cannula is inserted (it is a good thing to get the direction first with a sound) into the canal. The rubber syringe tip which has been placed over the end of the cannula is made to fit into the canal as firmly as possible by gentle downward traction of the cervix with the vulsella. The apparatus is now connected and the air pumped slowly so that it takes about twenty seconds for the column of mercury to rise from zero to 100 mm. The volume of air which has passed into the abdomen can be easily measured by counting the number of pulsations or excursions of the air in the siphon flow meter. 40 c.c. of air pass into the abdomen with each excursion; not more than 300 c.c. of air should be introduced, as it is absorbed very slowly often remaining over 48 hours and gives rise to very distressing pressure symptoms, especially if the patient endeavors to get about.

We have three ways of knowing whether air has passed into the abdomen during examination:

1st. Pressure findings: A drop in the intrauterine pressure during the examination, if there has been no leak around the cannula in the cervix, means that air has passed through one or both tubes; an intrauterine pressure of 200 mm. on repeated trials indicates that both tubes are closed.

2nd. Shoulder pain: As soon as the patient assumes the upright position she may have pain in one or both shoulders. This symptom is present in over 90% of

the cases in which the air has passed into the abdomen and is very positive evidence that tubes are patent.

3rd. Fluoroscopic examination: If a patient is examined in the upright position with the fluoroscope after the air has passed into the abdomen, a layer of air can easily be seen beneath the diaphragm.

Dangers: The chief risk is that of blowing infected material into the peritoneal cavity and peritoneal shock, therefore, do not use in the presence of profuse purulent or bloody discharge. Acute or subacute pelvic inflammatory disease or serious organic disease are absolute contraindications.

The best time for examination is between the menstrual periods.

SUMMARY.

1. The Rubin method, or its modification, for the determination of tubal patency is a simple, safe, diagnostic procedure.

2. If details of technique are carefully controlled we can form a definite opinion as to the condition of the tubes in approximately 85% of the cases examined.

3. All cases of sterility, in which a definite diagnosis of the cause cannot be made by bimanual pelvic examinations, should be insufflated.

DISCUSSION.

Dr. E. L. King (New Orleans): Dr. Graffagnino spoke of the tests of the air passing through the tubes: I should like to ask Dr. Graffagnino if he uses the stethoscope over the symphysis. By placing a stethoscope in this location you can hear the air gurgling out of the tubes.

This is used in addition to the mercury manometer.

Dr. Lucien LeDoux (New Orleans): The technique as presented by Dr. Graffagnino is interesting and should be used as an aid in our diagnostic procedure in cases in which we attempt to make a diagnosis in regard to sterility.

Dr. Graffagnino mentioned that in 90% of the cases after the air has passed into the abdomen, there is pain in one or both shoulders. Many of us know what produces this but I believe the doctor should explain how this is produced.

Dr. H. W. Kostmayer (New Orleans): I want to say, in connection with Dr. Graffagnino's paper, that it would be a grave mistake to adopt his dictum regarding the perniciousness of considering anything in the way of operative or instrumental relief of sterility. Even granting that the patency of the tube or tubes is demonstrated, sterility very frequently still exists.

I have had some very gratifying experiences, during a great many years, with the use of the Outerbridge pessary and, occasionally, the stem pessary. I saw a lady in the office today who is about 5 months pregnant. She was married some ten years, without children, and had, at the hands of someone else, an ovariectomy done some 5 years ago. One year ago she started wearing the stem pessary. The pessary was removed about June 15th and that patient conceived very shortly thereafter. It seems more than a coincidence that, after 10 years, conception should supervene so soon after the removal of the stem pessary. There are some cases where the Outerbridge pessary is employed in the office.

I wish to commend this method of diagnosis also as valuable, but I feel that we still have to consider the possibility of obstruction of the cervix, not always of the tubes, as the cause of sterility.

Dr. P. Graffagnino (closing): In answer to Dr. King's question: we have used the stethoscope, but we find it simpler to watch the mercury column.

In regard to shoulder pain: the phenomena is simple enough. The patient is in the recumbent position; when that patient stands up the air rises and causes pressure symptoms, referred to one or both shoulders.

In regard to Dr. Kostmayer's discussion: I believe that I said, in my paper, that we consider some operations pernicious, if the case has not been thoroughly studied. It is not fair, without a study of the case, to submit the patient to a uterine operation. There is no question but that some operations are of value, but the case should be thoroughly studied and given every chance before operating.

GALL-BLADDER DISEASE—ITS METABOLIC ASPECT.*

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NEW ORLEANS.

The relationship that exists between gall-bladder disease and deranged food metabolism has been established through clinical observations of numerous cases and experimental studies on animals. Because of improper metabolic action of the gall-bladder on certain constituents of the bile, pathological conditions have developed. The constituent of bile that plays the greater role in this abnormal phenomenon is a lipid, cholesterol. The quantity of bile cholesterol is dependent on the amount of cholesterol circulating in the blood. The latter in turn varies with the diet of the individual, the addition of fat to the diet definitely produces an increase in blood cholesterol. Clinically, these changes were carefully noted by Wilensky and Rothschild in their studies on cholelithiasis. Experimentally, the positive influence of diet rich in fat on the bile cholesterol was conclusively shown by Rous and McMaster.

The manner in which the gall-bladder metabolizes the cholesterol is of considerable interest in connection with a discussion of gall-bladder disease. Certain solid substances had been demonstrated to pass into the gall-bladder mucosa and subsequently into its wall because of epithelial cell absorption. This phenomena suggested that lipoids such as cholesterol might undergo the same action. On the other hand some workers were of the opinion that the cholesterol was excreted by the gall-bladder mucosa. By the injection into the gall-bladder cavity of highly emulsified milk fat, deeply stained orange with Sudan III, Mentzer demonstrated multiple discrete masses of the minute Sudan-stained globules in the

*Read before the Orleans Parish Medical Society, February 8th, 1926.

epithelial cells. Mentzer believes that his experimental work represents the first positive evidence to substantiate the actual absorption of lipoid material by the epithelial cells of the gall-bladder mucosa. This passage of the lipoid through the cells is considered a metabolic process. A disturbance of such metabolism does result in incomplete passage of the substance, cholesterol, through the mucosa and consequently there are accumulations of the substance in the gall-bladder. These deposits characterize the pathological conditions known to the surgeons as strawberry and papillomatous gall-bladders.

The present communication is an attempt to evaluate the blood cholesterol findings for the diagnosis and treatment of bile tract disease from a clinical study of a series of cases. In this group of one hundred patients, with blood cholesterol determinations fifty, were considered either clinical or pathologically proven cases of cholecystitis. Of the fifty cases of cholecystitis there are varying degrees of involvement from mild chronic inflammations to severe conditions with gall-stone formation.

In several instances of low-grade disease, existing over long periods, but without manifesting any definite evidence of marked gall-bladder pathology, the metabolic studies gave some interesting information.

The following cases are briefly cited to represent this group:

A male, age 50, was jaundiced twenty-five years ago. For this long period he has suffered with indigestion, pains in the region of the gall-bladder, severe headaches. On physical examination, the liver was enlarged and he appeared sensitive to deep pressure over the gall-bladder region. The duodeno-biliary drainage showed numerous pus cells in the bile specimens. Visualization of the gall-bladder with tetraiodophenolphthalein sodium salt revealed a normally functioning organ. On April 28, 1925, the blood cholesterol was 236 mg. per 100 c.c. and the serum bilirubin was 1.6 units. During the following three months, this patient remained on a fat free diet and took sodium phosphate in the morning. On December 12, 1925, the

blood cholesterol dropped to 167 mg. and the serum bilirubin to 0.65 units.

The second case is very similar but had not existed for as long a time. A male, 40 years old, had some tenderness under the right costal arch, belching, heartburn and headaches more or less over a period of twenty years. His bowels were chronically constipated. He had typhoid fever at the age of 10. On October 29, 1925, he was examined. His weight was 153 pounds. He was quite sensitive to pressure over what is ordinarily known as the gall-bladder region. The gastric analysis showed an achylia gastrica. Visualization of the gall-bladder showed normal outline, position, size and function of the organ. The blood cholesterol was only 160 mg. per 100 c.c. However, on a fat free and low protein diet, within two months, the blood cholesterol was reduced to 125 mg. He gained 10 pounds in weight and was greatly improved symptomatically.

In contrast to the good results obtained in these cases, which represent the milder group, I shall cite the metabolic findings in gall-stone disease and the difficulties encountered even with the aid of the essential surgical measures.

In a group of eight cases with cholelithiasis, the blood cholesterol readings varied from 241 mg. to 334 mg. per 100 c.c. The detail study of the following case, before and after operation and subsequent medical treatment, including dietary restriction, presents a possible relationship between severe biliary tract disease and persistent abnormal cholesterol metabolism:

A woman, age 50, had a cholecystostomy for stones eight years previously. At the time of examination, she would have typical gall-stone colic. The blood cholesterol was 252 mg.; measured during the attack, it was 275 mg. Non-surgical drainage of the bile tract revealed a small quantity of black thick bile containing mostly cholesterol crystals. At operation, cholesterol stones and cholesterol crystals were found in the gall-bladder, which was drained. She was placed on a low-fat diet but one year later the cholesterol in the blood remained high, 256 mg. The patient continues to have gastric symptoms and pains in the region of the gall-bladder.

Wilensky and Rothschild state that in 16.5 per cent of their post-operative cases "the dominant and sole cause for the recurrence of symptoms is an underlying disturb-

ance of the cholesterol metabolism." In their series, the amount of blood cholesterol varied from 200 mg. to 300 mg. per 100 c.c. blood.

In certain cases with definite infection of the gall-bladder associated with hypercholesterolemia, without stones, operation on the gall-bladder may not alter the metabolic phase. After cholecystostomy and drainage for four weeks, a septic condition caused by a *B. coli* subacute cholecystitis was greatly benefitted. However, the digestive symptoms persisted. The blood cholesterol reading was 266 mg. on Oct. 27, 1924. After the lapse of over one year, during which period she was on a fat-free diet and non-surgical biliary drainages, the blood cholesterol returned to normal, 168 mg. per 100 c.c. blood.

The cases with jaundice of varying degrees showed considerable variation in the cholesterol content. One of the highest readings in the series occurred in a biliary tract infection with subacute cholangitis. In two cases of obstructive jaundice the blood cholesterol remained within practically normal limits, 200 mg.

In pregnancy, the blood cholesterol is increased. I have found it somewhat difficult to reduce this condition where there is an associated cholecystitis. During pregnancy, one case showed a reading of 267 mg. One month after delivery, the quantity dropped to 213 mg. while the pain and gastric symptoms persist.

SUMMARY.

From the above studies, it was found that the blood cholesterol is usually increased above the normal in cases with bile tract disease. The cholesterol is reduced in quantity with the subsidence of symptoms in so-called mild degrees of involvement by restricting the fats in the diet.

In cholelithiasis and severer grades of gall-bladder disease, persistence of symptoms after surgical and medical treatment

may be associated with a disturbance of the cholesterol metabolism.

The blood cholesterol is not in proportion to the degree of jaundice or to the function of the liver. In obstruction of the common bile duct, even for a short period, the blood cholesterol may become normal.

DISCUSSION.

Dr. W. Denis (New Orleans): The fact that many gall-stones are almost pure cholesterol, is I think largely responsible for many of the attempts which have been made to trace out some connection between high blood cholesterol and the incidence of gall-bladder disease. About fifteen years ago there appeared in the French periodicals a large number of communications on this subject, in many of which the authors attempted to demonstrate the importance of blood cholesterol determinations, and in fact in some cases even went so far as to advance the view that a diagnosis of certain types of infections of the gall-bladder might be made by means of blood cholesterol determinations. More accurate methods of blood analysis which have come into use in the last few years have given results which indicate that in many cases the French observers were somewhat too optimistic.

We now know that we get high concentrations of cholesterol in a number of clinically unrelated conditions, as for instance in diabetes in certain types of nephritis, in pregnancy, beginning in the second or third month, and continuing for some weeks after delivery, and in high fat feeding.

On the other hand we get low blood cholesterol in fevers, in pernicious anemia, and occasionally in secondary anemia, and in the case of persons living on diets low in fat.

In this country, within the past five or six years, Rothchild of New York has published several papers in which he has sought to connect high blood cholesterol with gall-stone disease.

This work has roused renewed interest in the subject, and with proper attention to detail it is possible that work on this problem may prove worth while. I feel that the plan of investigation adopted by Rothchild, and by Silverman (of following the patient for many months) is the only one which is likely to lead to definite results. Far too many and too far reaching deductions have been arrived at by investigators who have gone out, collected large numbers of blood specimens from hospital patients, had these samples analyzed for cholesterol, and then proceeded to draw conclusions without reference to diet, intercurrent infections, pregnancy or

other factors which in themselves have a profound effect on the level of blood cholesterol.

Dr. Emile Eloch: For a man doing surgery it is very difficult to discuss a paper on this subject after a physio-chemist and a gastro-enterologist have discussed it. I have been investigating this subject for the past six months and have tried to draw a parallel as to etiology between gall-stones in the colored and white race. I have reviewed much literature on etiology and chemistry of blood and bile. Metabolism of bile is a factor as is stagnation, etc.

From the standpoint of chemistry, Dr. Denis has told you that cholesterol is not found in the vegetable kingdom but the phytosterols are and they cause an increase of cholesterol in the blood and bile.

In the colored race we do not get gall-stones except in rare instances. Dr. Silverman has not considered the subject of bilirubin, for the reason that bilirubin stone is not as commonly found as cholesterol. If you read the experimental work of Rous, McMaster and Drury they show the stones found are either Calcium Carbonate, Calcium Bilirubinate or combined. Rothchild and Wilensky claim experimental work on dogs in relation to Cholesterol is useless as the cholesterol is too readily excreted. In the negro, as far as we can find, the calcium bilirubinate is the most commonly found stone. Sir Berkeley Moynihan and his co-worker, Dr. Cecilia Shiskin, endeavor to show the relation of cholesterol to calculi, as Dr. Silverman has tried to tonight. Dr. J. C. Campbell of London in citing their work claims they didn't specify whether their cases were jaundiced at time of estimations.

The most recent work is from Chiary of Paris, France, in which he says that the amount of soluble cholesterol in the bile is not modified in visceral diseases without liver changes and not even in affections of the gall-bladder except cholelithiasis. The usual decrease of soluble cholesterol in the bile was not always present with gall-stones. This fact may be explained by the formation and the stage of mechanical and infectious complications.

Therefore through my investigation to date which I have summarized in an article which is to appear in the future, there is no conclusive evidence in cholesterol estimation in Gall-Bladder Disease.

Dr. D. N. Silverman (closing): While it is with great difficulty that conclusions are to be drawn from blood cholesterol findings alone, I have tried to show that many cases of gall-bladder disease are associated with increased amounts of blood

cholesterol. Improvement in the condition of such cases is often paralleled by a return to normal of the cholesterol.

It has been proven that the concentration of the cholesterol in the bile, which is in turn dependent upon the blood content of this lipid, is a factor in the formation of cholesterol stones. In such instances microorganisms are not essential as a nucleus for the deposit of the stones, nor is a previous infection of the gall-bladder a predisposing cause. Experimentally, Rous and McMaster were able to produce gall-stones in the presence of stasis and increased concentration of cholesterol in the bile. They showed that diet rich in fats played an important role in determining the ultimate results.

INTRAVENOUS MERCUROCHROME IN UROLOGY.

H. W. E. WALTHER, M. D.

NEW ORLEANS.

The enthusiastic reception accorded chemotherapy as an adjunct in combating hematogenous infections forces upon us the conclusion that it must possess some merit. Beginning with the work of Churchman and Herz⁽¹⁾ on gentian violet and ending with the observation of Young, White and Swartz⁽²⁾ on mercurochrome, the intravenous use of dyes, in treating obstinate infections, has slowly but surely been gaining ground. Mercurochrome intravenously is being employed, in an experimental way, in practically all types of infection. And whereas brilliant results are frequently noted following its use, a certain fixed group of cases remain uninfluenced by its use. In my own experience mercurochrome fails to benefit some 33 per cent of cases. It is far from being a cure-all. Why strikingly successful results should be noted in some cases and failure in others, no one has yet explained. Furthermore, the exact means by which a given dye acts upon an infection also remains unexplained. It is hardly likely that a dye injected into a vein remains in the circulating blood very long. Churchman measures the time in seconds, not hours. It does not seem to

him that the dye *per se*, in the strength in which it is used, is capable of the results often achieved. He rather inclines to the hypothesis that the dye is changed in the body into a substance more potent than the mother substance. It is possible that the dye may stimulate the tissues to produce antibacterial substances, though there is no proof that this actually occurs. Churchman adds, however, that while in the blood stream the dye is carried to certain organs where it remains in some concentration for a fairly long period of time.

From the foregoing it can be seen that much work still remains to be done before our knowledge on the subject can be considered adequate. It still remains for some one to devise "possible means of harmonizing the apparent conflict between experimental results and clinical observation."

My interest in the use of mercurochrome intravenously began with my visit to Dr. Hugh H. Young, at the Brady Urological Institute, Baltimore, in 1923. At that time he had used the dye in a number of hopeless septicemia cases with gratifying results. Upon my return I began administering it extensively and at a Staff Meeting at Charity Hospital, in December 1923, I presented several cases of multiple arthritis and of chronic pyelonephritis which has responded to intravenous mercurochrome. The presentation brought forth little comment and little interest was accorded the suggestion. Some of the interns began to use it, employing unusually large doses, with subsequent violent reactions. It is a grave misconception to believe that with mercurochrome a reaction is necessary in order to attain results. Its action is far from being analogous to that of a foreign protein. From the beginning, I feared the large doses proposed by Young (5 mg. per kilo of body weight) and have adhered to doses of from 2 c.c. to 10 c.c. of a freshly prepared 1 per cent aqueous solution. If results are forthcoming, they will occur as promptly with the small dose as with

one incompatible with the safety of the individual.

During a period of a little over two years I have treated with intravenous injections of mercurochrome 768 cases. The conditions for which the injections were given comprise cases of gonococcal prostatitis, non-specific prostatitis, gonococcal epididymitis, gonococcal arthritis and pyelonephritis. In addition to the intravenous therapy all patients received the routine care usually given such cases, including diathermy when indicated, and locally solutions of mercurochrome and silver nitrate. I am convinced that a large number of these patients were materially benefited by the dye intravenously and that its employment appreciably shortened the duration of infection. Table I gives the results as regards cases treated of each group, the number which were improved as well as those which showed no improvement:

TABLE I.

Cases Treated with Intravenous Mercurochrome.

CONDITION	Cases Treated	Im- proved	Not Im- proved
Gonococcal prostatitis	482	312	170
Non-specific prostatitis	112	76	36
Gonococcal epididymitis	66	18	48
Gonococcal arthritis	22	19	3
Pyelonephritis	86	27	59

It is my routine to give, as an initial intravenous injection, 2 c.c. to 5 c.c. of a freshly prepared 1 per cent mercurochrome solution. In many cases the dose is never increased above 5 c.c. In refractive cases, at the second injection, we give 7 c.c. Later doses of 10 c.c. may be given. Rarely have we given, in office practice, more than 10 c.c. The injections are given every second or third day. Some patients have received but a single injection; others have received as many as fifteen. Even mild re-

actions are uncommon. It should be insisted upon that solution be freshly prepared and given warm (boiling of the solution is unnecessary and should be avoided). Make sure you use the drug marked "for *intravenous injection*" and not the less refined preparation that is used locally. The urine is checked daily for albumin and casts. The urine of patients in which mercurochrome has been administered intravenously will show a light pink tint twenty-four hours after an injection. Although this will not be observed in every patient, it is noticed in a large proportion of instances.

The claim of St. George⁽³⁾, that mercurochrome intravenously produces a mercury nephritis in every patient, is not in accord with our experiences. True, we do not administer the drug in as large a dose as is customary in most clinics. With the doses above enumerated, we feel that no harm whatever can accrue for its use. I have never given it in advanced cases of nephritis and would hesitate to use it in any patient in which the 'phthalein reading was low.

To reiterate, I wish to state that my experiences with intravenous mercurochrome in urology convince me of its value, particularly in the treatment of those cases which fail to respond promptly to the accepted methods of therapy universally employed. Small doses, frequently repeated, will give satisfactory results and are not injurious. I feel that by its aid a large proportion of patients can be benefited. As an adjunct to our armamentarium for combating infection it has an established place.

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DIARRHEA.*

F. S. HILL, M. D.

GRENADA, MISS.

Diarrhea occurs as a symptom of many conditions. It results from irritation of the intestinal tract by improper foods or by drugs. It occurs when absorption of water is poor, due to either functional inactivity of the intestinal mucosa or to the presence of hypertonic salt or sugar solutions in the intestines. It is also caused from an increased irritability of the gastrointestinal tract due to some outside infection, such as pneumonia or otitis media. A similar condition is produced when external temperatures are too high and the infant clothed too warmly.

In none of the conditions above mentioned are there any actual anatomical lesions in the intestines. There is no real enteritis. However, there are specific diseases that do cause lesions, namely, typhoid and dysentery. The forms of diarrhea considered here are the ones attributable to decomposition of food in the intestinal tract. There are many names given this type, such as acute intestinal indigestion, fermented diarrhea dyspepsia, summer complaint, gastro enteritis, cholera infantum. The last term is the most severe type of the disease. The term "acute indigestion" is about as satisfactory as any proposed.

In making use of this type we do not mean to imply that the diarrhea is necessarily due to the failure of the intestines to digest food, or that the presence of the undigested or unabsorbed food in the stools is characteristic of the condition. If spoiled milk is decomposed or partially decomposed by bacterial action diarrhea may result. This occurs quite frequently in infants fed on raw milk. Sour milk may give rise to no symptoms whatever. Evidently certain bacteria are capable of decomposing milk, with a formation of diarrhea producing

*Read before North Miss. Six Counties Medical Society, March 17, 1926, Water Valley, Miss.

substances more readily than other bacteria. It is known that certain acid producing organisms, such as bacillus *Bulgaris*, produce relatively harmless substances by their action on milk. In fact the chief product of their action, lactic acid, seems to exert a marked inhibitory effect on the growth of harmful organisms.

It is not definitely known what micro-organisms are responsible for the production of diarrhea. It is probable that a large variety of organisms are capable of setting up the condition. Organisms which are known to be present in the intestinal tract may become so abundant as to provoke a disturbance. The *B. Coli* is a normal inhabitant of the lower intestinal tract, but this organism does not flourish in the upper intestinal tract. When food is given which is badly contaminated or when the functional activity of the upper intestinal tract is affected the *B. Coli* is found in large numbers, and it is quite conceivable that this organism is the offending one. However, the same thing may be said of various other common organisms.

The conditions which favor the production of diarrhea are:

1. The presence of bacteria in the upper intestinal tract.
2. The presence of a suitable culture medium.
3. A diminished amount of secretions of the intestinal tract which have an anti-septic effect.
4. A hyper-irritable intestinal tract.

Diarrhea may result from other causes than the action of bacteria on food. Strong sugar solutions have a laxative effect and high fats seem to cause some mechanical disturbance. A high fat of cow's milk many times will bring about intestinal peristalsis. If the foregoing considerations are borne in mind we can understand why diarrhea occurs under certain conditions. Sterile milk may sometimes cause a diarrhea, due to the fact that too large amounts

are given and bacterial action takes place before the intestine can handle it.

Protein is not a favorable culture medium for bacteria which are associated with diarrheal diseases in infancy and is not a common cause of these diseases. Parental infection is not an unusual cause and may come up in the course of any infectious disease, such as pneumonia, otitis media, and pyelitis. High fever may cause intestinal irritation because the food cannot be handled properly.

The stools in acute intestinal indigestion may be as many as ten or fifteen a day. The contents are hurried rapidly through and absorption is poor. The stools are very watery and there are many shades of green in them, due to bile coming through unaltered. There are many small, irregular curds found throughout the stools, caused by the calcium and magnesium soaps passing through. The fats and sugars which have escaped absorption in the upper intestinal tract are broken up by bacteria in the colon. The fats escape digestion and are found in the stool as small globules. There may be quite a little mucus in the stools and blood may appear, due to increased intestinal peristalsis. Fever is very slight, but when it continues high an infectious diarrhea should be suspected, or other causes looked for.

The most serious consequences of infantile diarrhea are starvation and water loss. The starvation is due to inability to absorb a sufficient amount of food to cover requirements, and the water loss to a large amount of water passing out through the stool, which creates a rather serious condition known as anhydremia.

The treatment of diarrhea begins with prophylaxis. Children should not be overfed either on breast or bottle, more especially so in hot weather. Their quarters should be well ventilated. In case of artificially fed infants the milk should be always boiled and kept on ice, or in a cool place, to prevent contamination. Con-

densed milk should not be fed to infants. It is not a sterile food and has not the proper qualities. Infants should always be given plenty of water, more especially in warm weather.

When gastro-intestinal indigestion or diarrhea has begun one should take the infant off of milk or food from 12 to 24 hours. During this period of time it should be given cereal dilutions, that is to say, barley water or rice water or weak tea solution. At the end of that period if the diarrhea has cleared up to some extent the infant may be given small amounts of breast milk, or put on a protein milk similar to the original eiweis milk of Finkelstein's. They usually clear up on this in a few days and there is enough nourishment in it to supply the food requirements of the body.

If the bowel is very active it is useless to give cathartics, such as castor oil and calomel. The bowel is emptying itself and such purgations only increase the irritability of the intestines. However, if the bowel is not very active and there is reason to think the child has been taking improper food or there is decomposition taking place in the intestinal tract, it will be well to give an initial dose of castor oil. Calomel should never be given because it is believed that irritation from its use does more harm than good. During the starvation period it is sometimes difficult to get the child to take enough water. In this case it is well to add from a quarter to a half grain of saccharin to a pint of water. The effect of starvation on the disease is often striking. The stools diminish in number and become smaller in volume. Mucus, however, remains for some time, but in less abundant amount.

Unfortunately all infants do not respond to the above treatment as soon as we would like. The bowels remain very active and there appears to be quite a little tenesmus and pain. In some cases it will be necessary to give an opiate to quiet down the peristalsis. I know of none better or that

answers the purpose quite as well and does as little harm as paregoric.

I never allow the starvation period to go over 48 hours at the most. If the starvation period is too long there is danger of a starvation diarrhea keeping up the condition. Food should be instituted cautiously as soon as possible. Marriot thinks lactic acid milk, skimmed, is one of the best foods to give an infant after the starvation period. Such milk can be fed in larger amounts than other milks, without giving rise to diarrhea. The explanation of this is probably the fact that other organisms do not grow well in milk inoculated with the lactic acid bacillus. This has been demonstrated in the test tube. It is not certain how long lactic acid organisms live in the intestinal tract; certainly most of them are killed off and do not appear in the stool. It is probable that they live for considerable time in the upper intestinal tract and die off after food which serves as their culture medium has been absorbed. If the presence of lactic acid milk will prevent harmful bacterial action for only the portion of time that the food is in the intestinal tract this would be a distinct advantage and the evidence is that such is the case.

It is useless for me to tell you how to make lactic acid milk, as I feel that you are all familiar with same. However, Mead and Johnson are putting up a preparation of this milk that is very satisfactory and saves a lot of time and trouble in making the milk.

When diarrhea occurs in very young and poorly nourished infants starvation is dangerous, and lactic acid milk is the best form of food to use at the beginning of the feeding. When this is unobtainable buttermilk may be used. Protein milk, as mentioned before, is a lactic acid milk and is essentially a mixture of buttermilk and cottage cheese. It has a caloric value of 13 calories per ounce, a little more than commercial buttermilk. Its high protein content makes it desirable on account of its food value and knowing that proteins cause very little

trouble. The presence of lactic acid organisms prevents the further growth of harmful germs. The details of the preparation of this protein milk are given in all standard text books—see Holt & Howland, 7th edition, page 161. The preparation that I have found very satisfactory is the one put up by Louis Hoos & Co., Chicago. It comes in small packages, and one package to the quart of water which has been previously boiled and one ounce of dextrin makes it ready for use. In young infants it is not well to add the dextrin or any sugar for several days, but after this period it should be added to help nourish the baby. When the diarrhea has subsided and the stools have assumed a soapy character sugar may be added.

In the case of infants in whom diarrhea tends to recur frequently it is best to give a formula similar to that which a normal child at the age would be receiving. In this case whole lactic acid milk in the proper proportions may be used. When there is very much blood in the stools resulting from a prolonged attack of diarrhea and the condition takes on the appearance of an infectious diarrhea, argyrol in a ten per cent solution, given a teaspoonful every three hours, seems to give excellent results. However, I never keep them on this over three or four days, then a period of rest of three days and begin again. The argyrol may be given in the bottle of milk. The object in giving argyrol is not in giving an intestinal antiseptic, but to make a poorer culture medium in the intestinal tract with the lactic acid bacilli to further inhibit the growth of harmful organisms.

“QUINIDIN AND OUABAIN IN CERTAIN CARDIAC DISEASES.”*

CHAILLE JAMISON, M. D.,

NEW ORLEANS.

That quinine can slow the heart was known as early as 1853, but it was not until

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1914 that Wenckebach accidentally found that it abolished auricular fibrillation. In 1917 Hecht reported cases of complete arrhythmia and of extra-systoles favorably influenced by the intravenous injection of quinine. No further observations appear to have been made until Frey in 1918 proposed the use of the dextro-rotary isomer of quinine, quinidin, instead of the alkaloid itself. Comparative clinical studies of the action of the different alkaloids on auricular fibrillation had shown him that quinidin had remarkable action in regulating certain abnormal cardiac rhythms. Quinidin and its salts exert a specific action on the myocardium, and especially on the conduction system and the cardiac nerves. It retards the rhythm of the sinus node and diminishes the conducting power of the auricular myocardium. It is generally accepted that auricular fibrillation and auricular flutter are due to the “circus movements” which result from a circular contractile movement that travels indefinitely, and without pause, around and around the wall of the auricle; since quinidin diminishes conductivity in the auricular myocardium and prolongs its refractory phase, it will establish a barrier that the contractions of the circus movements cannot pass. Under these circumstances, the normal pæcemaker, the sinus node, regains control of the auricular contraction and the normal rhythm is suddenly restored. The normal control thus established may be permanent or may only last as long as the myocardium is under the influence of the drug. It appears that quinidin restores the normal rhythm promptly, while it is known that digitalis restores a normal pulse, largely by the production of heart block, and that when the normal mechanism is restored by digitalis, this result comes about only slowly. The latter drug appears not to bring about a return to normal but to substitute one abnormality for another.

The indications for the use of quinidin are auricular fibrillation, auricular flutter

and paroxysmal tachycardia; it is my belief that when these conditions are found to exist, quinidin is always worthy of a trial. Brilliant results are to be expected in all early cases; these results are at times even marvellous, the patient suddenly becoming aware that the heart has resumed its regularity; his sense of illness disappears, and he returns to perfect health. In long standing cases of auricular fibrillation, and particularly in those cases that have had repeated attacks accompanied by heart failure, the good results are present only in about fifty percent of cases, but when these good results do occur, the benefit to the patient is very great, compensation often being promptly restored, and in those cases in which it fails, no harm seems to be done. Where valvular lesions are present, the drug is of great value in restoring normal rhythm, though in such cases the percentage of its failure is even higher than in those with simple failures. It has been stated in the literature that the use of digitalis did not permit the use of quinidin; this seems to have been a hasty conclusion, and I feel that it is perfectly safe to give the drug immediately following digitalis medication, or even in conjunction with it. Leconte and Vaquez advise preceding the use of quinidin by a course of digitalis or ouabain. Since the earlier fibrillation is treated by quinidin, the better the results to be expected, it follows that all cases of cardiac disease should be carefully watched for the onset of fibrillation and quinidin administered promptly. This applies particularly to mitral stenosis. As this irregularity often precedes the graver forms of failure, more serious failure may be thus warded off for an indefinite period.

The administration of quinidin, as we understand the treatment at the present day, is merely a matter of routine rule. A dose of three grains is given to determine the presence of idiosyncrasy of the patient to quinidin. In four to six hours, if no ill results have followed the preliminary dose, five grains of the drug are given every four

hours during the day for an indefinite period, though it has been my experience that if the normal rhythm has not been re-established within four days, its continued administration is useless. It may be tried again after a lapse of a week or so. Crummer notes that achylia is frequent in types of individuals who develop fibrillation, and that it is wise to examine the gastric contents before starting treatment. We have known for many years that this fact often hinders the successful use of quinine in malaria, and it may also explain a high percentage of the failures of quinidin in fibrillation. This is an extremely interesting point which I have not yet had the opportunity to try out in practice.

It is stated that quinidin may cause death occasionally and that such deaths are sudden; that they occur at the time the normal rhythm is re-established, and that they are due usually to cerebral emboli which are swept out from the auricle in which clots have formed during its period of fibrillation. A great deal was heard of this danger when the drug first came to general notice, but recently I have seen no reference to it, although the use of the drug must now be very general. Other toxic effects of quinidin are exactly similar to those of quinine, and are too well known to require description.

My first experience with quinidin was about five years ago, and the result was so remarkable that I at once became interested. A medical student, 23 years of age, consulted me for an extremely irregular heart beat, accompanied by dyspnoea and discomfort in the precordium, which had appeared suddenly the night before. Dr. Garrey made an electrocardiographic tracing which demonstrated typical auricular fibrillation. Quinidin was administered, and after the second dose the normal rhythm was suddenly re-established and all symptoms promptly subsided. A subsequent electrocardiogram was normal. I

have lost track of this patient recently, but his condition was normal for several years.

OUABAIN.

Strophanthus has been known to have a marked effect on the heart since its first introduction to clinical medicine. The uncertainty of its action and its marked emetic effect have tended, very justly, to discredit its use. In 1869 Fraser isolated a glucoside, strophanthin. Heretofore, two kinds of strophanthin have been utilized; the amorphous strophanthin extracted from *strophanthus hispidus* and from *strophanthus kombé*, and the crystallized strophanthin derived from one or the other of these plants, and also from *strophanthus gratus*. Strophanthin was studied anew in 1906 by Fraenkel, who described its marvellous effects in the treatment of advanced heart failure. His results were confirmed by many investigators, but it was also shown that serious accidents, and even sudden death, only too often occurred following its use, especially by the intravenous route. Its use was then largely abandoned, and many felt that it was a dangerous drug which should be banished forever from clinical therapeutics. Vaquez was so impressed by the good results obtained from the use of strophanthins, that he determined to investigate reasons for their toxic action, and to find a substance that would retain the undoubted high therapeutic value without the dangers demonstrated to exist in the strophanthins in general use at the time. It soon became clear to him that the dangers depended on the circumstance that the toxicity varied according to the manner in which the strophanthin was prepared, and the substances from which it came, and that the preparations were not constant in either activity or toxicity. Arnaud, a Parisian chemist, attacked this problem and finally succeeded in isolating a perfectly crystallized substance of remarkably uniform activity and low toxicity; this substance he named ouabain, and it was derived from *strophanthus gratus*. Vaquez

states that this was the remedy he sought and that it possesses all of the advantages of strophanthin with none of its dangers, and adds that he has given over 2000 injections, without seeing any serious mishaps, much less any deaths.

There is some controversy regarding the pharmacodynamics of strophanthin. Many of the most competent pharmacologists, (among them our own distinguished Professor of Pharmacology, Dr. Halsey) maintain that the action is identical with that of digitalis. Bastedo states that one of the marked differences between the pharmacological action of the two drugs is to be found in the fact that the strophanthins do not constrict the coronary artery, while digitalis does so. Vaquez states that there is no action on the blood vessels, and cites the researches of Fraser and Langgard and of Otto Vogt to support this contention. The effects of strophanthin appear to be exerted exclusively on the myocardium and the muscle fibers and it is maintained that it has no effect on conduction, and it is stated that excitability is not effected.

The majority of careful observers have concluded that digitalis has not a happy effect when used in aortic regurgitation, and many feel that it is often actually harmful in this condition. In the male negro service at the Charity Hospital, where aortic regurgitation is so common, and also the large fatty heart due to syphilis, this observation has been concurred in by nearly all of those who have conducted this service. My own experience in these wards, which has extended over some fifteen years, leads me very definitely to conclude that digitalis is rarely of any value in such cases, and is actually extremely detrimental in many of them. Since these conditions are admittedly among the most serious forms of cardiac disease, it appeared imperative to find a drug which might be of help. Dr. P. H. Jones and I have been using ouabain, principally by the intravenous route, (though

we have also used it by the intra-muscular and the oral), since the first part of the past October. We have given it only to cases of aortic regurgitation and the large hearts of syphilis, with failure of the left side of the heart, and have tried to avoid its use when failure of the right heart was in evidence. I feel that this drug has supplied our need, and my conclusion, based purely on clinical grounds, is that it is the drug of choice in such conditions. I feel that it has saved life and restored comfort to many patients, who would not have been helped by the measures in common use. I believe that these results are to be attributed largely to the fact that the coronary vessels of the heart are not constricted and that conduction is not effected. The relief of dyspnoea following the intravenous injection of this drug is almost unbelievable. A detailed report of many cases, and many observations, will be made by Dr. Jones and myself at the next meeting of the Louisiana State Medical Society. Let me conclude this brief summary by saying that we have had no mishaps with ouabain and have not had any deaths that could be even remotely attributed to its use.

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DISCUSSION.

Dr. George R. Herrmann (New Orleans): We cannot but agree with Dr. Jamison's clinical observations that quinidin is a useful drug, but I believe that many of us would add "in certain cases." The pendulum is swinging from one extreme to another in the use of quinidin. The first phase was extreme optimism. We had good results. Then accidents occurred and we changed into the second phase of therapeutic nihilism of the drug. Now we have emerged from that phase with considerable experience, having learned a great deal about quinidin, and are entering the phase of conservative confidence in the value of the drug.

In St. Louis, early in 1919, we had about 18 very good results in about 40 cases of auricular fibrillation that is almost 50%. Then came two accidents, and after these two accidents we were quite "gun-shy." We were unduly overcome, I know, but these accidents served to show that the type of case to be treated, the preliminary treatment as well as the initial dosage of quinidin are all of the utmost importance. In time we were all impressed with the fact that all cases do not respond; some that respond show a return of the abnormal mechanism within a short time.

A careful survey of the cases to be treated is important to avoid the accidents that we had in the early use of the drug. In the selection of the cases, it is the early case of auricular fibrillation which responds most favorably. These cases we usually see appearing suddenly after operation for hyperthyroidism. There is little danger in the use of quinidin in this type of auricular fibrillation, and specular results are the rule.

Often an acute infectious disease precipitates auricular fibrillation. We see these cases revert to normal with small amounts of quinidin, and remain so for considerable periods of time. These cases would respond to digitalis, but it often necessitates remaining on digitalis forever, which cannot in any way compare with the establishment of normal mechanism.

The absence of valvular disease or signs of myocardial damage, are further favorable omens for the eecetiveness of quinidin in arresting an auricular fibrillation that may be the cause of considerable distress.

The more advanced the case is, the more unfavorable the outlook for the arrest of the fibrillation as Dr. Jamison has indicated. It may be worth while to repeat the groups of cases, that might be considered unsuitable for quinidin therapy for auricular fibrillation.

Cases with enlarged hearts presenting signs of heart failure are poor risks for quinidine therapy. It is dangerous to give such a patient quinidin because of the accidents that happen in such a large percentage of such cases. If the patient does not respond to rest, diet and eliminating of fluid, his chance with quinidin are equally poor.

Cases of verrucous or vegetative endocarditis and patients who have suffered embolism are prone to present further embolic phenomena on the re-establishment of normal mechanism with quinidin.

Cases with chronic valvular lesions especially mitral stenosis are unfavorable because of the danger of embolism from broken off feces of thrombus and also because of the presence of mechanical factors which tend to precipitate auricular fibrillation.

Cases that have relief from cardiac pain with the onset of auricular fibrillation should not be tampered with as long as they are free from pain. Idiosyncrasy to quinidin by mouth warrants careful consideration of the advisability of the drug even by other routes.

So with the slight modifications those emphasizing the value of the selection of cases, I would agree with the conclusions that Dr. Jamison draws from his series. I cannot think of this study without deploring the fact that instrumental electrocardiographic control was not available in these cases. Some people still rightly insist on being shown with graphic evidence.

Idiosyncrasy should be tested out before hand by giving small doses 0.1 gram. Cases sensitive to quinine derivatives should be carefully given very small doses of quinidin. The maximum dosage should not be over 2 grams in 24 hours. Above that toxic states may develop.

Now as to the question of ouabain I think one of the most important things to emphasize is the preparation that Dr. Jamison has selected and used with such spectacular results. Arnaud's preparation of ouabain is undoubtedly better than any other on the market. The Thoms' and Boeringer preparations that we got in ampules some years ago are unstable, inconstant, dangerous and inefficient as compared to Arnaud's. The effectiveness, stability and reliability of the French preparation has been repeatedly demonstrated.

Another point worthy of comment is the type of case that Dr. Jamison selected. Patients with syphilitic regurgitation are the most hopeless of cardiac cases for treatment. Two years ago, R. W. Scott of Cleveland reported a case, empha-

sizing the point that therapy was practically ineffective in his cases; that the patients died in from 2 weeks to 2 years on an average within 8 months after the onset of symptoms such as those of a failing myocardium. With this unusually poor prognostic outlook for the type of case selected the results of Dr. Jamison are indeed very gratifying.

I would therefore like to emphasize the importance of a "follow up" in these cases, I would like to ask Dr. Jamison and Dr. Jones how long their beneficial effects persisted, and what the average life expectancy was after the onset of symptoms. These patients no doubt are discharged and go back to work. How long before they come back to you? The mere fact that you have been able to get patients out of bed is distinctly encouraging in itself.

The mechanism of the action of ouabain in these patients is interesting. Why is not digitalis effective in these cases? What Dr. Jamison tells is suggestive and interesting. Coronary circulation is already embarrassed with aortic valve lesions and this with the added factor of the effect of the drug on the coronary arteries would seem to be explained. However, I believe this question requires further study. Qualitatively digitalis acts similarly but quantitatively there is a great difference.

Professor J. T. Halsey as early as 1916 emphasized the fact that strophanthus preparations were 100 and even 200 times more toxic than digitalis preparations when given intravenously, yet some have been giving doses of strophanthus by mouth in the same dosage as digitalis, fortunately the strophanthus preparations are not absorbed from the gastrointestinal tract. The evidence as to the absorption of the drug that takes place is an important factor. I just wonder if the intravenous method of administration of a very powerful ouabain in relatively high dosage does not play an important part in the brilliancy of the therapeutic results obtained and whether the intravenous administration of a good digitalis preparation in sufficient and equivalent dosage would not yield at least fairly comparable results.

Dr. Chaille Jamison (closing): Where one is dealing with a very large heart, accompanied by failure, quinidin is not indicated until compensation has been restored by the use of ouabain (in the case of the syphilitic heart), and digitalis (in the case of the rheumatic heart). If auricular fibrillation persists after the restoration of compensation, then quinidin is the drug of choice. I have seen one case of goitre heart with auricular fibrillation that I believed could have been saved could she have retained the quinidin. This was,

however, constantly vomited and seems to illustrate an intolerance to quinine. In such cases quinidin may be administered intravenously. Where angina pectoris accompanies auricular fibrillation, quinidin should be a far more useful drug than digitalis.

I may conclude by saying that at the present time I believe that ouabain by intravenous administration is the drug of choice in aortic regurgitation; that in mitral disease digitalis cannot be surpassed. Where a drug of the digitalis group is indicated by the intravenous route, ouabain should be used, and after the administration of several hundred such injections, I have seen no ill results. I have not been able to determine as yet the duration of the relief from symptoms afforded by ouabain. Finally, let me say that both of these drugs are dangerous, but all potent drugs are so. I believe that they should be used only in selected cases and only by those familiar with their action.

ADDISON'S DISEASE: REPORT OF THREE CASES, INCLUDING ONE IN A NEGRO.*

I. I. LEMANN, M. D.,
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Recent studies of the frequency of Addison's disease have failed to bear out Addison's prophecy that the disease would prove to be fairly common. Conybeare and Millis⁽¹⁾ in a study of the autopsy records at Guy's Hospital, London, during the period from 1904 to 1923 found but twenty-nine cases proved by autopsy to be Addison's disease. Twenty were in males and nine in females. Rowntree⁽²⁾ writing in 1924 reported that forty-seven cases had been seen at the Mayo Clinic since January, 1912, representing approximately one in every six thousand six hundred patients or sixteen to one hundred thousand patients registered. I have recently turned to the files of the Charity Hospital here in New Orleans and have found only eight histories of Addison's disease filed since 1910. A study of these histories shows only two positive cases substantiated by autopsies

and a third probable case. During the years 1910 to 1924, inclusive, that is to say during the time in which these three cases occurred there were two hundred fifty-five thousand three hundred thirty admissions to the Charity Hospital, thus there was one case to every eighty-five thousand one hundred and ten admissions. In view of the rarity of the condition, it seems worthwhile to put on record the exact description and pathological findings of as many cases as possible. In the last year I have seen three cases. One of them, a negro, was one of the three cases in the Charity Hospital records to which reference has just been made. The diagnosis was established *intra vitam*. A second case, a white man, was recognized only after death. The third case, an Italian, is still living.

Case 1. E. B., Colored Male, age 51. Admitted to Charity Hospital October 14, 1924, died December 14, 1924. His complaint was of weakness and of change of color. In January 1924 his hands, forearms and face began to turn darker and the discoloration was progressive until it had spread over the entire body. In July he began to feel weak and quit work. He had spent much of the time in bed since then. There was no nausea or vomiting. The bowels were regular, one movement daily. There was an occasional cough with a slight amount of whitish expectoration. There had been considerable loss of weight during the past few months.

Past History: Measles in childhood. Influenza in 1919. Penile sore in 1920. Gonorrhoea years ago. Family history was without interest.

Physical Examination: The patient was blacker than any negro ever seen. The skin was of the color of stove polish or shoe black. The hands, face and forearms were especially dark, so also were the feet and lower portion of the legs. There was no eruption and no scars. There was a dark discoloration of the gums and spots on the tongue and buccal mucous membrane. The teeth were in poor condition with many crowns and fillings. The heart sounds were very indistinct but there was no murmur. The blood pressure was 98 systolic, 60 diastolic. The lungs showed no abnormality. The abdomen was flat. The liver and spleen were not felt. The pupils were equal and reacted to light. The patellar reflexes were normal. The urine showed a few fine granular casts

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and a few pus cells. The sputum was negative for tubercle bacilli. The blood examination was as follows. Red blood cells 3,900,000, leucocytes 7,000, Hemoglobin 55%. Neutrophils 56, small mononuclears 31, large mononuclears 7, eosinophile 7, basophiles 1. No abnormal cells. Wasserman strongly positive. Examination of the feces revealed no ova. A section of the skin taken from the arm was reported by Dr. Couret, pathologist of the Charity Hospital, as showing marked pigmentation of the chromatophores.

Through the courtesy of Dr. Jamison, in whose service he was, I saw the patient but this was only a few hours before his death. At that time the blood pressure could be read by neither the auscultatory nor the palpatory methods. The heart sounds could not be heard distinctly. The patient had previously had some suprarenal substance by mouth and the opinion was expressed in the record that the color of the skin had become somewhat lighter. He was, however, when I saw him jet black. He had also received several doses of neosalvarsan. The autopsy showed the adrenals consisting each of an irregular lobulated oblong mass about 8 cm. in length and about 2 cm. in diameter and were pale yellow in color and surrounded by a small amount of fat. On section the cut surface was very gritty and showed numerous yellow areas varying in size from a pin head to a pea. Dr. Couret reported some of these yellow areas, especially the large ones, showed central necrosis, caseation and cavity formation. There was also calcification about these areas. Histological study showed tubercles. The lungs showed numerous areas of consolidation varying in size from a pea to a small marble. In the right apex was a cavity about the size of a small marble. In the kidneys there were a few small tubercles. The retroperitoneal lymph glands also showed tubercles. There was a syphilitic aortitis.

Case 2. M. R., White Male, age 54. Admitted to the Touro Infirmary on November 5, 1924. His complaint was of vomiting, coughing and pain in the chest. The record was obtained from several sources, as the patient, when questioned, was not able to give a clear and concise history of his condition. The patient was a painter whose home residence was in New York but he had for some years been traveling about the country. He had been in New Orleans for several months. For the two months before his admission, he had been losing strength and weight and had been in the Charity Hospital for several weeks. From the Charity Hospital he had gone to a very unsanitary lodging house. He said that he had been vomiting everything he had taken for the past two weeks. His bowels had been constipated for an indefinite period. He had been coughing for about a

week and expectorating a greenish phlegm. For several days he had had a pain in the left side of the chest. He was the picture of starvation. The breath was foul with a disagreeable odor of vomit. The mouth was dirty and the teeth very bad. The chest was hyperresonant and we were not able to make out anything further because of the hyperresonance. The abdomen was negative. I noted at first the difficulty in obtaining his history and I thought this was due to the fact that he was unintelligent and could not co-operate. In a few hours, however, it became apparent that he was very poorly oriented. He became quite restless and had to be restrained. At this time a proctoclysis of glucose was begun. The countenance was Hippocratic and in general the condition resembled that which is described in the older text books as typical of severe and late typhoid. He was given an intravenous infusion of 500 c.c. of 5% glucose solution together with fifteen units of insulin. About forty-five minutes later, he grew gradually weaker, the eyes rolled up and there was a seeming flaccidity of the left arm while he continued to pull the covers and to rub together the fingers of the right hand. Several attempts to collect blood for chemical analysis were futile. The patient died about five hours after the glucose infusion.

The autopsy of Dr. Lanford showed a general lack of subcutaneous fat. The skin was loose, pliable and elastic and of normal color. The right pleural cavity was almost obliterated by old fibrous adhesions. On the left side there were also a large number of adhesions but not to the extent of those on the right. The lungs showed extensive fibrosis with many miliary tubercles. The heart showed brown atrophy. The aorta had areas of senile sclerosis. There was fatty degeneration of the liver. The spleen was enlarged and light grey in color. No tubercles were found. In the kidneys were small miliary tubercles about three to five mm. in diameter, numbering about ten to each kidney. The stomach and intestines were greatly contracted. The stomach was extremely small, the lumen hardly greater than that of a gut. The intestines were the size of the little finger. The lymph nodes of the mesentery were enlarged. The adrenals were enlarged and firm and when cut across showed the medulla bright buttery yellow and the cortex very red. Histological study showed tubercles.

Case 3. J. G., age 32, Italian. Admitted to the Touro Infirmary November, 1924. He considered himself perfectly well and came merely because of his striking change in color. He had noticed a slight change in color eighteen months previously but had attributed this slight browning to the fact that he was working in the sun every day. About

four months previous to his admission his wife called his attention to the fact that he was turning much darker. The intensification of the color was first noted on his face and hands and spread gradually in a uniform manner to the whole body. He considered that the color was most intense about two months before his admission. At that time he had a febrile attack with temperature to 103°—characterized by prostration. The weakness lasted only ten hours but he was sick for ten days. He returned to work twenty days after this attack and had been working hard ever since. He thought his skin had been growing brighter ever since. He had no cough, no hemoptysis, no sweats. He had lost no weight. Sexual desire and power was unimpaired.

Previous History: Whooping cough at 25, malaria at 16. At 31 he was sick for a week with a cold. Immediately after this he had a severe case of typhoid. Two months after the typhoid he again had a slight fever for two or three days and a swelling of the abdomen. The treatment was a salt-free diet and purgatives and a medicine which caused him to urinate frequently. The abdominal swelling disappeared after a week and he returned to work. He denied all venereal disease. Family history was without interest.

Physical Examination: General appearance: Patient was dark brown, his color being like that of a Malay man or an American Indian. He was, however, of pure Italian stock, born in the old country, being seven years old when he came to this country. The head was dolicocephalic in type. The features were Caucasian. The forehead was broad and wide. The temporal fossae were well marked and sunken, bringing out the zygomatic process very prominently. The superciliary ridges were well marked but delicately chiseled. The nose was long and of the Roman type. The nostrils were delicately formed. The lips were thin, the chin firm and the ears were moderately large, well proportioned. The face as a whole gave the impression of intelligence, thoughtfulness and animation. The hair was jet black, straight and silky. The skin was of normal texture and showed no abnormalities other than the color already described. The scalp was much lighter in color than the remainder of the skin. The color was otherwise absolutely uniform over the whole body. There was a normal growth of hair which was chiefly confined to the sternal, axillary and pubic regions and long the midline of the abdomen above and below the umbilicus. When the skin was stroked with the fingernail there appeared a pink line slightly elevated like a moderate dermatographia. This could not be interpreted as a Sergeant line. The skeleton was small, slender and well proportioned. The

hands were of the long and narrow type, the fingers being long, moderately broad and blunt. The thumb reached to the middle joint of the index finger, the little finger to the distal joint of the fourth finger. The muscles were firm and well developed. The cervical lymph glands along the sternocleidomastoid were enlarged, especially on the right side. The inguinal glands below Poupert's ligament were enlarged, some of them being about the size of a kidney bean. Otherwise there was no adenopathy. The conjunctivae were normal. There was a slate blue discoloration of the buccal mucous membrane opposite the last molars on each side. Tonsils, enlarged. Teeth, bad, several decayed and missing. Lungs, normal. Heart, no visible nor palpable apex beat. The heart dullness extended 8½ cm. to the left from the middle in the 5th interspace and about 2 cm. to the right in the 3rd interspace. Heart sounds were normal. No murmur. No irregularity. Radial artery was small and easily compressible and the walls could not be felt. Rate 72 lying. Blood pressure 96 systolic, 62 diastolic. Abdomen: Rounded, level, no tenderness and no masses. The liver and spleen were not felt. Genitalia: Darker brown color than the rest of the body, otherwise normal. Neurological: Pupils equal, regular, symmetrical and reacted to light. Knee jerks, normal. Plantar reflexes: Normal.

The temperature observed for six days ranged usually from 98° to 98 3/5°. On one occasion it was recorded at 97 2/5°. The pulse rate was always from 80 to 85. An intradermal tuberculin test (O.T.) yielded an absolutely negative result.

The urine showed no chemical abnormality. There were occasional hyaline and finely granular casts. The specific gravity ranged from 1018 to 1022. The phenolsulphonphthalein test of the kidney function was 20% for the first hour, 15% for the second hour, a total of 35%. Anemia has been set down as one of the characteristics of Addison's disease. Our patient had a normal red blood cell count: 5,250,000 but a hemoglobin of only 58% Dare. There were no red cell changes. The leucocyte count was 7,250 and 6,500 respectively on two occasions. The differential count was as follows: (200 cells counted)

November 14, 1924,	S.	38%
	L.	4
	N.	54
	E.	4
		—
November 24, 1924,	S.	29
	L.	3
	N.	59
	E.	8
	B.	1
		—

Because of the eosinophilia several searches for intestinal parasites were made but none were found.

A gastric analysis after an Ewald test breakfast showed no free HCl and a total acidity of 18. There was no lactic acid and no chemical evidence of blood. Microscopical examination showed nothing noteworthy.

I am indebted to Dr. W. E. Garrey for the following observations made on the patient in the physiological laboratory at Tulane University.

The ergometer test of the grip of the right hand was 22½ kilograms, that of the left hand 28 kilo-

grams, to be contrasted with 35 kilograms right hand, 33 kilograms left hand of I. I. L. and 40 kilograms both right and left of a negro porter. Vital capacity was 2500 c.c. The blood pressure as recorded by the Erlanger sphygmomanometer was systolic 82, diastolic 65. The cuff pressure was then set at 82 and the patient directed to close the fist of the free hand five times in ten seconds. This mildest physical effort caused a slight rise in the blood pressure (as indicated by the higher excursions on the curve) during twenty-five seconds.

The following observations were made following the injection of adrenalin:

OBSERVATION I.

Blood pressure

Time	Pulse	Systolic	Diastolic	Remarks
2:40	60	94	60	
2:42				Adrenalin 0.5 c.c. hypodermatically.
2:47	62	94	52	
2:52	68	94	48	Feels shaky and chilly.
2:57	70	98		Feels shaky. Diastolic could not be read.
3:02	78	96		
3:07	72	98		
3:12	74	92		
3:17	72	96		Pulse irregular.
3:22	76	94		
3:27	72	92		Pulse irregular.
3:32	66	90		
3:37	70	92	20	
3:42	64	92		
3:50	66	96		

Patient was quiet throughout the proceedings. When asked about his "Feelings" said that he felt shaky and slightly chilly. This lasted about 20 minutes.

Patient co-operated well throughout the test. Urine collected before and after test, both negative for sugar.

OBSERVATION II.

Blood pressure

Time	Pulse	Systolic	Diastolic	Remarks
3:15	70	80		Pulse weak.
3:20	74	80	40	
3:25				Adrenalin 0.75 c.c. hypodermatically.
3:30	60	96	54	Feels shaky and trembly.
3:55	82	94	50	Pulse full, less trembly.
3:40	80	94	48	Feels the effect slightly.
3:45	90	94	48	
3:50	88	90	46	
3:55	88	86	40	
4:00	86	90	40	
4:05	88	84	40	
4:10	80	82	40	
4:15	78	84	40/0	Diastolic flow—heard from 40 down to 0.
4:20	72	82	40/0	
4:25	72	84	40/0	
4:30	76	84	40	

Co-operation good. Urine negative for sugar.

OBSERVATION III.

Blood pressure

Time	Pulse	Systolic	Diastolic	Remarks
2:05	70	86	65	
2:15	72	86	54	
2:18				Adrenalin 1/1000 0.5 c.c. hypodermatically.
2:20				Feels shaky.
2:30	76	98	54	
2:35				Shaky feeling gone.
2:45	82	90	44	
3:00	72	86	44	
3:15	80	90	54	
3:30	72	80	44	
3:45	68	84	40	
4:00	66	80	36	
4:15	68	82	50	
4:30	64	80	40	

Attention is called to the absence of glycosuria following these injections. This is said to be characteristic of Addison's disease. Eppinger, Falta and Rudinger⁽³⁾ have demonstrated a high sugar tolerance and an absence of glycosuria following injections of Adrenalin in patients with Addison's disease. Motzfield⁽⁴⁾ (quoted by Riesmann⁽⁵⁾) is said to have found no increased sugar tolerance in one case. We were able to observe in our patient a marked increase sugar tolerance. On two occasions he was given 100 grams of glucose on a fasting stomach and the blood sugar was determined with the following results:

OBSERVATION I.

	95	mgs.	per	100	c.c.
Fasting	95	"	"	"	"
30 minutes after meal	100	"	"	"	"
1 hour after meal	100	"	"	"	"
2 " " "	100	"	"	"	"
3 " " "	100	"	"	"	"

OBSERVATION II.

	95	mgs.	per	100	c.c.
Fasting	95	"	"	"	"
30 minutes after meal	95	"	"	"	"
1 hours after meal	95	"	"	"	"
2 " " "	100	"	"	"	"
3 " " "	95	"	"	"	"

On another occasions the blood chemistry on fasting stomach was, as follows:

11-17-24—

	35.1	mgs.	per	100	c.c.
Total non protein nitrogen	35.1	"	"	"	"
Urea nitrogen	17.5	"	"	"	"
Creatinine	.967	"	"	"	"
Uric Acid	5.33	"	"	"	"
Dextrose	83	"	"	"	"

The basal metabolic rate was subnormal—minus 17.

It was impossible to persuade our patient to remain in the hospital for he felt perfectly well and even denied any weakness or fatigability in spite of the demonstration with the ergometer and spirometer. Rowntree's reports of two years ago as to the therapeutic results with epinephrin hypodermatically and by rectum and desiccated suprarenal extract by mouth were sufficiently encouraging for us to urge their use here. We have not been able to carry out even the smallest part of Rowntree's program.⁽²⁾ Recent reports from the patient are to the effect that he still continues active as a strawberry farmer and that he has no complaint of any nature. Fifteen months have elapsed since his admission to the hospital and the recordation of the findings above. Nineteen months have elapsed since the marked pigmentation was remarked. Thirty-two months or nearly three years have elapsed since he noticed a slight change in his color. The average duration of the disease is said to be one to three years.

SUMMARY.

Three cases of Addison's disease are reported. In the first the diagnosis was established at autopsy. In the second, a negro, the diagnosis established ultra vitam was confirmed at autopsy. The third pa-

tient is still living three years after the onset of the mildest indications of the disease. Objective evidence (except for the negative tuberculin test) is too strong to permit a doubt of the diagnosis.

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DISCUSSION.

Dr. R. C. Pigford (New Orleans): These cases present interesting features in that they are examples of three types of progress of Addison's disease. The course of the disease depends upon the type. It may be acute, lasting about two months; or subacute, continuing from six months to a year; or chronic, extending over a period of two or three years. One or two isolated cases have been recorded as existing for a period of three years. One or two isolated cases have been recorded as existing for a period of ten years.

The first case Dr. Lemann presents is one of special mention in as much as it is, so far as I have been able to determine, the first case reported in the negro race. It is also interesting to note in this case that there was determinable increase in pigment in the already dark skin of this man.

The advent of epinephrin into the domain of therapy has aided materially in explaining some of the pathologic physiology of the disease. In fact we are now reasonably certain that two of the triad of symptoms are a result of suprarenin insufficiency. The gastro-intestinal symptoms are referable to a disturbed sympathetic function. The asthenia is a result of hypoadrenalinism of the vascular system. But the third phenomenon, that of pigmentation, is yet the subject of wide speculation. While we believe this also is the result of alteration of suprarenin, either qualitatively or quantitatively, very little proof is as yet forthcoming.

As evidenced by the microscopic findings in the case of the negro, the pigment produced in Addison's disease is not a metastatic process, but an increase of normal pigment. This substance, as demonstrated by Warthin, is true melanin, and is produced in the reticulo-endothelial cells of the

corium. Experimentally, epinephrin, when applied to the skin of a frog, causes contraction of the pigment cells. From this evidence we are led to believe that the pigment is a result of quantitative disturbance of epinephrin formation.

Warthin's observation, however, suggests light as a factor in this disturbance. The fact that the exposed parts have a tendency to a more marked pigmentation than the unexposed, must be considered. The administration of adrenalin in these cases does not result in a disappearance of the pigment, as should take place if the disturbance were a quantitative one. That this pigment is the end product of an oxidative process as the result of light rays on an altered pyrocatechin group (predecessor of epinephrin), is the theory adhered to by some. In the final analysis, we will probably conclude that this phenomenon is both qualitative and quantitative.

The third case is worthy of comment. This man, after nearly three years, is able to carry on his activities as a farm laborer. There has apparently been no progression of the disease for the past two years. This is quite a contrast to the usual course of Addison's disease. It suggests a possible arrest of the condition after advancement to a certain stage. Is not such a condition within the bounds of reason?

Dr. J. Birney Guthrie (New Orleans): The case of the negro man Dr. Lemann reported in his paper was shown at the Medical Section Meeting at Charity Hospital. We who were there saw the blackest negro any of us had ever seen. Looking back, I do not recall having seen any cases of Addison's disease in my own service (colored female medical). We should bear this disease in mind in considering the various pigmentations which are common among negroes.

I had an interesting experience at the Mayo Clinic. Dr. Rowntree showed me an apparatus they were using which resembles the hemoglobinometer. He constructed a pigment scale that had been graduated so as to be able by comparison to tell definitely what the shade was. The apparatus looked not unlike a painter's card. He was able to show definite change in the pigment during treatment.

I was interested in the manner by which they gave adrenalin—by rectum. They were not depending on giving it by mouth. Daily enemas make a whole lot of work and are accompanied by a certain amount of abdominal cramps. The treatment must be continued indefinitely. I do not see why patients with Addison's disease could not be taught to use adrenalin hypodermically just as diabetics are taught to use insulin. I think I

could instruct a patient in the giving of adrenalin hypodermatically or intra-muscularly. When we must consider a life time course of treatment the patient must be his own nurse.

Dr. J. N. Roussel (New Orleans): I want to cite the cases I have seen, over quite a number of years. One man came to me completely bronzed—that was 20 years ago. It was diagnosed as Addison's disease; he was bronzed about as much as any man could be. We did not take blood pressure at that time.

The man went out into the country. I saw him within the last two or three months; he is the picture of health today. He has almost gained his normal color.

I have seen two negroes. I am quite sure both had Addison's disease. One died; the other is not dead yet.

Adrenalin was used 25 years ago in Addison's disease.

Dr. I. I. Lemann (closing): As Dr. Roussel has said, the use of adrenalin in Addison's disease is not new. What is new is the administration of adrenalin by hypodermic and per rectum in conjunction with the feeding of dried substances of the whole gland. Rowntree's report showed marked improvement in four or five cases after the long continued use of such treatment.

As you know, we are by no means sure which part of the suprarenal capsule is affected. Both cortex and medulla perhaps are affected. It is not known which is responsible for the production of the asthenia and which is responsible for the production of the pigmentation.

As to the question about the test by mydriasis following instillation of the adrenalin in conjunctiva; I know nothing about it with regard to the efficiency of the suprarenal capsule. I know Loewi's proposal to use it as a test of pancreatic efficiency. I have had no experience with it.

Addison's disease in the negro is of quite considerable interest. In trying to find the original article of Addison in 1855 I came across an interesting volume (both in the Tulane and O. P. M. S. libraries) published in Philadelphia in 1859, giving a review of the papers on this disease by Addison, Brown-Sequard, Jonathan Hutchinson and others, that had appeared between 1855 and 1859. In one of these papers mention is made of experiments done on albino rats. Removal of the suprarenal capsule in other rats produced some changes in pigmentation but the suprarenalectomy produced no change in albino rates. It may be that the rarity of Addison's disease in the negro is not a matter of cursory interest but is

related to his natural pigmentation. It may be worth while to study any future cases that may turn up, particularly along the lines of the study of the pigmentation of the skin. Determining the character of this pigmentation may open up an entirely new field of speculation.

SPLENECTOMY.*

ISIDORE COHN, M. D.,

NEW ORLEANS.

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This report is based on personal experience in a small group of cases, an analysis of cases treated at Touro Infirmary during five years, and a brief review of the literature.

The operation of splenectomy is not of recent origin. Records show that in 1549 a surgeon at Naples removed a spleen for splenomegaly associated with quartan fever. Hemorrhage following injury was one of the early recognized indications for splenectomy.

According to Krumbharr, Obrien was the first to perform the operation in America (1816). A careful and interesting history of the operation is to be found in the monograph of Pool and Stillman. It would only be repetition to give more here—this is sufficient for us to realize that we are not invading recently explored territory.

Review of records indicate that there are too few done today, even on cases which offer, at some stage in their progress, an opportunity to be improved by splenectomy.

No operation can be considered to be on a scientific basis unless the functions of the organ to be operated are understood, in part if not entirely.

Can it be said that we do understand the functions of the spleen? No. Some facts are known. It may be said:

*Read before the Orleans Parish Medical Society, March 8th, 1926.

*From surgical section, Touro Infirmary.

1. The spleen is a member of the reticuloendothelial system.
2. The spleen destroys red cells.
3. Platelets are destroyed by the spleen.
4. Thromboplastic substance which has to do with coagulation is the result of platelet destruction.
5. The spleen acts as a filter.

Many other disputed functions are sometimes given—too numerous to mention.

1. The cases to be reported come under the following groups:

1. Rupture of spleen.
2. Thrombocytolytic purpura.
3. Splenic anemia.
4. Pernicious anemia.
5. Hemolytic jaundice.

RUPTURE OF SPLEEN.

Rupture of the spleen is a definite indication for splenectomy—because of hemorrhage. Statistics show that the mortality when "conservative treatment is applied is about 96% (Choux). Recent operative statistics indicate that it may reach as low as 37%.

It is true that the two cases here reported died. By a curious coincidence both patients were operated the same evening. Our records indicate that there was only one other ruptured spleen admitted to the institution during a five year period. The third case was operated and recovered. (Stone.)

A brief summary of the cases follows:

1. Master W., age 14. Injured by an automobile. Patient was brought into hospital immediately.

Complaint: Patient feels very weak and has pains on taking a deep breath.

Examination: Apparently very uncomfortable. Respiratory movements difficult, rapid, thoracic in type. Abdomen full, particularly in the epigastrium, board-like rigidity. Dullness of percussion. Rectal examination reveals fullness in the posterior cul-de-sac.

Operation: Splenectomy. Surgeon, Isidore Cohn.

Left rectus incision, Bevan type. When the peritoneum was opened a large quantity of blood was found free in the abdominal cavity. The hemorrhage was found, after examination, to be coming from a tear in the splenic vessels; the pedicle was ligated and the spleen removed in the usual way.

Patient died within a few hours as a result of hemorrhage and shock.

Case 2. Master C., age 10. Patient fell from a hay loft, a distance of about 20 feet, walked about 100 yards and then fell in a faint.

He complained of abdominal pains, difficulty in breathing. He seemed to be in great distress as he tossed about the bed.

Examination: Abdomen: Fullness, particularly in the epigastrium, there was a board-like rigidity of the upper abdomen. Rectal examination: Fullness in the posterior cul-de-sac.

Operation: Splenectomy. At operation it was found that there was a tear of the capsule and splenic pulp.

Blood findings prior to operation, Hemoglobin 65. Total reds 4,565,000, total whites 31,000. Patient was transfused the following morning. He seemed to respond very well to this measure. Two days after the accident temperature rose to 102 and within a period of three hours was 106.5. There was evidence of pneumonia. Patient died on the second day.

These cases have many features in common. Both resulted from great trauma; an automobile passed over the chest and abdomen of one, the other fell from a height of from 10 to 20 feet.

Physical examination in both cases were identical: a. marked pallor; b. rapid, thoracic type of respiration—accessory muscles of respiration were brought into play; c. rapid low tension pulse; d. abdominal pain; e. rigidity of abdominal wall, particularly on the left; f. dullness on percussion of abdomen; g. rectal examination shows fulness in the posterior cul-de-sac.

Blood findings: Both cases showed marked leucocytosis (22,700 and 31,250) and practically normal red count (4,565,000 and 4,950,000). Hemoglobin in one case

was 65 and in the other 83. The history and physical examination clearly indicated intra-abdominal hemorrhage — probably rupture of a solid organ.

One might be misled by the blood picture if it is not known that hemorrhage results in an early leucocytosis, not accompanied by a relative fall in hemoglobin and red blood cells. This has been an established accepted phenomena for many years. (Crile, Cannon, Pool, Goivertz.)

1. It seems logical to conclude that more cases must have been observed.

2. Conservative non-operative treatment must of necessity result in death if there is a large rent in the spleen or one of its vessels.

3. Transfusion cannot be expected to help patients who continue to bleed.

4. Early diagnosis and splenectomy followed by transfusion offer at least some hope in this otherwise fatal condition.

THROMBOCYTOLYTIC PURPURA.
(PURPURA HEMORRHAGICA.)

This clinical entity offers the most striking example of the value of splenectomy—no operation is followed by more spectacular results in properly selected cases.

Purpura hemorrhagica or thrombocytolytic purpura presents a definite clinical picture—yet the diagnosis is often made when analysis of cases so designated would not warrant the designation.

If splenectomy is resorted to in any but those which definitely correspond to the classic picture it will not be long before the operation will fall into disfavor.

The blood findings in purpura hemorrhagica are fairly constant. There is a marked diminution in the platelet count; the coagulation time is normal, but the bleeding time is prolonged. The clot is non-retractile.

Until very recently the value of platelet counts was not appreciated. Dr. Liles has developed a method for platelet counting which is accurate and rather simple.

Such information as we have of this disease picture is based on laboratory findings. Dr. J. H. Wright developed the idea of the origin of platelet from Megakarocytes. This has received general acceptance. It has been shown that platelets are the only formed element which have to do with coagulation, their destruction results in production of a thrombo-plastic substance. When produced in normal numbers coagulation time of blood is normal. This then indicated that in this disease platelets are formed in normal quantity.

In purpura hemorrhagica the spleen is enlarged. Evidence points to destruction of platelets by the spleen and other members of the reticuloendothelial system. Removal of the spleen is associated with an immediate rise in the platelet count, and cessation of spontaneous hemorrhages. Where one is dealing with spontaneous hemorrhages one must be particular to see that the case is not one of symptomatic purpura such as Case B 3847 or lymphatic leukemia or in cases where insufficient data is collected.

Case B 3847, age 2. Clinical diagnosis, purpura hemorrhagica. Diagnosis was evidently based on the presence of purpuric spots and septic sore throat. Blood findings in the case were recorded as total reds 4,810,000, whites 10,250. Bleeding time two minutes. No record of platelet count having been made.

Analysis of this case suggests that it was evidently purpura simplex—symptomatic secondary to septic sore throat.

In another instance diagnosis of purpura was made when data points to patient having had lymphatic leukemia.

The term essential thrombopenia so often used is I believe incorrect. It is true that there is a thrombocytopenia, but the poverty is due to cytolytic action evidenced by the fact that the number of cells shows such a marked increase within an hour following splenectomy. If the poverty was

due to an essential lack of production the multiplication could not be accomplished so rapidly by reproduction. It must therefore be due to destruction through some agency such as the spleen or parts of the reticuloendothelial system, the removal of which permits an immediate or early restoration to the normal number of platelets in the blood stream.

Our case has previously been reported in detail. Two other cases have been observed but operation has been refused in both, in one case the patient died after repeated transfusions.

Attention should be directed to the fact that reliance should not be placed on sera, thromboplastic substances, and the like for the control of hemorrhage in true purpura hemorrhagic or thrombocytolytic purpura.

SPLenic ANEMIA.

The diagnosis has been made in 17 cases during the past five years at Touro Infirmary. Five cases have been subjected to splenectomy by four surgeons (Drs. Maes, 2; Gessner, 1; Bradburn, 1; Isidore Cohn, 1), and advised in at least two other cases.

In the light of modern literature on this subject it is difficult to see why more patients have not been given the benefit of the operation.

A brief review of some of the more recent authoritative statements may prove of value.

Sir Berkeley Moynihan in 1921: "The only treatment for splenic anemia is splenectomy."

Bunting: "The removal of the spleen has proved curative in the early stages of Banti's Disease while medical treatment has been without avail."

W. J. Mayo, 1924: "The extraordinary cures that follow splenectomy, even in advanced cases of splenic anemia make splenectomy the method of choice if not the only method of treatment."

Pool and Stillman: "In the early stages of the disease the removal of the spleen results in a symptomatic cure, which may be permanent or may last for several years. In the late stages splenectomy may be followed by marked improvement and prolongation of life."

Hanrahan (1925) reported 35 cases of splenic anemia from Johns Hopkins; of these 22 were splenectomized. His attempt to explain the rationale of splenectomy as an effective measure is interesting and is here quoted:

"1. In any consideration of the general question of anemia one is confronted with the absence of any proved and accepted explanation of the mechanism of the blood balance in the body.

2. We accept that there is a continuous activity of a widely distributed hematopoietic tissue which in health is exactly balanced by a hemato-catatonic function.

3. Eppinger and Charmas have shown that 1/34 of the total blood is destroyed and replaced in 24 hours.

4. It is obvious that an uncompensated disturbance in either of these balanced forces will produce the clinical manifestations recognized as anemia or polycythemia.

5. Little is known of the mechanism of blood destruction.

6. The conception of a reticuloendothelial cell apparatus attempts to provide an organ or system for this function.

7. The presence of splenomegaly points to some involvement of the spleen and early led to splenectomy on purely empiric grounds."

One might argue that the etiology of splenic anemia is unknown; that the entire functions of the spleen have not been proven and that the spleen is not the diseased organ in splenic anemia hence splenectomy is not rational.

This group may be answered in the words of Dr. W. J. Mayo: "The spleen does not often act on its own initiative, but rather as an agent of destruction set in action by influences over which it has no control. In removing the spleen, therefore one removes an agent of destruction,

not necessarily the cause of the disturbance; the effect may cure or relieve the patient of manifest symptoms, the essential cause of the disease being rendered ineffective by removal of the agent of destruction."

To illustrate the value of splenectomy even in apparently late cases the following case of my own and one of my colleagues, Dr. Maes, are here cited:

Mr. B. Complaint: Swelling of the abdomen, pain, weakness.

Examination: Emaciation, multiple telangiectases irregularly distributed over body surface, slight jaundice, large liver and spleen.

Blood findings: Total reds 3,050,000; Color index .9; Bleeding time, 2 minutes, 30 seconds; Coagulation time 5 minutes, 10 second. Fragility maximum .45; minimum .25.

Blood chemistry: No abnormality.

Splenectomy was performed September 22, 1924.

On October 10, 1924—Hemoglobin was 85%, total reds 4,160,000, Platelets 214,000.

This patient presented several interesting problems for diagnosis. He was originally referred as a case of purpura hemorrhagica. Normal bleeding time and platelet count within normal range seemed to eliminate the possibility of purpura in this case. Hemolytic jaundice seemed easily eliminated by fragility tests which showed resistance of red cells to be within normal limits. Cirrhosis of the liver, (primary) did not seem to be the probable diagnosis to me, because there was no evidence of a large accumulation of ascites nor was there evidence of circulatory obstruction which would have been expressed by enlarged abdominal veins.

This opinion was doubted by one of my medical associates who believed that the patient did have cirrhosis and that the splenomegaly was secondary.

He improved sufficiently to return to work. Death occurred April 13, 1926, from cerebral hemorrhage.

The most spectacular result recorded is a patient operated by Dr. Maes:

Mr. W., age 21; 1924. Brief summary of the case: Marked weakness, bleeding from bowels and hematemesis.

Examination: Patient very pale. Large abdominal mass in the left side which extended down to left iliac fossa. During the early part of his stay in the hospital blood count was: Total reds 1,825,000; whites 4250. Hemoglobin 10%. After repeated transfusions and splenectomy his count, 2 months after admission, was Reds 3,250,000, whites 7500.

Progress notes state that patient was very much stronger when he left hospital. (These notes are presented through the courtesy of Dr. Maes.)

Contrast the following case:

B 6946, age 54. Male. Fever, weakness, recurring ascites, large liver, large spleen.

Blood findings: Total reds 3,562,000; whites 5500. Color index 87. Bleeding time 1 minute, 40 seconds. Red cell resistance maximum 45, minimum 25.

Urine negative for Bilirubin.

Patient referred for surgical consultation with the diagnosis of "cirrhosis of liver and splenomegaly." The question was the advisability of omentopexy. The examination showed an enlarged spleen, ascites, secondary anemia, leucopenia. "The question of possible splenic anemia should be considered." (Isidore Cohn.)

Five months later the patient was readmitted, worse than before. Blood picture at this time showed a diminution in the white cell count to 2000, red practically the same. Diagnosis at this time was splenic anemia and notes say that patient refused splenectomy.

This case indicates importance of early recognition in order that more benefit may be obtained by operation.

This case like my first case brings up differential diagnosis. All cases do not present all of the possible signs or symptoms which may accompany the hypersplenism which exists in this entity.

If we postulate that splenic anemia is characterized by splenomegaly, progressive secondary anemia, weakness, low color index; followed in the later stages by enlargement of the liver and an associated ascites, we have a basis for differential diagnosis.

Jaundice may be an associated manifestation, though it is uncommon.

Hemolytic jaundice which also is characterized by splenomegaly may be differentiated by the resistance of the red cells. In splenic anemia the red cell resistance is found to be within normal limits. In hemolytic jaundice there is a diminished resistance to salt solution.

The question which seems to be most disturbing is whether the case in point is splenic anemia or cirrhosis of the liver. Pool and Stillman made the following observation: "Some authors believe that the two conditions are identical." It is difficult in some cases to tell which organ, the liver or spleen, was first noticeably enlarged.

If the blood picture suggests splenic anemia the spleen should be removed; other things being equal. Mayo commenting on this question said: "It requires little imagination to see in hepatocirrhosis an attempt of the liver to encapsulate diffuse poisons carried to it through the portal circulation which it has not been able to eliminate or detoxicate. In the removal of the spleen not only a reduction of the portal circulation is effected, but also various noxious agents are prevented from reaching the overburdened liver through the agency of the portal circulation."

It is urged that operation be not done on insufficient data, (such data as seems sufficient to permit the use of the diagnosis); but it also seems unfortunate that more individuals are not given the benefit of what seems at present to be the one hope for comfort and even cure of this condition.

PERNICIOUS ANEMIA.

Splenectomy has been alternately advocated and condemned for pernicious anemia during the past 15 years. Eppinger, Di Costello and Klemperer in 1913 advocated splenectomy.

Eppinger advocated splenectomy because he noted that following the operation there

is a diminished hemolysis, evidenced by decrease in urobilin output. Klemperer had noted polycythemia followed splenectomy for supture of the spleen.

Libman (1915) before the Association of American Physicians expressed the opinion that "splenectomy is advisable." Richard Cabot at the same time reported 6 cases on whom splenectomy had been performed with benefit. Percy has reported 37 cases splenectomized. He advocates considering operation as soon as diagnosis is made, except during an acute exacerbation of the disease, especially diarrhea or if there are spinal cord lesions. Hitzrot (1917) reported 7 cases and his conclusion is "I believe with Percy that transfusion, the eradication of foci of infection and splenectomy are valuable adjuncts to our present therapy."

Moynihan says in regard to results of splenectomy for pernicious anemia: "In the majority a degree of improvement results, and a prolongation of life in greater comfort and with increased zest can be recorded." He believes that in 25% of cases the life expectancy is prolonged, 25% more feel better, "and live a few months or perhaps a couple of years longer than the average."

W. J. Mayo (1924): "In the opinion of those perhaps best qualified to judge there is no connection between the spleen and pernicious anemia.

"As I look back over a series of cases of pernicious anemia in which the spleen was removed, several facts stand out:

"1. There has been a remarkable temporary improvement in all, much greater and more prolonged than after transfusion of blood.

"2. Twenty-two per cent of the splenectomized patients have lived beyond the life expectancy of patients not splenectomized.

"3. A few patients have lived a number of years and are able to work. Splenectomy is now rarely performed in the clinic, *too rarely perhaps* due to the influence of the general prejudice against it."

Splenectomy for pernicious anemia at Rochester to September, 1920, 53 cases; 5.6% hospital mortality. Five patients lived 5 years or more. Five lived 3 to 4 years.

Krumbharr collected 153 cases of splenectomy. Mortality 19.6% or better of 11% where the hemoglobin was always above 30% at the time of operation. "The operation is ameliorative not curative."

Krumbharr, (1923): "Splenectomy for pernicious anemia is now, in my opinion, being neglected just as much as it was being overdone six years ago."

Pernicious anemia has been diagnosed in 44 cases which have been treated at Touro during the past five years. Of these two have been operated on. One operated late survived nearly 1½ years, far beyond the apparent life expectancy of the individual. (Isidore Cohn.) One more than two years ago is living and is apparently in good health. (Maes.)

There were 26 males and 18 females. The youngest patient observed was 32. Twelve patients died during hospitalization. Fifteen patients were discharged as unimproved. Of the unimproved and improved cases no follow-up records are available at present by which to determine how long the patients survived after leaving the hospital.

Splenectomy is not a cure. No measure has been found which may be said to be a cure.

Recent experiments by Kahn and Torrey from Cornell University indicate a therapeutic value of *B. welchii* antitoxin in pernicious anemia.

This suggestion was based, by the workers, on the findings in 33 cases of pernicious anemia—constantly a large number of *B. welchii* found in stools.

Three monkeys were injected with the toxin made from the culture of *B. welchii*.

Changes occurred in the blood which strongly suggested pernicious anemia. What ultimate effect a clinical test of this method will be remains to be seen.

Summary: In view of the fact that no other method of treatment has proved to be of great value; that experience has proven that the life expectancy is apparently increased by splenectomy; it seems justifiable to resort to splenectomy in pernicious anemia after proper transfusion and the removal of septic foci.

One other disease which is characterized by splenomegaly properly is included in this report, even though splenectomy was not done. The patient after careful study proved to be one of hemolytic jaundice. I was able to see this patient through the courtesy of Dr. Levin. (Details of the case will be discussed by Dr. Levin.)

No condition unless it be purpura hemorrhagica responds more promptly to splenectomy than does hemolytic jaundice. It has been shown, both experimentally and clinically, that the resistance of the red cell is increased after splenectomy. It is known that the fragility of the red cell is the most prominent manifestation, from the laboratory standpoint, of hemolytic jaundice, it follows logically that splenectomy should be the cure—this case will be reported in detail at a later date by Dr. Levin, no further comment will be made.

CONCLUSIONS.

Splenectomy in properly selected cases is an operation which should result in great benefit to the patient. Rupture of the spleen, splenic anemia, hemolytic jaundice, and thrombolytic purpura represent the group from which the greatest benefits may be expected.

As long as the etiology of pernicious anemia remains unknown, and no other measure affords greater benefit, one is justified in doing splenectomy for the relief and possible prolongation of the life of his patient.

DISCUSSION.

Dr. I. I. Lemann (New Orleans) opening: The most interesting statistics concerning splenectomy are those of Giffen from the Mayo Clinic and published in 1921. Up to that time there had been 71 splenectomies done for splenic anemia. There had been 9 post-operative deaths; 22 patients had died later and 17 had lived for more than five years. "The fact that 27 out of 28 patients recently heard from," stated Giffen, "are in good condition seems entirely to justify the continuance of splenomegaly in which the process is localized in the spleen or in the spleen and the liver."

In the 32 cases in which splenectomy had been done for hemolytic jaundice, there had been 1 post-operative death, 3 patients had died subsequently, 22 were in good condition and 4 in very good condition. Of all the cases in splenectomy it was considered that hemolytic jaundice was the chief.

Splenectomy has been done in 53 cases of pernicious anemia, in which there were 3 post-operative deaths, 43 had died later, 11 had lived more than 3 years, and 5 more than 5 years. At that time Giffen could find no clear indication for splenectomy in pernicious anemia but felt that in some cases splenectomy would cause improvement and prolong life.

Twenty-six cases of myelogenous leukemia had been splenectomized; among these there had been 1 post-operative death, 15 subsequent deaths, 7 patients lived more than 3 years and 6 were still living. Giffen expressed the opinion that splenectomy was indicated in very chronic cases with very fibrous spleen and leucocyte count never very high. In a great majority of cases, however, he considered it of very questionable value.

Rosenthal writing in the *Journal of the A. M. A.* 1925 divided cases of splenic anemia into two groups: those with thrombocytopenia and those without thrombocytopenia. The first class showed marked hemorrhagic tendency, the second did not. Splenectomy was much more satisfactory in the first than in the second group. In the second group four patients had post-operative thrombosis and 1 died of a portal thrombosis.

Hanrahan (*Archives of Surgery* 1925) reported 35 cases of splenic anemia at Johns Hopkins, in 22 of which splenectomy had been done. Of the 22 operated upon 50% were living. Of the 13 not operated upon 38½% were living. Hanrahan considered that cases with marked leukopenia (below 5,000) had a bad prognosis without splenectomy.

From my own experience I would like to remark that in a given case of splenomegaly with enlarge-

ment of the liver, it is often difficult to determine in which organ the disease had begun; that is to say whether we are dealing with splenomegaly with secondary liver cirrhosis or with liver cirrhosis and secondary splenomegaly. Recent reports in the literature would lead us to believe that even in cases of cirrhosis of the liver with marked splenomegaly, splenectomy is of value. One case to which Dr. Cohn has referred and upon whom he operated was such a case of cirrhosis of the liver with secondary splenomegaly. This man has survived now two years and is still doing fairly well. I have no doubt that his life has been prolonged.

In this connection I wish to direct attention to a group of cases, reports concerning which are beginning to be more frequent in the literature. These cases have been denominated "liver and spleen complex," thus acknowledging the ignorance concerning the original site of the disease. Last month I saw a child, age 4 years, who had an immense spleen and an equally immense liver. Hemolytic jaundice was promptly ruled out because there was no disturbance of the fragility of the red cells. Similarly leukemia and Banti's were eliminated because both red and white counts were normal. The Wasserman was negative. There was no history of any familiar disease. This child, I believe, belongs to this indefinite liver and spleen complex group. I have advised a splenectomy, which for the present has been refused.

Dr. A. L. Levin: Dr. Cohn mentioned a case of hemolytic jaundice. It might be of interest to say a few words in regard to this case.

The patient was admitted to my service as a case of gall-bladder disease. It was that of a young girl of nineteen, who gave a history of a large spleen since the age of seven years. She also suffered from a periodic sudden pain in the right hypochondrium, radiating to the shoulder. After the case was studied carefully by Drs. Lemann and Cohn, who were called in consultation, we recognized the characterized symptoms of hemolytic jaundice. The outstanding feature was the increased resistance of the red blood cells to salt solution, marked subicteroid skin and conjunctiva. The spleen occupied the entire left abdomen. She also had a large liver. One point upon which no stress was laid in the history was the leg ulcer above the left malleolus externally. About two years ago Dr. Barker reported a case of hemolytic jaundice, and mentioned in his article that he had looked through the literature, and had not found but a single case of hemolytic jaundice in which a leg ulcer was mentioned. The only one mentioned was by Johnson of Pittsburgh in 1919.

The cause of leg ulcer in hemolytic jaundice is not definitely explained. Some lay stress on phlebitis or varicose veins, which were not observed in our case. Another explanation of the existence of a leg ulcer is the pressure of the large spleen on the iliac vein.

Dr. Barker deplors the fact that this point (leg ulcer) is overlooked and not mentioned in the literature, otherwise it probably would serve as a characteristic sign in hemolytic jaundice. This case that came under our observation had a leg ulcer, which for many years had resisted any form of treatment. She also had a positive Wassermann. Some cases of hemolytic jaundice do give a positive Wassermann, but as Barker says, we cannot lay too much stress on that because we often find a positive Wassermann where there is bilirubinuria. An increasing bilirubin in the blood is characteristic of hemolytic jaundice.

Both Drs. Lemann and Cohn, who deserve credit for their careful study of the case, advised splenectomy, and we regret very much that the patient refused surgical intervention.

Dr. John H. Musser: I do not think there could be very much discussion as to the advisability of operation in those conditions that Dr. Cohn has outlined, except, possibly, the condition of pernicious anemia, as he has said, there has been a great deal of discussion in the past few years as to the advisability of removing the spleen in cases of pernicious anemia.

Experimentally, upon the removal of the spleen there are three very definite marked results: (1) marked increase of leucocytes; an increase which takes place almost immediately and persists for practically the length of the life of the experiment. (2) A change in the blood count takes place which is productive of a severe anemia, which reaches its maximum in a period of two or three weeks, and leaves after a period of forty or fifty days. (3) A increased resistance of the red cells follows splenectomy. I think this observation points to the indications for splenectomy in pernicious anemia. I do not know when or how produced, but undoubtedly, there is an increased resistance of the red cells. As such is the case—if we can bring about an increased resistance of the red cells, we have a definite indication for the treatment of this disease by splenectomy. This is one point that is important.

A point somewhat less important is the question of preparation of these patients at the time of operation. I think the majority of cases in which the outcome is fatal is due to the fact that they are operated on during the time of their disease when they are sickest, instead of waiting

for a remission. Of course, I realize there is a very much better chance to get permission for an operation when the patient is very sick. Secondary splenectomy anemia which occurs after removal of the spleen will account for the failure of reaction in those patients that died. If they are prepared by repeated transfusions or operated on after the period of remission, the mortality will decrease.

I feel it is a great pity splenectomy has fallen into disuse in the treatment of pernicious anemia.

Dr. Aldo Castellani: In my experience, splenectomy is extremely useful in anemia and in Banti's disease. Twenty-five years ago, I was a medical student at the University of Florence, and Banti was our Professor of Pathology. I well remember that he was always insisting "there is only one treatment for splenic anemia, and that is the removal of the spleen."

Four years ago, I had an interesting case in London. It was a case of splenomegaly seen by several well known physicians and surgeons. The spleen was enormously enlarged,—the liver beginning to get enlarged too. There was a slight amount of ascites. He was sent to me and I was asked to confirm the diagnosis of Banti's disease and if I would advise removal of the spleen. I concurred with the diagnosis; it was a typical case of Banti's disease in the third stage. The spleen was removed,—it was of enormous size. The improvement was marvelous. The man had given up work and two months after operation was able to attend the office again. A very interesting point is that about a year ago (three years after operation) he developed clear symptoms of leukemia.

As regards kalaazar and malaria, I quite agree with Prof. Matas that sometimes these diseases may show symptoms which somewhat resemble those found in splenic anemia. Kalaazar is a common disease in India and is found in Egypt, and other tropical and subtropical countries; and infantile kalaazar is quite common in the Mediterranean countries (south of Italy, Sicily, Malta, Greece, and southern France). The patients present many symptoms of splenic anemia. The spleen is enormously enlarged and smooth, very oftentime the liver, too, may become enlarged. There is an important point which differentiates kalaazar from Banti's disease: in kalaazar there is fever, in Banti's disease the fever is usually absent, or if present is generally low. In kalaazar the min. exam. of the spleen juice obtained by splenectomy.

As regards malaria: malaria like syphilis deserves the term "the great simulator?". I have been, for many years, in countries where malaria is common. There are certain cases of pseudo

splenic anemia of malaria origin. I am a great believer in surgical treatments, but as regards splenomegaly of kalaazar and malaria origin, I think operative measures are not necessary. Before a definite treatment for kalaazar was found, the spleen was removed in several cases. I never saw any improvement from that operation. I have seen also cases of splenomegaly of malarial origin in which the spleen was removed, but the general condition of the patient did not improve. Tartar emetic is very effective in kalaazar; it is wonderful to see the wonderful improvement after twelve or fifteen injections of tartar emetic.

In malarial splenomegaly, quinine and arsenic may not make the enlargement of the spleen disappear completely, but, at any rate, the treatment produces immense improvement. There is a point to which I should like to call attention: in certain cases of malarial splenomegaly quinine and in which arsenic alone are not sufficient to reduce the spleen, the local application of X-rays has proven to be effective.

Dr. F. M. Johns: I think we will all agree with Dr. Cohn that splenectomy is the method of choice in hemolytic jaundice at least. The classical blood picture of this condition has often been described as a lessened resistance to hemolysis—or in other words an increased fragility of the erythrocytes to hemolysis by hypotonic salt solutions.

With regard to the practical application and interpretation of the fragility test I must confess that for some time I labored under the impression that all of the cells should be hemolyzed by hypotonic salt solution that would not affect normal cells—and while many marked cases can be found in whom this degree of hemolysis may be demonstrated there are also other cases with a very active production of young cells which are markedly more resistant to hemolysis than even normal erythrocytes. These patients then present a “beginning” hemolysis at a higher point than normal and “complete” hemolysis at a point lower than normal.

Thus for practical diagnostic purposes it would seem to me that from the standpoint of the blood picture that the presence of an actively productive bone marrow as shown by marked polychromatophilia and a “beginning” hemolysis in salt solutions of 0.44% or higher that the presence of a hemolytic jaundice may be suggested.

It may be of interest to note that in one case that I have kept under observation for a number of years in which there was an unexplained severe secondary anemia with marked polychromatophilia, low complete and high beginning hemoly-

sis—with bronzing of the skin and with no splenic enlargement our diagnosis of chronic hemolytic jaundice was confirmed at both the Mayo Clinic and the Johns Hopkins Hospital. This patient reacts very well to transfusions of whole blood—and has refused splenectomy as long as the transfusions are efficacious.

Dr. F. W. Parham: I shall not go into discussion of this subject fully, but there are one or two points I would like to mention.

With reference to what Dr. Castellani has said: I had a rather interesting experience in a case which proved out to be malarial splenomegaly. I treated this case for some time. We had not examined the blood for plasmodia. The case began to go down. She had a very large spleen. She continued to get worse to such an extent that I concluded to transfuse her. Her husband was the donor. Soon after the transfusion she developed fever which she did not have previously. We examined the blood for plasmodia. It was a question of finding where the plasmodia came from. We examined the husband and found plasmodia.

I put her on quinine; the spleen went down. The case was an interesting observation.

In some cases, the spleen is difficult to remove. Occasionally we will find a spleen that cannot be safely removed on account of the hemorrhage which occurs in tearing away adhesions before the spleen can be brought out.

I had a case sometime ago in which Dr. Jamison was interested. In 1910 Dr. Mayo made some experiments on animals in which it was determined that the splenic artery could be tied, resulting in shrinking and atrophy of the spleen without necrosis. Dr. Jamison took up this work sometime later. He was present at the operation when I attempted to remove the spleen. He said, “Why not tie the splenic artery?” I said that I had had no experience on animals or human beings, and would not take such a chance. I went into the study of the subject to a greater extent and I found experiments performed by others seemed to indicate that you could tie the splenic artery, provided you wrapped the omentum well around the spleen. In this way, we might accomplish the destruction of the spleen, although we could not remove it.

These cases of the first category where the spleen is removed for traumatitis and hemorrhage. There are two points of interest: (1) We have difficulty, sometime, in determining there is hemorrhage going on. Dr. Cohn mentioned the point, but not especially for these patients. We can, by

taking the leucocyte count early in the course of the hemorrhage, determine if there is hemorrhage going on. This was determined by Dr. Crile in his experiments on some 65 transfusion donors. He found regularly in these donors that the leucocyte count was high, while the red cells showed no particular change. (2) In those cases where there is hemorrhage going on the method of transfusion is of some consequence. It is generally agreed today that the use of whole blood is probably better for various reasons than the use of citrated blood. But, in this particular instance, I believe it is an advantage to use citrated blood. Sodium citrate is a distinct hemostatis. I believe in these cases where we wish to get the hemostatic benefit of transfusion, as in hemorrhage, we ought to use the citrated blood.

I had a case recently at Touro. The man lost large amounts of blood by repeated vomiting of blood. His condition was such we could scarcely examine him. He was sent in by a colleague who thought he needed immediate operation. I looked at him and I thought "No, sir, I don't operate on you." On examination of the blood, red cells were reduced down to three million and hemoglobin down to forty. We gave a transfusion immediately of citrated blood from a brother. The transfusion resulted in the complete stopping of the hemorrhage. We were at a loss to know where the hemorrhage came from. When the man had improved to such an extent that I could make an examination by the X-ray, we found a gastric ulcer on the lesser curvature of the stomach. I mention that to show that in these cases citrated blood has a decided advantage. I believe that in most cases it is better to use whole blood, but this is one exception.

I shall not discuss the subject further. I enjoyed the paper very much.

Dr. Ernest Lewis: Removed a spleen in 1910, Charity Hospital. It was very large and partly in lower abdomen. Patient recovered and later became pregnant and was confined in Charity Hospital.

My first case was prior to that year. It was eggplant-shape resting on pelvic brim and diagnosed an ovarian fibroma. Her recovery was uneventful.

My third case was operated upon April 4, 1910, at Hotel Dieu. She was from Shreveport. The spleen was large and floating. She was discharged April 29th, 1910, and was living fourteen years later.

Dr. Isidore Cohn (closing): I appreciate very much the liberal discussion. It is impossible to answer some of the statements, reference to the

complete paper will be ample—as much material had to be omitted in the reading.

Dr. Lemann quoted from Giffen (1921) in regard to pernicious anemia. Dr. Mayo (1924) stated that 23% of the splenectomized patients had lived beyond the expectation of patients not operated.

Sir Berkeley Moynihan stated in 25% of the cases life was prolonged and 25% lived longer than the average.

My illustrious teacher said the younger generation was trying to steal his thunder. We are only paying tribute to his teachings and showing our appreciation of him whenever we do anything.

PELLAGRA—HYDROCHLORIC ACID IN THE STOMACH CONTENTS.*

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NEW ORLEANS.

The earliest statement in the literature that we can find relative to the occurrence of HCL in the stomach secretions in pellagra, is that of Angostoni in 1893 (1) quoted by H. F. Harris (9) "The study of the chemistry of the stomach of pellagrins shows a notable degree of *hypopepsia* and *hypochlorhydia*, with catarrh of the mucosa of the stomach and weakness of its *motor-power* and its *innervation*. While in some instances the *total acidity* was *normal*, the average was distinctly *less than half of this amount*. Likewise *hydrochloric acid* varied from none at all to an amount, in some instances *above the normal*" Harris himself says, in discussion, "There is a general agreement among the writers that there is as a rule, absence or great diminution in hydrochloric acid." Nesbit,(11) at the National Conference for Pellagra, 1909, reported analyses of the stomach contents of ten cases. Four of the ten showed a

*Read before the Orleans Parish Medical Society, December 14, 1925.

diminution of HCL. This collection of Nesbit's seems to be the first on record of a quantitative gastric analysis in this disease.

PELLAGRA 1908.

Marie (3) translated by Lavinder, C. H. and Babcock, J. W., says, "The gastric juice is often less acid in pellagrins. The hydrochloric acid is diminished." He attributes the burning sensation in stomach noted by him with some frequency, to some other cause than the presence of acid.

"Cecconi" quoted by Myers and Fine (7) "found free hydrochloric acid absent in all of his twelve cases, while Niles (5) in an examination of sixty-four cases of undoubted pellagra, found free hydrochloric acid absent in eighteen; deficient in thirty-one; excessive in twelve, and normal in three. He noted that the gastric secretions were diminished or absent in most cases of long standing, while in the few instances where those juices were increased the cases were acute." Table 1, gives a resumé of thirty-five of the series of ninety-three cases treated in the author's service of Charity Hospital during the last five years, January 1921 to December 1925, inclusive. All of the patients were colored females. The average age is 32.8 years. The average duration of treatment in the hospital was 47.7 days.

Complications were not frequent. The table shows that eight cases were complicated with six diseases other than syphilis. Syphilis appears in eight patients and the Wassermann reaction is positive in nine, a percentage of 25.7. This percentage is approximately that of the service at large. We see nothing here to substantiate the statement that a positive Wassermann reaction occurs in pellagra.

Infection with *B. Fusiformis* was noted three times. It is probable that if a more consistent search had been made, the mouth and vaginal secretions would have shown a higher incidence of this infection.

Examination of the feces was made in twenty-eight of these cases and showed the presence of *Amebae Histolytica* only once; and *Necator Americanus* once. Flagellates were not found. These examinations were made primarily to determine the incidence of the amebae and the very low incidence is interesting in view of the statements of several authors as to their frequency in this disease. Whenever the local condition would permit of a proctoscope being used, this was done, and the report is based on proctoscopic findings. In presence of severe anal ulceration, the report as to the amebiasis is based on examination of feces voided into a warm bed pan.

One of our cases, No. 15, shows improvement in secretion of HCL while general conditions progressed favorably. Givens (8) mentions several cases where the course of the HCL secretion showed a progressive diminution in HCL content. These were cases which were doing badly and finally died.

Niles speaks of a "progressive diminution". This undoubtedly occurs where the case is progressing unfavorably and when it is observed can be considered as a mark of such progression. On the other hand an improving level of HCL or an increase toward the normal, can probably be interpreted as an indication of a more favorable course, other things being equal. All the records of a change in the quantity of HCL observed in the course of the disease, seemed to bear out this idea.

Givens(8) quotes Marie(3), Cecconi(10) and other available records in tabulated form, their findings, with his own and those of a group of cases in collaboration with others. Givens concludes that no definite relation can be found between the absence of pepsin and free hydrochloric acid, and sex, age, duration of pellagra and clinical symptoms." Although the tendency is for acid to disappear hand in hand, such

TABLE 1.

No.	Name	Age	Color and Sex	Admitted	Discharged	Free HCL	Total Acid	Diarrhea	Constipation	Cond. on discharge	Syphi-Intest.	Wass. Am.	Neca-Intest.	Duration of Symptoms before admission	Complications	Remarks
1	F. M.	20		5/21/21	9/5/21	5	45	D		Imp.	+	+	—	3 yrs.		1
2	E. B.	23		2/21/21	10/17/21	0	18	D		Imp.	+	+	—	1 wk.		2
3	L. S.	14		7/21/21	9/16/21	0	55	D	C	Imp.	+	+	—			3
4	L. C.	19		7/25/21	9/20/21	2	55	D		Imp.	+	+	—			4
5	L. H.	32		7/14/22	9/14/22	0	25	Neg		Imp.	+	+	—			5
6	B. P.	35		8/14/21	10/4/21	18	45	D		Died	+	+	—			6
7	C. S.	32		7/19/23	11/15/23	21	50	D		Died	+	+	—			7
8	E. S.	39		12/6/23	2/15/24	0	20	D		Imp.	+	+	—	4 mos.		8
9	P. M.	25		4/9/24	6/8/24	10	20	D		Imp.	+	+	—	2 mos.	Hemorrhoids	9
10	E. O.	34		4/15/24	6/11/24	0	5	D		Died	+	+	—	4 mos.	Marked leucocytosis.	10
11	C. M.	24		6/11/24	6/25/25	0	15	D		Died	+	+	—	6 wks.	Bloody stools.	11
12	G. G.	47		11/31/23	11/14/24	0	10	D		Died	+	+	—	4-5 mos.	Ova Ascarides in feces.	12
13	M. D.	40		2/1/24	3/23/24	0	20	D		Died	+	+	—	4 mos.	Hemorrhoids	13
14	L. S.	31		3/21/24	3/29/24	0	4	D		Imp.	+	+	—	4 mos.	Chr. Myocarditis	14
*15	M. J.	51		6/11/24	8/24/24	0	20	D		Imp.	+	+	—	4 mos.	Hemorrhoids	15
16	M. P.	26		7/5/24	7/16/24	0	25	D		Imp.	+	+	—	4 mos.	Vincent's Angina	16
17	E. D.	26		5/24/24	7/10/24	0	25	D		Imp.	+	+	—	4 mos.	Vincent's Angina	17
18	C. M.	32		8/20/24	9/2/24	10	50	D		Imp.	+	+	—		Typical skin Lesions.	18
19	F. L.	19		8/24/24	9/18/24	10	30	D		Imp.	+	+	—		Typical skin Lesion.	19
20	M. M.	55		6/13/24	10/7/24	12	40	D		Imp.	+	+	—		Typical skin Lesions.	20
21	M. W.	48		8/23/24	10/20/24	5	35	D		Imp.	+	+	—	1 yr.	Typical skin Lesions	21
22	J. C.	40		10/13/24	12/21/24	18	32	D		Imp.	+	+	—	3 mos.	Typical skin Lesions	22
23	L. C.	28		12/6/24	12/13/24	0	13	D		Imp.	+	+	—	3 mos.	Chr. Salpingitis	23
24	C. S.	40		2/28/25	4/8/25	5	9	D		Died	+	+	—		Recto-Vag. Fist	24
25	B. B.	24		6/30/25	7/24/25	10	50	Neg		Died	+	+	—		Vincent's Angina	25
26	C. A.	28		7/13/25	7/25/25	0	23	D		Died	+	+	—		Vincent's Angina	26
27	G. B.	21		9/9/25	10/1/25	0	5	D		Imp.	+	+	—		Vincent's Angina	27
28	M. B.	7		8/3/25	10/22/25	0	0	D		Imp.	+	+	—		Chr. Salpingitis	28
29	L. C.	30		9/22/25	10/20/25	0	20	D		Died	+	+	—		Fibroid Uterus	29
30	R. L.	28		10/16/25	11/2/25	0	5	D	C	Imp.	+	+	—			30
31	E. T.	50		10/16/25	In hospital	0	2	D		Imp.	+	+	—			31
32	A. M.	40		8/15/25	11/4/25	30	65	D		Imp.	+	+	—			32
33	L. J.	35		12/6/25	In hospital	0	11	D		Imp.	+	+	—			33
34	E. H.	49		11/19/25	In hospital	0	17	D		Imp.	+	+	—			34
35	V. W.	21		11/10/25	In hospital	0	5	D		Imp.	+	+	—			35

All patients negro women

32.8 yrs. Average age, 31
 Average length of admission, 17 days
 Average HCL, 4.4
 Average total Ac, 28.5
 Average Diarrhea, 31
 Average Constipation, 2
 Average Regular, 2
 No. Improved, 21
 No. Remaining, 4

Wass. React. Pos. in cases of 34 (26.4%)
 Other Clin. evidence of Syphilis in 8 cases
 Intest. Parasites Ent. Amba Hyst 1; Necator Am., 2.

*At time of discharge HCL 10. Total Ac. 20.

is not always the case. It is believed that pepsin and hydrochloric acid are present more often than is expected."

In all, he tabulated 246 cases and arranged them to compare the relative occurrence of normal or excess HCL, diminution HCL or absence of HCL. The author has utilized this tabulation and has added the findings in his own thirty-five cases thereto.

ing the race of the patients. The authors cases reported in this series are all negroes and all females. We have no explanation to offer of the very great difference noted in respect to the occurrence of normal or excessive acidity between our own series and that of the author's above mentioned.

We have tabulated for comparison (Table 3) the cases in this series which were improved or stationary on discharge and

TABLE 2.

	No. of cases	FREE HYDROCHLORIC ACID					
		Excessive or normal—above 18		—Deficient— 18 or below		—Absent—	
		No. of cases	Percent	No. of cases	Percent	No. of cases	Percent
Nesbit	10	2	20	4	40	4	40
Ceconi	10	....	....	....	....	10	100
Johnson	20	6	30	....	....	14	70
Myers and Fine	14	5	35	1	7	8	57
Niles	68	15	23	31	48	18	28
Hunter, Givens & Lewis...	24	10	41	2	8	12	50
Guthrie	35	2	5.8	11	31.4	22	62.8
Givens	100	53	53	8	8	39	39
Total Cases	281	93	....	57	....	127	....
Percent Average .....	....	....	33.0	....	20.3	....	48.7

Table 2 represents a compilation of all the cases of record as regards content of HCL. Givens is not entirely clear in differentiating some of the categories of HCL variation. He assumed 18 as being the line of limitation between deficiency and normal. I have therefore taken this figure, and all above this are classified as *Normal* or *Excessive*, all below this as *Deficient* and where the HCL is utterly lacking the caption *Absent* is used.

It will be noted that the figures representing the author's cases more nearly correspond with Johnson's(4) series. The greatest departure from the analyses is seen in the number and percentages of normal HCL findings, from those of the series of Hunter, Givens and Lewis and that of Givens. The author finds only 5.8% normal or excessive, while Hunter, Givens and Lewis find 41% normal or excessive; and Givens in his 100 cases finds 53%. There is nothing indicat-

those which died, as to the occurrence, *excessive* or *normal*; *diminished* or *absent* HCL. It is noted that there is a larger percentage of normal or excessive among those that died than among those that were discharged, improved or stationary. There was only one case in each category and probably in a larger series, the figures would be changed. The figures in the other columns *deficient HCL* or *absent HCL* respectively) were practically identical in the fatal cases and in those otherwise discharged. Judging from these records we are not justified in attributing any prognostic value whatever to the presence or absence of HCL in the stomach of a pellagrin. In this conclusion, we are at variance with Johnson(4).

Comparison of findings in 10 fatal cases with 25 non-fatal cases. (Author's series.)

The author regrets that he has no determinations of the rennin and pepsin in the cases studied. Those who have made these

TABLE 3.
Comparison of findings in 10 fatal cases with 25 non-fatal cases. Author's series.
—FREE HYDROCHLORIC ACID—

	No. of cases	Excessive or normal—above 18		—Deficient—18 or below		—Absent—	
		No. of cases	Percent	No. of cases	Percent	No. of cases	Percent
Improved or Stationary.....	25	1	4	8	32	16	64
Died	10	1	10	3	30	6	60
Total cases	35	2	....	11	....	22	....
Percent .....	....	....	5.8	....	31.4	....	62.8

studies however conclude that the values for these vary with the HCL, as a rule. Meyers and Fine(7) made the following statement of the association of pepsin and HCL in the gastric contents. "Acidity is a condition common in pellagra, found in eight of our fourteen cases. It is generally associated with an entire absence of pepsin or with pepsin in only very minute amounts."

Diarrhea, in any disease of mal-nutrition, must be considered as a possible contributory causative factor. The picture of marasmus that gastro-enteritis in childhood produces cannot be forgotten. A dietetic regimen, no matter how beautifully adapted it be, from the standpoint of energy, protein, and contained vitamins, becomes utterly deficient in the presence of diarrhea. So frequent is the occurrence of an abnormally low, or absent hydrochloric acid factor in the stomach contents of the patient suffering with diarrhea that we all make it a rule, as you know, to examine all chronic or persistent diarrhea cases for HCL after the test-meal. We are in the habit of regarding the presence of hydrochloric acid in the stomach as furnishing a check on the too rapid emptying of the organ. Under conditions of a chlorhydria the chyme finds its way too rapidly into the duodenum and initiates a peristalsis which makes for a failure of absorption due to the rapidity with which the food passes through the small bowel. We are accustomed also to consider hydrochloric acid as the antiseptic of the stom-

ach which inhibits putrefactive changes in the food.

For these reasons it is usual in patients who show a deficiency or an absence of hydrochloric acid in their stomachs, to supply it in a quantity to bring, if possible, the acid to its normal and physiologic amount.

We have examined the records of ninety-three cases of pellagra admitted to our own service, Medical Service No. 4 of Charity Hospital, New Orleans, since January 1st, 1921. We find that seventy-one of these cases, 76.3%, had diarrhea either previous to admission or during the hospital period of admission; seven were constipated, 7.5%; and nine 9.7%, showed neither constipation or diarrhea.

TABLE 4.
Occurrence of Diarrhea in 93 cases of Pellagra treated January, 1921, to December, 1925, inclusive.

	No. Cases	Diarrhea	Constipated	Regular	No. Record
Percent	93	71	7	9	4
	....	76.3	7.5	9.7	4.3

Occurrence of diarrhea in 93 cases of Pellagra treated January 1921 to December 1925 inclusive.

In fourteen of Johnson's(4) cases lacking HCL, diarrhea was present. (In none of his patients with HCL was there diarrhea except one, due to transient cause.) Johnson says, "Without a question, the absence of HCL is an important feature of the disease—not essential to its development, not determining its course, but significant

of its gravity and prognostic of its result."

Our own experience does not conform to Johnson's observation that no patient who had HCL has died nor become insane. I also can point out a number which, in the presence of HCL, had diarrhea as a prominent and persistent symptom. (Table 1).

Johnson's observation based on eight cases that in the presence of rennin even in association with an absence of hydrochloric acid, that the diarrhea was less severe and less persistent, requires further work to confirm or disprove.

CONCLUSIONS.

In this series of thirty-five colored female patients examined I have apparently encountered a larger percentage of cases with entire absence of hydrochloric acid in the gastric contents than has occurred in the tabulations published heretofore.

I am inclined to consider the lack of hydrochloric acid as of some diagnostic value in this disease, and on the other hand let me say, that in a doubtful case presenting a normal hydrochloric acid content, I should consider its presence somewhat against the diagnosis of pellagra.

From a standpoint of therapy there can be no doubt as to the advisability of supplying hydrochloric acid, if the condition of the mouth, throat and esophagus will allow us to do so without pain to the patient. If the full physiologic quantity cannot be given to the patient, it would seem to be logical to give it in some quantity with the food or shortly thereafter. Neither the presence or excess of hydrochloric acid, nor its deficiency or entire absence from the gastric secretion of a pellagrino seems to be of the slightest prognostic value in a case in which the diagnosis is established.

1. Angostoni, contributo allo studio del chemismo gastrico nei pellagrosi. Riv. Sper. di Fren., 1893, pp. 67-84, XIX.

2. Filippi, Lombroso e Roncoroni. Gazzetta degli Ospedali e delle Cliniche 1911, XXXII, 643. Quoted by Harris. (9).

3. Marie, Pellagra, Trans. by Lavinder, C. H. and Babcock, J. W. 1910.

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5. Niles, G. M. Pellagra: An American Problem, 1912.

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DISCUSSION.

Dr. D. N. Silverman (opening): The paper of Dr. Guthrie presents certain interesting features. The study of the reactions in the stomach and intestinal tract in different diseases sometimes presents very valuable data. In this respect, however, the cases of pellagra in which I have studied the stomach contents have shown no definite findings. The quantity of hydrochloric acid may range from an absence to a hyperchloridia. I have observed cases for seven months to two years before death and, while large doses of hydrochloric acid were administered regularly during such periods, no beneficial results were obtained.

The stools in pellagra show no interference with the pancreatic digestion as one finds so exemplified in tropical sprue.

Dr. S. K. Simon: The statistical type of work presented by Dr. Guthrie is in the right direction, and I think he is to be commended for giving us opportunity to review these cases so fully.

There is a distinct difference between a true achylia gastrica and an achlorhydria. The aspirated stomach content may not show a reaction, for example, for free hydrochloric acid, and still the acid may be present in loosely combined form. This does not constitute a real achylia, which includes a total absence of hydrochloric acid during all phases of digestion. In achylia gastrica proper the total acidity is not above fifteen, and is usually less, whereas in achlorhydria the total acidity usually ranges above 20 to 25. I do not want to appear to quibble over mere gastric acidity figures, because, as a rule, I am not inclined to lay very much diagnostic value, per se, upon the percentage of hydrochloric acid present in the gastric contents. In pellagra, you will often observe lowered gastric acidity and perhaps achlorhydria, but in my experience, rarely a true achylia gastrica. A similar status may be ascribed to tropical sprue. Pernicious anemia is in another class, however, as regards its relationship to gastric secretion. These three great clinical entities are very closely allied in many of their clinical aspects. If there is one thing we may be certain about in clinical medicine, it is, that in pernicious anemia there is

always a constant and consistent achylia gastrica present, which is not true in the case of either pellagra or sprue.

Dr. J. H. Musser: The discussion is taking a rather interesting turn. Dr. Jamison brought up the question of the blood, which brought to my mind the case of yours I saw a few weeks ago. The patient came to autopsy with diagnosis of pellagra. I wondered if you remembered that specific case and included it in this paper.

I agree with Dr. Simon that achylia is a necessary diagnostic sign in pernicious anemia. Sprue and pernicious anemia are not the same. In one you have achylia and in the other you do not have it by any means.

Dr. A. L. Levin: Dr. Guthrie's findings of gastric analysis in cases of pellagra are very interesting. I recollect three cases of pellagra in my service at Touro in which there was a total absence of free HCL. The absence of free HCL in cases of pellagra is not as constant as in cases of pernicious anemia. In pernicious anemia we always find an absence of free HCL. If we find acid in the stomach it is questionable whether the case is one of pernicious anemia. In pellagra it is not so constant. It probably depends at what state of pellagrous infection we see the case. In the early cases there might be a subacidity. Later on as the infection progresses the free HCL disappears. In other words, it is a progressive disappearance of free HCL. The real causative factor of achylia-gastrica is not well understood yet. We see it quite often in other infectious diseases such as chronic infectious arthritis, in syphilis and other diseases. Sajous gives the following explanation, which is probably plausible: At first the infection causes a disturbance in the production of adrenin in the adrenals. The capillaries in the areas of the peptic glands are congested. As the congestion goes on due to the presence of the infection, there is a gradual formation of connective tissue pressing out the essential elements of the peptic glands, and finally the glands lose their function as a result of the excessive connective tissue formation.

In the treatment of pellagra the administration of free HCL is of very little value. The skin lesions disappear promptly upon the administration of lemon juice, say 5 or 6 per day, full diet and tonics.

Dr. J. B. Guthrie (closing): Dr. Simon will find in the table of these cases (Table 1), the total acidity in the column adjoining that of hydrochloric acid values. He is absolutely correct in saying that an examination of the

gastric contents is incomplete without this, especially is this true as I have already said in a disease in which one of the most prominent features is diarrhea.

Dr. Musser refers to a case which was admitted while I was away at the meeting of the Southern Medical Association, to my service in the month of November, 1925. The autopsy Dr. Couret held in conjunction with Dr. Musser before the Senior class. The Doctor is mistaken in reporting that a clinical diagnosis of pellagra was ever made. The blood picture, he did not report. The color index was low and there was nothing else in the blood picture obtained in the ward to suggest a diagnosis of pernicious anemia. I believe Dr. Musser will agree with me that macroscopic changes in the bone marrow, post-mortum do not of themselves constitute a sufficient basis for a diagnosis of pernicious anemia.

None of my staff at any time considered this case as one of pellagra and it is not therefore included in the series which formed the basis of this report.

Replying to Dr. Jamison, I can say that I have the complete blood counts of fifteen of these thirty-five cases, I have not embodied them in this paper. There is to be noted in the series, a secondary anemia of more or less severity associated, nearly always, with a low color index. I am collecting the blood pictures that have been made on the rest of my ninety-three cases and shall probably report on these blood findings at some future time.

HEADACHES.*

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For purposes of discussion headaches are grouped under the names of the various specialists whose responsibility it is to treat them; namely, the Rhinologist, the Internist, the Endocrinologist, the Ophthalmologist, the Syphilologist, the Dentist, and the Neurologist.

The rhinologist comes in for a large share of patients whose chief complaint is headache. Many cases come to him with this symptom, the underlying cause of

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which is some nasal pathology which can be corrected and the headache cured. Many other cases are referred to him because of their similarity to headaches of nasal origin yet have no apparent nasal pathology present. In this latter class come those cases of neuroses, migraine and other conditions which will be discussed later in this paper.

How are we to separate the cases of nasal origin from the other great group of headaches? The writer believes they should be separated strictly on the basis of apparent nasal pathology. We are led to say this because in recent years there is a tendency to assign all obscure headaches to some sinus condition. This is due to the fact that patients of neurasthenic type are so susceptible to mental suggestion, and any nasal treatment is more or less spectacular and impressive to the patient. If rhinologists accept the responsibility of treating all cases coming in this category we will all come to grief.

Headaches of nasal origin are due to pressure upon the nerves leading to the nasal structures. The nerves involved are the first and second divisions of the fifth cranial nerves. The anterior chamber of the nose, the anterior ethmoid and the frontal sinuses are supplied by the anterior ethmoid nerve, which is a branch of the first division of the fifth. The posterior ethmoid, the sphenoid, and antra are supplied by branches from the nasal or Meckel's ganglion, which gets its sensory supply from the second division of the fifth. This ganglion receives the vidian nerve which is made up of the great superficial petrosal and the deep petrosal nerves. The deep petrosal nerve is the communicating branch to the carotid plexus. This plexus is a part of the cervical sympathetic chain through which connection is made with the regions over the back of the head, neck, shoulders and lumbar regions. The so-called Sluder syndrome by which the pain over the last named regions are accounted

for by connection through the sympathetic chain with Meckel's ganglion is based on the fact of this nervous connection. The difficulty in this explanation comes from the assumption that sympathetic nerve fibers carry sensory impulses. The neurologists have not as yet accepted this assumption. In fact they deny that sympathetic nerve fibers do carry sensory impulses.

The pressure upon sensory nerves supplying the nasal structures causing the pain is due to inflammatory processes, acute and chronic, and to impingement of parts. This impingement may be the result of anatomical abnormalities or it may be induced by new growths.

Acute inflammation causes pressure of the nerve endings by the swelling of the tissues surrounding them. Also pressure is produced inside the sinuses when their openings are occluded by swollen tissue and more material accumulates in the sinuses than they will contain. Pressure for which chronic inflammation is responsible results from constant swelling of the tissues surrounding the nerve endings. Chronic purulent infection in a sinus results in the accumulation of pus the presence of which acts as an irritant and produces hyperemia. Following an acute infection even though the purulent discharge stops there often is so much degeneration of the lining membranes of the sinuses that it remains permanently in a granular or polypoid condition and may give rise to the symptoms that any swollen condition of the tissues might produce, including headaches.

Pressure pains produced by anatomical abnormalities include those associated with deviated nasal septa, cystic middle turbinates, narrow nasal passages and spurs. We have had cases of severe headache relieved after performing a simple submucous resection and relieving pressure points. This usually occurs with high deviations. Cystic middle turbinates which are mor-

phologically produced in the process of development of the ethmoids may increase in size indefinitely and when wedged in a narrow nose produces pressure symptoms.

New growths in the nose very soon produce pressure sufficient to cause pain. The growths most commonly met with are sarcoma, gummata, carcinoma, adenomatoma and cysts.

A discussion of the clinical diagnosis of nasal pathology that might cause headaches, can only be touched in a few salient points. A patient with acute sinusitis will usually give a history of recently contracting a head cold—the nasal passages have a tendency to close up, there is a profuse mucous or muco-purulent discharge, there is a sense of fullness in the region of the sinuses, with a tendency to be worse at morning and better in the evening. There may or may not be a low degree of fever. The temperature may be subnormal and especially when only the frontal sinus is involved. The general condition of the patient however is usually better than might be expected when compared with his discomfort.

Headaches accompanied with dizziness are suggestive of an infectious process of the sphenoidal sinus. We recently had a patient complaining of headache and vertigo, causing him to stagger as he walked along the street. Pus was discharging from his sphenoidal and frontal sinuses. The sinuses were operated upon and thoroughly drained. The headache and vertigo immediately cleared up and did not return.

Chronic sinusitis is not so frequently accompanied by headache as the acute process. The pain experienced is usually of the neuralgic type, and is more constant in its course.

In the group of headaches due to the so-called hyperplastic ethmosphenoiditis the only pathology present is hyperplasia of the tissues involving the nasal or Meckel's ganglion and the surrounding tissue. To

determine whether or not this hyperplastic condition is responsible for headache it is only necessary to cocaineize the ganglion and note the effect. Let us observe however that there are patients of neurasthenic type, whose headaches subside as a result of the mental suggestion rather than the anesthetic effect of the cocaine. This we have seen demonstrated in patients by applying solutions having no anesthetic effect, over the nasal ganglion and the patients stated their headaches were entirely relieved by it. In the same type of individual we have seen headaches, complained of constantly, and over a long period of time, disappear more or less permanently as a result of the injection of novocaine into the tissues around the nasal ganglion. We have in mind, now, a patient who had complained of a persistent headache for several years, and after the injection of novocaine, declares after several months, he has had no return of the symptom. Such a phenomenon could be explained on no other ground than mental suggestion since there is no healing effect in the novocaine and no permanent effect of its injection in the nervous tissue. With patients of this type it would be very easy to go astray in our conclusions as to the cause of the headaches.

In the field of the internist come the headaches associated with acute febrile conditions, general toxemias, blood vascular changes, and others which we shall not attempt to mention. The *modus operandi* of how the headache is produced in such conditions as have just been named, is not within the province of the internist to explain, yet for all practical purposes it can be effectively treated by measures which are perfectly familiar to all of you.

A small percentage of cases of headache come in the field of the endocrinologist. These chiefly come in three groups: First, those with hypothyroid secretion; second, those with hypofunction of the anterior pituitary lobe, and third, those with hypo-

function of the anterior pituitary lobe combined with a hyperfunction of the posterior pituitary lobe. These pathologic conditions can be determined by a general physical examination, noting any evidence of gigantism or cretinism, and also evidences of lack of thyroid secretion. It is believed by some good clinicians, and not without foundation, that ovarian deficiency is responsible for a certain small percent of headaches. In our clinic recently a patient who had complained of intractible headaches over a long period of years, in spite of numerous courses of treatment, in the course of the history taking, made a statement to the effect that the headaches were less severe just preceding the menstrual period. This suggested the possibility of ovarian deficiency as having some relationship to the cause of the headache. Ovarian extract was administered with the result that the headache entirely disappeared. In the light of our knowledge concerning the relation of the body to ovarian extract this may have been due to mental suggestion.

Within the province of ophthalmology it is no novel statement to say that headache is of very frequent occurrence. This is especially true of patients within school age. The most common cause is eye strain. Any school child that complains of persistent headaches without apparent cause in the course of the physical examination should be sent to an oculist for refraction. Thanks to our friends, the ophthalmologists, the public is becoming so well educated upon the question of eye strain that we are always assured of hearty co-operation on the part of the patients in having them properly treated. There are other eye conditions, viz: iritis glaucoma and other inflammatory conditions in which headache is a prominent symptom we will merely mention.

The syphilologist meets with headache in secondary and tertiary syphilis. Sometimes it is the only symptom suggesting

this disease, and is usually characterized by appearing in the morning and persisting throughout the day. In this connection I recall an interesting case that came under my observation while doing general practice. I was examining a woman and her husband was present. She gave a clear history of tertiary syphilis and was asked to have a Wassermann test. After her examination he remarked that the part of her history relating to headaches corresponded very closely with his own experience and asked if he, too, might have a blood test. Both returned a 4 plus Wassermann reaction.

The part which the dentist plays in the subject of this paper is largely with the neuralgic type of headaches due to focal infection, which have been discussed. The dental pathology is most often found to be apical abscesses, necrosis of alveoli and periostitis.

Those cases of headache to which the neurologist falls heir may be placed in three groups. First, those due to intracranial pressure; second, those due to neuralgia of the cranial nerves, and third, those in other miscellaneous conditions such as uremia, polycythemia, arteriosclerosis, fatigue states, constipation, migraine and other conditions. The sensory nerve fibers of the dura are principally branches of the fifth nerve. Headaches of intra-cranial origin are due to pressure or stretching upon the dura, since the brain substance itself has no sensation. Most frequent in this group of cases are the various types of meningitis, brain abscess, hemorrhages into the brain substance and brain tumors.

Neuralgias of the cranial nerve affect principally the fifth nerve. The most striking example of these is that affecting the Gasserian ganglion and producing the classical tic douloureux. The etiology of these neuralgias is found to be foci of infection located in the paranasal sinuses, teeth,

tonsils and elsewhere about the head. The neuralgic headaches are recognized by the type of pain, the nerve distribution and by tenderness on pressure. A neuralgic pain is usually affected by the application of heat or cold.

In the miscellaneous group above referred to the headaches occurring in uremia, polycythemia, and arteriosclerosis, can be accounted for on the basis of increased intra-cranial pressure. As an evidence of this fact it has been shown that by the use of a saline purge in uremia and polycythemia the headache is relieved and at the same time the intra-cranial pressure is lowered. It has also been demonstrated that in arteriosclerosis there is increase in pressure in the spinal fluid which would obviously result in increase in the intra-cranial pressure. In constipation and fatigue states no attempt is made to explain how it is brought about. The treatment, however, is self-evident.

Migraine: The writer believes migraine is of much more frequent occurrence than is recognized. It so often simulates the headaches of nasal origin that it is very important clearly to establish the differentiation. Its pathology cannot be demonstrated. It is generally admitted that it is due to spasm of cerebral vessels in patients suffering with vasomotor disturbances. The term *migraine* should be used to refer to a definite clinical entity and not used loosely to refer to any type of headache. Migraine is a periodic type of headache which is inherited according to the Mendelian law. It most frequently puts in its appearance at the age of puberty and tends to disappear or become less or to change into a neuralgic type around the 40th year. An attack usually comes on in the morning and is frequently ushered in by scotomata. It is a dull throbbing ache which may involve one-half of the head (true hemi-

crania) or involve the entire head. The supraorbital region is the part most frequently affected. The patient experiences nausea and even vomiting, dizziness, and photophobia. The ears seem hyperacute to noises. There is an ophthalmoplegic type of migraine in which the patient may develop a temporary diplopia. The severity of the attack may vary from a very mild degree to a severity almost beyond human endurance. The part of the head involved usually becomes quite tender to touch. For this reason it is often confused with neuralgic headaches and attributed to nasal pathology. Migraine often has congestion of the nasal mucosa and mucous discharge simulating an acute rhinitis. There is this distinction, however: The congestion in migraine occurs over the septum to as great a degree as over the sinuses. This is not true when the sinuses are involved.

SUMMARY.

1. Classification of headaches or any other basis than that of the pathology of the diseases with which they are associated, leads to confusion.

2. Rhinologist should accept responsibility for treating only those cases of headaches in which nasal pathology can be demonstrated as the cause.

3. The results of treating neurasthenic patients are often misleading in that their responses are due more to the mental suggestion than to the efficacy of the therapeutic measures used.

4. Headaches must be taken with other symptoms in order to arrive at a proper diagnosis of the underlying cause.

5. Migraine is a distinct clinical entity and should be recognized and treated as such. It is so similar to certain types of headache of nasal origin as to cause much confusion.

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S. C. Barrow, M. D.	S. B. McIlwain, M. D.		

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THE JOURNAL does not hold itself responsible for statements made by any contributor.

Manuscripts and communications should be addressed to the Editor, 1326 Whitney-Central Bldg., New Orleans, La.

MONROE—IDEAL HOST.

"The greatest meeting ever," was the unanimous verdict both of delegates and members attending the annual meeting of the Louisiana State Medical Society in Monroe recently. It was evident from the moment the curtain was rung up that the medical profession of Monroe meant to spare neither time nor expense in order that the visitors might have an enjoyable, as well as profitable, stay.

The beautiful Hotel Virginia which served as headquarters is a hostelry that would do credit to any metropolis, and the new court house building which harbored

the scientific sections as well as the commercial exhibits proved most adequate. Dr. C. P. Gray, President of Ouachita Parish Medical Society, and general chairman of the committee for arrangements, rendered yeoman service and contributed in no small degree to the success of the meeting. His flow of oratory at the public meeting, on the night of the first day of the convention, proved him a speaker of sufficient eloquence to vie with the guests of honor who graced the occasion. Dr. R. W. O'Donnell, chairman of the committee on exhibits, displayed his usual good taste in making this feature of the meeting attractive. Dr. D. I. Hirsch, chairman of the entertainment committee, proved a prince among hosts and it will be many a day, unless the editor misses his guess, before the society finds his equal. Dr. F. C. Bennett, of the advisory committee, was ever present to impart his sage-like counsel to those who needed it. Dr. T. E. Wright, chairman of the arrangement committee, saw to it that nothing was rearranged and succeeded well in his task. With Dr. J. B. Vaughan, chairman of the finance committee, we had little dealing but I am sure that his coffers must have been overflowing if we can judge by the out-pouring of good things we enjoyed at Monroe. Dr. A. G. McHenry, chairman of hotels, did himself proud in seeing to it that each guest was most comfortably situated. Dr. J. E. Walsworth, chairman of publicity, must wield a mighty influence with the papers of his city for the local press was more than liberal in contributing space, as well as photographs, dealing with the most prominent features of the convention.

As was stated at the beginning, a wonderful time was had by all and no sacrifice appeared too great for the hosts in order to make us all feel welcome. Not least among the things they did, we might note the following circumstance: At the close of the morning session of the second day it was found that we were going far behind with the program and it appeared as though a special night session would have to be

called in order to give each essayist his equitable share of the time permitted by the society to read his paper. This was naturally objectionable and Dr. B. M. McKoin and Dr. C. P. Gray, both of Monroe, very tactfully demonstrated their usual Southern chivalry in requesting that the chairman withdraw their papers from the program, so that the visiting guests might have ample time to present theirs. It was in such big-hearted acts as the one just enumerated that made us feel very much at home in Monroe. And it is just such little courtesies as these that helps to bring us closer together and make us feel, as time goes on, that the petty things of life, more and more are being relegated to dark corners to rest undisturbed. Last but not least, we owe our thanks to the ladies of Monroe for the wonderful entertainment they furnished, not only to the visiting ladies but also to the members of our society. Mrs. J. E. Walsworth, chairman, and Mrs. A. J. McHenry, secretary, respectively, of the ladies' committee, and their corps of co-workers, are entitled our thanks for their gracious reception and entertainment. We hope to come back to Monroe some time in the not far distant future and again brouse in an easy-chair surrounded by the luxury to be found in the Lotus Club—that peer among clubs in this north Louisiana city.

So we could go on and on attempting to depict to you, in a most inadequate fashion, the sort of time we had in Monroe. Unless you were there, I feel that we could not make you understand. So many of our physicians in the Pelican State look upon our State Meeting as something provincial and therefore do not attend. That such a misconception should still prevail in the minds of some of our members is indeed regrettable. When we look upon the feast of oratory and learning that was imparted to us at this meeting by such master-minds as Wm. J. Mayo, W. D. Haggard and Rudolph Matas, we can only feel sorry for those who were not present.

If you missed this year, do not repeat the omission next year. Lay your plans now and allow nothing to interfere with your coming to New Orleans, in April 1927, for you will find in the Crescent City a warm welcome, a superabundance of entertainment and, we trust, a scientific program that will be of such value that you will find it irrational to stay away.

THE JOURNAL.

At the Monroe Meeting a report was made by the Journal Committee showing a balance in bank and generally favorable conditions. The House of Delegates showed their confidence in the management of the publication by granting a \$1.00 member rate in place of the former grant of 75 cents. This action the Committee gratefully acknowledges in expressing its appreciation.

What should the Committee do to make the most of the wave of prosperity on which this young State Journal is riding? It is important to make the most of a favorable situation. How shall this be done in the present case? For one thing, the Committee plans to remove a source of annoyance and irritation to writers of papers by providing free of all cost cuts and space for all illustrations up to 72 square inches for one article. It is necessary to make some limit in the interest of fairness, and this is believed to be a liberal allowance, sufficient for the great majority of papers.

Announcement has already been made of the plan to publish at 1/2 cost the transactions of the Staffs of Louisiana and Mississippi Hospitals, rated as Class A by the A. M. A. and the American College of Surgeons. Their work in standardizing our homes for the sick is among the best medical activities of this century. It is a pleasure to be able to co-operate with these splendid organizations in such a good work.

It is hoped to improve the reading matter by procuring papers from the pens of authoritative writers in various lines.

While excellent work has been done by the present Editors without remuneration, it is the belief of the Committee that ultimately it should be our aim to have a paid staff able to give ample time to the selection and preparation of the papers to be published and to editorial and other special departments. In this and in other ways to be devised, an effort will be made to produce the very best results possible with the means at the command of the Journal Committee.

MORE RURAL HOSPITALS NEEDED.

Pioneer work done by many farming communities in establishing rural hospitals has been investigated by the Department of Agriculture, with the object of encouraging similar action in localities which at present are without hospital facilities. Although the movement for the establishment of rural hospitals is definitely under way, it has been checked by the increase in building and equipment costs resulting from war conditions, and by the necessity for economy in local government. Farming communities are urged not to sacrifice health to their desire for economy. It is not really economical to dispense with hospitals.

As indicating the need for better rural hospital facilities, the department draws attention to the fact that there is a growing shortage of country doctors. Graduates in medicine, after going through an expensive and lengthy specialized training, prefer city practice where up-to-date medical facilities are available. They feel that to practice without these facilities is to sacrifice much of the value of their training. Accordingly, a necessary step in combating the abandonment of country practice by doctors, is to furnish adequate hospital facilities in the country.

Not more than 12 per cent of the rural population of the United States, it is said, enjoys anything like modern health supervision. Forty Kentucky counties in 1924 were reported to be without adequate medical service. One of these counties had not a single doctor. In a Montana county of 5,000 square miles, there were only three doctors and no hospitals. In Minnesota 127 small villages were reported to be without doctors. Similar conditions existed in the Dakotas. This situation is believed to be largely due to the fact that modern medical education is developing physicians who will not consent to dispense with the advantages of up-to-date clinics and laboratories.

Credit for taking the initial step in a movement to satisfy the requirements of the modern physician in this respect is given to Washington county, Iowa, which was the first county in this State to take advantage of the State hospital law passed in 1909. This was the first law of its kind enacted anywhere in the United States. It authorized counties to tax themselves for hospital purposes. Under the law Washington county proceeded at once to erect a modern hospital which is now in successful operation. Prior to that time Iowa had only one hospital bed for every 3,000 people in the small towns and rural districts. Thirty-two counties had not a single hospital bed. Since then 16 other States have passed laws similar to the Iowa law, and many rural hospitals have been built. Forty were studied by the investigators in making the rural hospital survey.

Rural hospitals have been of particular value in maternity cases. Although the city death rate in the United States has decreased, the rural death rate, according to health authorities, is stationary. This is largely due to the prevalence of child and maternal mortality on farms. It has been estimated that 750,000 women annually pass through child birth in the United States without medical attention. A large proportion of these women live on farms.

There is no doubt, says the department, that the mortality rate among them could be greatly reduced by the provision of adequate medical and hospital facilities. Neglect of motherhood is also held responsible for many of the physical defects of children. Country school children, according to medical authorities, are handicapped by more physical defects than are the children of the city. It is considered significant, too, that, for the first time in the history of American vital statistics, the country in 1921 had a higher death rate for babies under one year than the city.

In a report on the country hospital situation, the department describes county hospitals supported by taxes; county hospitals connected with country homes; township hospitals; town hospitals; district hospitals; community hospitals; and hospitals supported by arrangement between communities and physicians. These are all doing good work in the various circumstances to which they have been adapted. Generally, says the department, the best satisfaction is given by rural people by hospitals in which they have a direct interest. Town hospitals are usually open to the farm population in neighboring territory, but are apt to be looked on by the farmers as not primarily intended for them. Trustees controlling town hospitals are urged to make their availability known to farmers.

An interesting development is the formation of hospital districts, where county and township lines make local political communities too small for efficient public service. One such district hospital has been established at Berea, Ohio, by communities in two counties. Six distinct political subdivisions are included in the hospital district, which was formed under a State law passed for the purpose. A new hospital building was erected at a cost of \$110,000. Community hospitals built by public subscription or by organizing stock companies and selling shares to a large number of the

community have been successful. They compare favorably with other rural hospitals, says the department. One such hospital has been established at Hutchinson, Minn. An interesting event which occurred at the dedication of this hospital is recorded. Little Crow, leader of an Indian band that massacred the citizens of Ulm, Minn., in 1862, also led a band that burned the stockaded frontier hamlet of Hutchinson. At the dedication of the Hutchinson community hospital, a speech was made by Flying Earth, a granddaughter of Little Crow and a trained nurse in a Minnesota hospital. Flying Earth expressed regret for the act of her grandfather, and characterized the hospital as a "place to heal all wounds."

Southern mountain hospitals have done fine work where they have been established. Much ill health in the mountain districts has come from poor light and insufficient heat in homes, absence of sanitation, ignorance of dietetics, ignorance of the transmission of disease, early marriages with high infant and maternal mortality, and the absence of modern doctors, trained nurses, hospitals, dispensaries and clinics. In one North Carolina county of 10,566 inhabitants, out of about 5,000 people who were examined for hookworm 42 per cent were found to be infected. Of 816 school children, 2.3 per cent were suffering from trachoma, a contagious disease of the eye. Rural hospitals and dispensaries are now being introduced, often as the result of devoted work by nurses and doctors. Health and medical officers are increasingly taking notice of the health problem presented by the 50,000,000 people living in rural territory. New State laws are removing legal obstacles to the establishment of rural hospitals, and a movement to multiply their number is under way. Much has already been done to make farmers realize the value of hospitals and to remove old standing prejudices against them.

LEGISLATIVE HOKUS-POCUS.

If the legislature were to pass a bill prohibiting the teaching that the earth is round in state-supported schools, would that make it true and would that help to reduce the present stigma of our fair state of Louisiana in regard to its low rank in literacy? If it were to pass a resolution declaring George Washington a myth, would that prove all our historians to be liars? These thoughts are inspired by the bill, recently introduced at Baton Rouge, fashioned after other so-called "monkey bills," for the purpose of preventing the teaching of the FACTS of evolution in our state-supported schools.

The ridiculousness of the ideas of the exponents of such thoughts can best be combatted by such calm and sane articles as are contained in the work of the venerable Dr. W. W. Keen of Philadelphia, entitled, "I Believe In God and In Evolution," printed by Lippincott in 1922, to which we referred in an editorial, in the columns, two years ago. Dr. Keen, in this little book, shows his intensely religious leanings, with his reference for God and the Bible, yet, he explains so carefully and in such simple terms, how his feelings in these respects do not cause him to overlook scientific truths, as he has seen them in his own daily work, as illustrated in surgery, embryology, etc. He even goes so far as to show the relationship of plant life, in some respects to that of human. It will pay every physician to own a copy of this book, so as to be able to lend it to his friends who need the education and, especially, to his

legislators, if they are doubtful or doubting Thomases. One phase of the subject which Dr. Keen does not mention and one which is often overlooked is that of duodenal ulcer; its common occurrence in "us bipeds" is well known, whereas it is said to be absent in quadrupeds; therefore, in view of the fact that it ill becomes us to walk on all fours, the only way we can take the traction off this part of the intestinal tract and, thereby minimize its hazardous strain, which makes it a "locus minoris resistentiae," is by resting in the prone position. Is this not proof sufficient that when the Great Architect of nature designed the intestinal tract, with its little curved duodenum, He intended that it should be carried in an horizontal rather than a perpendicular abdomen?

To medical men, the utter ridiculousness of the legislative bill presented is apparent, but many non-medical people do not appreciate the fact that evolution is true, not a theory; these people must be convinced and, perhaps most of all, they must be convinced that these facts are not incompatible with religion and Biblical teachings—and this is where Dr. Keen's work fits in so nicely.

When legislators learn that their functions are constructive, not destructive of the truth, then we need never have any fears of enactment of such legislation as that proposed. Fortunately, here in Louisiana and in Mississippi, the large majority of them are fair-minded men, who realize that it is not in their domain—and they do not wish it to be so—to combat science and progress.

HOSPITALS OF LOUISIANA AND MISSISSIPPI

Through the courtesy of the Council on Medical Education and Hospitals of the American Medical Association, we are pleased to reprint for our readers their survey of our hospitals in Mississippi and Louisiana. The material is taken from the "Hospital Number" of *The Journal of the A. M. A.* which appeared April 3, 1926. The list names the hospitals that are available for active medical and surgical service; includes general medical and surgical hospitals; also those for tuberculosis, nervous and mental diseases, maternity, orthopedic and pediatric.

Hospitals marked on the maps with dots represent those for community use, those marked with a cross are for tuberculosis, the triangle signifies nervous and mental disease hospitals, those charted with a circle were established since 1920. In the lists, those hospitals marked with a star are approved by the Council on Medical Education and Hospitals for internship or the fifth year in medicine.

The total hospitals in Louisiana are 67; for community use, 49; population per hospital bed, 378; percentage of beds occupied, 65; percentage of parishes without hospitals, 65.6.

The total hospitals in Mississippi are 66; for community use, 52; population per hospital bed, 778; percentage of beds occupied, 56; percentage of counties without hospitals, 62.2.

The bed capacity of these hospitals and the daily average in constant use during the year 1925 were as follows:

LOUISIANA.

	Total Beds	Av. Beds in Use
Abbeville, 3,461—Vermilion		
La Grande Hospital	20	16
Vermilion Sanitarium	20	4
Alexandria, 20,651—Rapides		
Baptist Hospital	60	34
Baton Rouge, 27,832—E. Baton Rouge		
Baton Rouge General Hospital..	30	15
Our Lady of the Lake Sanitarium	100	45
Bogalusa, 8,245—Washington		
Eliz. Sullivan Memorial Hospital	80	66

Covington, 2,942—St. Tammany		
The Dradom Tuberculosis Sanatorium	16	5
Crowley, 6,108—Acadia		
Crowley Sanitarium Co., Ltd....	16	10
De Ridder, 3,535—Beauregard		
Dr. Ridder Sanitarium	16	6
Elizabeth, 3,000—Allen		
Elizabeth Hospital	18	12
Eunice, 3,272—St. Landry		
Eunice Sanitarium	24	6
Fisher, 1,200—Sabine		
West Louisiana Sanitarium	35	10
Greenwood, 250—Caddo		
Pines Sanatorium (T.B.).....	80	45
Haynesville, 903—Claiborne		
Haynesville Hospital	36	10
Homer, 3,305—Claiborne		
Homer Sanitarium	10	5
Hygeia, ————St. Tammany		
Camp Hygeia, Orleans Anti-Tuberculosis League	50	40
Lafayette, 7,855—Lafayette		
Lafayette Sanitarium, Inc.	23	9
St. John Hospital	33	20
Lake Charles, 14,015—Calcasieu		
St. Patrick Sanitarium	75	30
Lecompte, 1,034—Rapides		
Lecompte Sanitarium	10	8
Mansfield, 2,564—De Soto		
Mansfield Sanitarium	32	20
Monroe, 14,347—Ouachita		
Riverside Sanitarium, Inc.	50	35
St. Francis' Sanitarium	125	69
Natchitoches, 3,383—Natchitoches		
Natchitoches Sanitarium	25	14
New Iberia, 6,278—Iberia		
Dauterive Sanitarium	15	8
New Orleans, 414,493—Orleans		
City Hospital (N. & M.)	100	80
Charity Hospital of Louisiana*..	1300	1189
E. E. N. & T. Hospital.....	66	17
Flint-Goodrich Hospital	51	30
Hotel Dieu Hospital*.....	269	170
Illinois Central R.R. Hospital....	60	35
Leonce M. Soniat Mercy Hosp... ..	64	55
Louisiana Retreat (N. & M.).....	240	240
New Orleans Convalescent Home ..	30	23
New Orleans Hospital & Dispensary for Women and Children	35	27
Presbyterian Hospital	100	67
Southern Baptist Hospital	218	New
St. Rita Surgical Infirmary.....	50	25
Touro Infirmary*.....	366	208
Opelousas, 4,437—St. Landry		
St. Landry Sanitarium	20	15
Patterson, 2,538—St. Mary		
St. Mary's Hospital	30	22
Shreveport, 57,857—Caddo		
Highland Sanitarium, Inc.	85	51
Mercy Sanitarium (Colored).....	18	2
North Louisiana Sanitarium	100	75
T. E. Schumpert Memorial Sanitarium*	200	115
Shreveport Charity Hospital*....	218	199
Shriners Hospital for Crippled Children	55	54
Tri-State Sanitarium	75	30
Total for community use, 49.....	4749	3271

In Louisiana the following forty-two parishes have no hospitals for community use: Ascension, Assumption, Avoyelles, Bienville, Bossier, Caldwell, Cameron, Catahoula, Concordia, East Carroll, Evangeline, Franklin, Grant, Iberville, Jackson, Jefferson, Jefferson Davis, LaSalle, Lafourche, Lincoln, Livingston, Madison, Morehouse, Plaquemines, Pointe Coupee, Red River, Richland, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, Tangipahoa, Tensas, Terrebonne, Union, Vernon, Webster, West Baton Rouge, West Carroll, West Feliciana, Winn.

MISSISSIPPI.

	Total Beds	Av. Beds in Use
Aberdeen, 4,071—Monroe		
Acker Hospital	10	1
Coleman Hospital	15	4
Amory, 2,861—Monroe		
Gilmore Sanitarium	30	12

Greenville, 15,165—Washington		
Greenville Sanitarium	20	15
King's Daughters' Hospital (White)	45	44
King's Daughters' Hospital (Colored)	28	25
Greenwood, 7,793—Leflore		
Greenwood Colored Hospital.....	14	9
King's Daughters' Hospital	25	15
Gulfport, 8,157—Harrison		
King's Daughters' Hospital	118	35
Hattiesburg, 14,084—Forrest		
Methodist Hospital	35	21
South Mississippi Infirmary	60	40
Houston—1,408—Chicasaw		
Houston Hospital, Inc.	50	22
Jackson, 23,698—Hinds		
Jackson Infirmary	85	25
Medical & Surgical Clinic	50	15
Mississippi Baptist Hospital	100	55
Mississippi State Charity Hosp.*	100	75



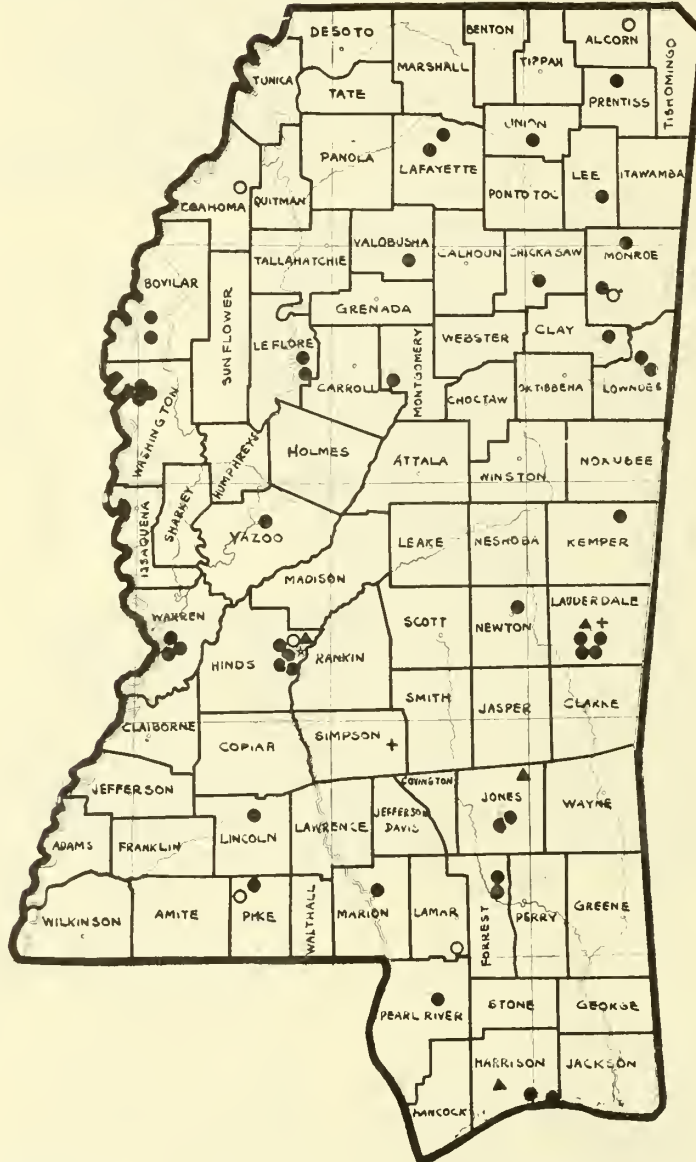
Biloxi, 12,571—Harrison		
Biloxi City Hospital	35	16
Booneville, 1,495—Prentiss		
North East Mississippi Hospital	32	15
Brookhaven, 4,706—Lincoln		
King's Daughters' Hospital	30	15
Clarksdale, 7,552—Coahoma		
Clarksdale Hospital	22	6
Columbia, 2,826—Marion		
Columbia Hospital	35	25
Columbus, 11,358—Lowndes		
Columbus Hospital	30	10
Fite Hospital	25	11
Corinth, 4,946—Alcorn		
The McRae Hospital, Inc.	40	13

Laurel, 15,713—Jones		
Dr. Roland Cranford's Hospital	55	45
South Mississippi Charity Hosp.	150	95
Lumberton, 2,192—Lamar		
Lumberton Hospital, Inc.	68	57
McComb, 6,237—Pike		
McComb City Hospital	30	12
McComb Infirmary	36	10
Meridian, 24,312—Lauderdale		
Dr. Hairston's Hospital	35	28
King's Daughters' Tuberculosis Hospital	44	35
Meridian Sanitarium	50	15
Rush's Infirmary	60	16
Turner Hospital	50	30

Natchez, 13,070—Adams		
Natchez Hospital*	130	90
Natchez Sanatorium, Inc.	40	20
New Albany, 2,531—Union		
Maye's Hospital	30	14
Newton, 1,604—Newton		
Newton Sanitarium	20	10
Oxford, 2,150—Lafayette		
Bramlett Hospital	20	8
Oxford Hospital	25	10
Poplarville, 1,290—Pearl River		
Pearl River County Hospital....	20	10

West Point, 4,400—Clay		
Ivy Hospital	24	12
Winona, 2,200—Montgomery		
Winona Infirmary	40	15
Yazoo City, 5,244—Yazoo		
Yazoo Hospital	30	15
One General Hospital of less than 10 beds	8	4
Total for community use, 52.....	2301	1292

In Mississippi the following fifty-one counties



Rosedale, 1,696—Bolivar		
King's Daughters' Hospital	10	5
Rosedale Hospital	10	5
Tupelo, 5,055—Lee		
Tupelo Hospital	35	12
Vicksburg, 18,072—Warren		
Mississippi State Charity Hosp.*	110	110
Vicksburg Infirmary	50	40
Vicksburg Sanitarium	75	40
Water Valley, 4,064—Yalobusha		
Water Valley Hospital	12	5

have no hospitals for community use: Amite, Attala, Benton, Calhoun, Carroll, Choctaw, Claiborne, Clarke, Copiah, Covington, DeSoto, Franklin, George, Greene, Grenada, Hancock, Holmes, Humphreys, Issaquena, Itawamba, Jackson, Jasper, Jefferson, Jefferson Davis, Lawrence, Leake, Madison, Marshall, Neshoba, Noxubee, Oktibbeha, Panola, Perry, Pontotoc, Quitman, Rankin, Scott, Sharkey, Smith, Stone, Sunflower, Tallahatchie, Tate, Tippah, Tishomingo, Tunica, Walthall, Wayne, Webster, Wilkinson, Winston.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

MAY.

During this past month of May the Board of Directors held one meeting and there were two scientific meetings of the Society.

The Board of Directors still has under consideration the proposed revision of the Constitution and By-Laws, and it will probably be several months before this revision is completed sufficiently to be referred to the vote of the General Body.

Dr. Geo. DeReyna, Dr. E. S. Peterman and Dr. Edmond Souchon were elected to Active Membership.

The auditing of the books by Mr. L. L. Jarreau has been completed and his report is published in full in this issue.

The State Legislative Committee and the Hospital Abuse Committee are quite active at Baton Rouge and it looks as if some favorable action will be taken on matters which they are interested in.

At the Scientific Meeting held May 10th the program was as follows:

"Epidemic Jaundice".....By Dr. John H. Müsser

Dr. Frank L. Cato opened the discussion

"Acute Pyogenic Infections of the Bones and Joints in Childhood"

.....By Dr. Erasmus D. Fenner

Dr. Muir Bradburn opened the discussion

At the Scientific Meeting held May 24th the following papers were presented:

"Color Acuity—To Differentiate Headache as Symptom of General Disease from One of Special Sense".....By Dr. M. Earle Brown

"Agina Pectoris—Its Treatment. Lantern Slides"

.....By Dr. John Humber

"Breast Abscess".....By Dr. Walter E. Levy

A vote on the question of a domicile is coming in slowly, although a second ballot has been sent to those who have not responded to the first. To those who have not sent in a reply to the second ballot we earnestly ask that they give this their immediate attention, and return same to this office.

The total membership is 479.

REPORT OF TREASURER FOR APRIL.

Actual Book Balance 3/31/26.....	\$3,149.13
Receipts during April.....	1,255.25
<i>Total receipts</i>	\$4,404.38
Expenditures	\$918.93
	<hr/>
	\$3,485.45
Outstanding checks:	\$344.50
	<hr/>
Amount brought forward	3,829.95
Receipts since Bank Balance	43.00
	<hr/>
Bank Balance 4/28/26	\$3,786.95

REPORT OF LIBRARIAN FOR APRIL.

During the first part of the month the Library was in constant use in the completion of papers for the State Medical Society and the American Medical Association. Since the 15th there has been a post-conference lull, enabling Miss Marshall to complete several bits of technical work which had of necessity been neglected during the reference rush. Three bibliographies have been prepared on subjects as follows:

Injuries to the Female Perineum resulting from Childbirth—Episiotomy.

Intracranial Hemorrhage in the Newborn.

Therapeutic Use of Tryparsamide.

Forty-three volumes of journals have been prepared and sent away for binding.

Twenty-six volumes have been added to the Library during the month. Of these sixteen were received by gifts, one by purchase, and nine from the New Orleans Medical and Surgical Journal.

A list of accessions is as follows:

Medical Society of the State of New York. 1863-64, 1866, 1868, 1873, 1890.

New York State Medical Association. 1890.

Proceeding of the Nebraska State Medical Society. 1891, 1897-98.

Transactions American Physicians and Surgeons Congress. v. 9-10. 1913-16.

Lynch—Medical Department of U. S. Army in the World War. v. 8.

Hirschman—Diseases of the rectum. 4th ed. 1926.

McClintock—Pleomorphism in bacterial protoplasm. 1926.

Hogben—Comparative physiology. 1926.

Moynihan—Abdominal operations. 2 v. 1926. 4th ed.

Hanson—Treatment of Head Injuries. 1925.

Seelig—Medicine: An historical outline. 1925.

Crummer—Clinical features of heart disease. 1925.

Bureau for increasing use of quinine—Chininum. 1926.

Young—Practice of Urology. 2 v. 1926.

H. THEODORE SIMON, M. D.,
Secretary.

*Report of the Examination of the Books and Accounts of the Orleans
Parish Medical Society.*

New Orleans, La., April 30th, 1926.
To the President and Board of Directors, Orleans
Parish Medical Society, New Orleans, La.

Bonds	\$35,500.00	
Cash (Gen. Fund)	484.15	
Cash (Lib. Fund).....	582.64	
Cash, Petty in office	10.11	
Medical Relief Fund	96.23	
		\$36,673.13
Inventories (Gen. Fund)		
Fixtures		579.63
Inventories (Lib. Fund)		
Fixtures		1,826.05
Inventories (Lib. Fund)		
Books		24,120.91
		\$63,199.72

GENTLEMEN:

As requested, I have audited your books and records for the twelve months ending December 31st, 1925, and the result of my examination is set forth in the following statements:

FINANCIAL CONDITION.

The financial condition of your Association at December 31st, 1925, is set forth under the caption "Assets," folio 1, and reflects a net worth of \$63,199.72.

The Inventories are listed at book value and no allowance has been made for depreciation.

Respectfully submitted,

L. L. JARREAU,
Auditor.

ASSETS.

<i>Domicile Fund</i>		
4¼ % Second Liberty Bonds		\$30,000.00
<i>General Fund</i>		
Medical Relief Fund	\$96.23	
Cash in Bank	484.15	
Petty cash in office	10.11	590.49
Inventory at 12/31/24	\$470.75	
Less fans and rugs discarded (worn out).....	\$35.00	
Less old typewriter given in exchange to- gether with \$65.53 for a new one	50.00	85.00
		385.75
<i>Acquired in 1925</i>		
Table Lamp and Screen	11.50	
Translux Screen, 50x60	90.85	
Typewriter	83.03	
Door Check	8.50	579.63
<i>Library Fund</i>		
6% Union Bag & Paper Co. Bond	1,000.00	
7% Sinclair Oil Co. Bond	1,000.00	
6% Mo. Pacific R. R. Co. Bond	500.00	
Holland American S/S Co. Bond.....	1,000.00	
<i>Acquired in 1925</i>		
6% Georgia Baptist Hospital	1,000.00	
6% St. Charles Ave. Baptist Ch.	1,000.00	5,500.00
<i>Inventory of Fixtures</i>		
Inventory at 12/31/24	1,566.00	
Increased in 1925	260.05	1,826.05
<i>Inventory of Books</i>		
Inventory at 12/31/24	23,125.20	
Increased in 1925	995.71	
Inventory at 12/31/24	24,120.91	
Cash in bank	582.64	26,529.60
Total worth of Association		\$63,199.72

INTERN MEMBERSHIP.

Elected in 1925.

Beyt, Frank Joseph; Cohen, Hyman Leon; Flowers, Wm. Wilson; Granbarth, Julian; Hill, Robert Carl; Johnson, James Arthur; Knolle, Guy Edmund; Lawson, Edwin Hugh; Lockard, James Nicholas; Lucas, John Frank; McNair, Spencer Butterfield; Miller, Morrell Walso; Tardo, Cosmo Joseph; White, Herman A.; Young, Marion Albert, Jr.

DOCTORS ELECTED TO MEMBERSHIP IN 1925.

Aleman, Ruth Gertrude; Aiken, Gayle; Alsobrook, Henry B.; Azar, Alexander James; Brant, George Bass; Breaux, Thomas Wm.; Brown, Marion Earl; Browne, Donovan C.; Cox, Charles L.; Crebbin, Alex Ramsey; Davidson, Julius Meyer; Genella, Louis Julian; Giles, Euclid Barland; Granberry, Carl; Henderson, Walter F.; Hermann, George R.; Hyman, Earl; Kibbe, Pressley A.; Liles, Royal Thomas; Lorio, Frank Leo; Lines, David Arthur; Lyons, Shirley Carlton; Magee, Henry; Musser, John Herr; Perrier, Claude V.; Pigott, James F.; Palmer, Nathan Hirsch; Russell, Richard Olney; Thomas, Albert R.; Tumbleson, Talbot Austin; Tyrone, Curtis Hartman.

Thirty-one new members elected in 1925.

MEMBERS DISMISSED FOR NON-PAYMENT OF DUES.

Members dismissed for non-payment of dues, 8.

RESIGNATIONS.

Ferran, J. B.; Edward, Dorothy; Kahn, A. M.; Naef, Emile; Neves, George; Rodick, J. C.; Williams, Charles L.

REINSTATED MEMBERS.

Lewis, J. A., May 4th, 1925; Williams, H. Robin, May 4th, 1925; Thomason, Louis M., Jun. 9th, 1925; Salerno, E. F., Aug. 25th, 1925; Halsey, John T., Aug. 25th, 1925; **Swords, M. W., Aug. 25th, 1925.

**Dr. Swords never qualified.

DECEASED MEMBERS.

Braud, Sidney F., died May 18th, 1925; Clark, S. M. D., died May 1st, 1925; Hubert, J. M., died Mar. 2nd, 1925; Michinard, P., died Feb. 10th, 1925; Moore, P. A., died Feb. 11th, 1925; Feingold, M., died Dec. 26th, 1925.

INVENTORY OF FIXTURES AND BOOKS.

Library Account.

Inventory of books at Dec. 31st/24.....	\$23,125.20
Purchase made in 1925.....	995.71
	<hr/>
Total inventory at Dec. 31/25.....	\$24,120.91

INVENTORY OF FIXTURES.

Three (3) Wooden Reading Tables	\$9.00	
Nine (9) Chairs	9.00	
One (1) Oil Stove	4.00	
Twenty-two (22) Wooden Shelves	100.00	
One (1) Ink Well .....	.50	
Thirteen Rows Steel Filing Shelves	1,000.00	
Two (2) Rows Wooden Shelves	50.00	
One Catalogue Case and Stand	125.00	
One (1) Book Truck	50.00	
One (1) Flat Top Desk	30.00	
One Chair, \$3.50	3.50	
One (1) Underwood Type- writer	50.00	
One (1) Steel Filing Case.....	35.00	
One (1) Cardboard Filing Boxes	100.00	
<i>Acquired in 1925—</i>		
Filing Boxes	45.35	
Steel Shelving	196.28	
Lighting for new stack	18.42	1,826.05
	<hr/>	
Total Inventory of Books and Fixtures		\$25,946.96

INVENTORY OF FIXTURES.

General Account.

One (1) Steel Filing Cabinet	\$35.00
Six (6) Card Board Filing Cases	3.00
One (1) Safe	30.00
Two (2) Wooden Tables	2.00
One (1) Desk	10.00
One (1) Addressograph	40.00
One (1) Addressograph File	10.00
Two (2) Wooden Tables	5.00
One (1) Flat Top Desk	15.00
**One (1) Underwood Typewriter	83.03
Two (2) Swivel Chairs	10.00
Twelve (12) Chairs	12.00
One (1) Directors' Table	25.00
One (1) Gavel and Block	10.00
One (1) Stove	38.40
Three (3) Rubber Strip rugs	3.00
One (1) Stove Plate .....	.50
One (1) Protectograph	20.00
Two (2) Clocks	15.00

One (1) Black Board	75
Two (2) Fire Extinguishers	12.00
One (1) Brass Cuspidor	1.50
Five (5) Waste Baskets	2.50
One (1) Ballot Box	1.50
One (1) Multigraph	50.00
One (1) Type Stand	4.00
One (1) Step Ladder	1.50
One (1) Awning	12.65
One (1) Hat Rack	1.50
Globe Fixtures and Lights	13.95
<i>Acquired in 1925—</i>	
One (1) Table Lamp and Screen	11.50
One (1) Translux, 50x60	90.85
One (1) Door Check	8.50
<hr/>	
Total	\$579.63

**Acquired in 1925.

RECEIPTS.

General Account

Rent (From La. State Medical Soc.)		
4 months at	\$12.50	\$50.00
8 months at	20.00	160.00
Membership Dues		7,750.00
Telephone and Telegraph		37.29
Interest from the Library Fund account purchase of bonds		44.00
Remaining credit balance from the Southern Medical Fund		723.26
Library Fund, loan returned..		300.00
Prepaid exchange on checks..		.20
<hr/>		
		\$9,064.75

Library Account—

Interest Coupons, Mo. Pac.		
R. R. Bond	29.40	
Sinclair Oil Co. Bond	68.60	
Liberty Bonds	1,275.00	
Holland America S/S Co.	58.98	
Union Bag & Paper Co.....	58.80	
St. Charles Ave. Bap. Ch.....	29.40	
Georgia Baptist Hospital.....	29.40	
<hr/>		
	1,549.58	
General Fund, Loan	300.00	1,849.58
<hr/>		
Total receipts		\$10,914.33

CASH STATEMENT.

General Account

Cash in bank at 12/31/24.....	\$1,349.34	
Receipts	\$9,064.75	
Disbursements	9,929.94	865.19
<hr/>		
Cash on hand at December 31st, '25.....		\$484.15

Library Fund

Cash in bank at 12/31/24.....	410.33	
Receipts	1,849.58	
<hr/>		
	2,259.91	
Disbursements	1,677.27	
<hr/>		
Cash on hand at 12/31/25.....		582.64
<hr/>		
Total cash on hand Dec. 31/25.....		\$1,066.79

EXPENDITURES.

General Account.

Salaries

Miss Marshall, Librarian.....	\$1,800.00	
Miss Maier, Asst. Secretary.....	1,200.00	
Miss Pic, Extra Stenogr.	50.00	
Miss Lathrop, Ex. Stenogr.....	55.00	
Isaac Robinson, Porter	25.00	
James Gardiner, Porter	575.00	
Alfred Hosmer, Port, Tulane..	60.00	
Charles Craig, Por. Tulane.....	60.00	\$3,825.00
<hr/>		

Stationery	265.82	
Telephone and Telegraph.....	146.20	
Heat and Light	52.65	
Ice	29.46	
Plumbing	4.00	
Insurance	289.00	
Floral Offerings (Deceased member)	30.00	
Commissioners of Election.....	15.00	
Auditing	25.00	
Table Lamp and Screen	11.50	
Translux Screen, 50x60	90.85	
Electrical work	7.02	
Repairing and taking down heater	14.50	
Repairing door lock	2.00	
Window panes	3.60	
Veneer (Varnish)	3.30	
Typewriter, turning in old typewriter for new Underwood	65.53	
Door Check	8.50	
Bunting	4.88	
N. O. Medical & Surgical Journal	275.00	
St. Chas. Ave. Baptist Church two bonds at \$500 and int....	1,024.50	
Georgia Baptist Hospital Bonds, two at \$5.000 and interest	1,024.50	
Meeting notices	8.70	
Petty cash	146.43	
Library Fund, Loan	300.00	
La. State Medical Society (dues)	2,257.00	6,104.94
<hr/>		

\$9,929.94

EXPENDITURES.

Library Fund.

Abstract and Research Service

American Institute of Medicine	\$120.00	
W. F. Prior & Co.	15.00	
Medical Library Association.....	10.00	
Thos. Nelson & Son	15.00	
Oxford University Press	5.94	\$165.94

Binding

Express to bindery	8.66	
National Library Binding Co.	57.50	
Transportation charges	6.51	
Transportation charges	9.82	
Transportation charges	8.89	
National Library Bindery	182.75	274.13

Books

G. F. Wharton	26.00	
Stechert .....	.75	
Oxford University Press	4.94	
S. D. Siler	2.00	
Appleton	42.30	

Medical Interpreter Co.	9.00	
Wm. Wood & Co.	6.00	
American Medical Association	12.00	
J. A. Majors Co.	11.50	
L. S. Matthews	1.00	115.49

Office Supplies

Democrat Printing Co.	4.16	
Democrat Printing Co.	2.85	7.01

Miscellaneous

Lighting for new stack	18.42	
Petty cash	45.00	
Interest on bonds purchased...	44.00	
Service charges, Marine Bank	25.50	
Refund to General a/c loan.....	300.00	432.92

Fixtures

Library Bureau, Shelving	196.28	
Library Bureau, Filing Boxes	45.35	241.63

Magazine Subscriptions

Moore & Cottrell	429.15	
H. W. Wilson	11.00	440.15

\$1,677.27

LOUISIANA STATE MEDICAL SOCIETY

H. Theodore Simon, M. D., Associate Editor.

MINUTES OF THE HOUSE OF DELEGATES.

The opening session of the meeting of the House of Delegates, Louisiana State Medical Society, was called to order at ten-thirty o'clock, April 14, 1926, in the New Court Building, Monroe, Louisiana, by President E. M. Ellis, who made an address of welcome and turned the meeting over to the Chairman of the House of Delegates, Dr. L. J. Menville.

Chairman Menville pointed out that a very extensive program had been arranged for and suggested that all matters coming before the body be disposed of as expeditiously as possible.

Chairman Menville announced that the members of the Credentials Committee were Dr. Harrison, Dr. Williams and Dr. Graves of Monroe, and the report of the committee was submitted by Dr. Harrison.

Secretary Talbot called the roll reporting forty-nine present, constituting a quorum.

Chairman Menville declared the members of the House of Delegates officially seated.

The next order of business was the reading of and the adoption of the minutes of the 1925 meeting. Dr. Chassignac moved that the detailed reading of the minutes be dispensed with and that the Secretary give an abstract thereof. The motion was seconded by Dr. Chalaron and carried. Secretary Talbot read an abstract of the meeting of the House of Delegates in 1925. As there were no objections the report was declared accepted as read. Secretary Talbot then read in abstract the minutes of the Executive Committee meetings which were accepted as read.

In answer to an inquiry relative to the nomination and election of officers, Chairman Menville read Article 8, Section 3, of the Constitution.

The Reports of Officers followed. President Ellis read his report which was applauded. As there were no objections the report was referred to the proper committee appointed to report back to the House, on which committee Chairman Menville appointed Dr. Seemann, Dr. Paul Gelpi and Dr. Gouax.

Secretary Talbot read the report of the Secretary-Treasurer, a list of the members who have died during the year and the financial report. (Applause.) The report was received to be transmitted to the proper committee. Chairman Menville appointed Dr. Ledbetter, Dr. Gessner and Dr. Herold, to serve as the committee.

The report of the Chairman of Council was read by Dr. Couvillon. (Applause.)

Chairman Menville appointed on the Resolutions Committee Drs. Knighton, Daspit and Barrow.

Chairman Menville called for the reports of the Councilors and suggested that unless there were objections the reports would be received as read and all matter contained therein would be taken up in the proper order of business. Dr. Bernadas read the report of the First District. Dr. Kostmayer read the report of the Second District, Dr. Gouaux the Third, Dr. Herold the Fourth, Dr. Bennett the Fifth, Dr. Weiss the Sixth. Dr. Miller of the Seventh District was not present. Dr. Couvillon read the report of the Eighth District.

The report of the Committee on Scientific Work was read by Dr. Talbot, Chairman.

Dr. Ledbetter read the report of the Committee on Public Policy and Legislation, together with letters addressed to members of the House and the Senate in the State Legislature, and congratulated and thanked the parishes, the Secretary and the State Board of Examiners for their help. Dr. Ledbetter read the following recommendation:

Dr. Ledbetter: The Committee on Public Policy and Legislation would recommend that as the medical profession is desirous of being cognizant of all medical legislation, any member wishing to foster or introduce any medical legislation submit same to this committee for consideration. (Referred to New Business.)

We certainly feel that we ought to know of any legislation that is coming up because we are not responsible for any legislation unless it is endorsed by this committee and the House of Delegates.

Dr. Seemann asked that Dr. Dousson be given the floor in order to bring before the body a piece of legislation which he proposes to introduce. Dr. Dousson asked that he be given the privilege of the floor a little later on.

The report of the Committee on Publication was read by Secretary Talbot, Chairman.

The report of the Committee on Medical Education was called for but the Chairman, Dr. Lanford was not present.

On request of Dr. Simmons, Chairman of the Committee on Medical Defense, the report of that committee was postponed until the afternoon session.

The report of the Committee on Budget and Finance was read by Dr. Chalaron.

The report of the Committee on Journal, in the absence of Dr. Dowling, was read by Dr. H. B. Gessner of New Orleans, who also pointed out the wisdom of always having a reserve balance on hand. Dr. Gessner further brought out:

Dr. Gessner: With a view to benefitting and making the work of this Journal more effective, particularly in the hospitals, we have adopted a resolution offering to hospitals of Class A in that State and in Mississippi the opportunity of publishing their staff transactions in the Journal at one half of the cost. The cost to us under the present contract of printing a page of new matter is \$4.40. At that rate it would cost a hospital staff \$2.20 a page for the publication of that transaction.

We have prepared a by-law to cover the status of the Journal Committee in the Society. Up to now there has been incorporated in the by-laws no regulation for the Journal and we are going to suggest that the following matter be incorporated. This would be Section 10 of the by-laws.

"The Journal Committee shall consist of five members with overlapping terms of three years, of whom (this refers to the future years) one shall be elected by the House of Delegates in 1927, two in 1928 and two in 1929. At the expiration of the respective terms their successors shall be elected by the House of Delegates each for a term of three years. In the event of a vacancy occurring by resignation, death or otherwise, the President shall appoint successors to serve until the next meeting of this Society, successors then being elected by the House of Delegates. The Journal Committee shall have full control of the editing and publishing of the New Orleans Medical and Surgical Journal. They shall make an annual report to the House of Delegates. The State Society shall pay the Journal Committee \$1 per year per member in consideration of which each member shall receive the Journal for one year."

That would cover the status of the Journal in the Society.

Dr. Gessner also brought before the body the matter of titles appearing after the names of authors of papers and asked that the House of Delegates express an opinion in the matter of using or omitting such titles.

Chairman Menville stated the report would be received and the contents taken up under the proper order of business. (New Business.)

At the request of Dr. Ducote, Chairman, the report of the Committee on Hospitals was postponed until the afternoon session.

Dr. Seemann, Chairman of the Committee on Health and Public Instruction, stated the committee had nothing to report at that time.

Dr. Weiss, Chairman of the Committee on the Care of the Indigent Physician, stated that the committee had nothing to report but that he had taken the subject up with two large insurance companies suggesting that they try to evolve some plan that might be acceptable to the members of the Society in this respect.

Dr. Gelpi, Chairman, reported for the Committee on Walter Reed Memorial, stating that the committee had not yet decided what form the memorial would take nor what sort of a drive would be made, that this would not be done until the necessary amount had been accumulated from the State Society. (Dr. Gelpi stated he would put this report in written form if desired.)

Dr. Carruth, Chairman of the Committee on Hygienic Marriage Law, requested that he be permitted to bring in his report a little later as he had not had time to confer with his committee.

The report of the Committee on Vivisection was read by Secretary Talbot.

Dr. Seemann, Chairman of the Committee on Health Problems in Education, stated the committee had nothing to report.

The report of the Committee on Louisiana State Council for the Medical Veterans of the World War was read by Secretary Talbot.

Dr. Cappel, Chairman of the Committee on Investigation of Veterans' Bureau, stated he had no written report to submit but wished to again submit the report submitted last year with the following addition: "We have had favorable recommendations by men sent from the Central Veterans' Bureau at Washington, recommending permanent buildings at Camp Stafford for our veteran patients."

The report of the Louisiana State Board of Medical Examiners was read by Secretary Talbot.

There were no reports made for the District Medical Societies.

COMMUNICATIONS.

Secretary Talbot read telegrams from the New Orleans convention bureau and from the Mayor of the city, requesting that the 1927 convention be held in New Orleans.

Chairman Menville suggested that the reading of communications be handled as swiftly as possible and any action to be taken pertaining thereto could come up under "New Business" in the afternoon.

Secretary Talbot presented the contents of the communications as follows:

"A communication from John M. Dodson, M. D., submitted to the Executive Committee and referred to the House of Delegates. This communication is in reference to the State Society subscribing for a manual which is published by the American Medical Association on suggestions for the conduct of periodic examination of apparently healthy persons. They are very anxious to have the State Society supply each member of the State Society with a copy of this manual and they state that they can supply these manuals at \$80 per thousand. (New Business.)

"A communication referred to the Executive Committee and then to the House of Delegates in reference to the standardization of traffic laws for physicians. (New Business.)

"A communication from Dr. Olin West containing a manual on the constitution and by-laws for the state associations. The American Medical Association is desirous of having standardized the various constitutions and by-laws of the state societies throughout the United States and they have sent this manual along as a guide for our use." (New Business.)

Secretary Talbot brought up an amendment proposed at the annual meeting in 1925 by the retiring president, Dr. C. V. Unsworth, stating that the secretary-treasurer had complied with all the provisions in reference to the amendment of the charter. The amendment follows: In accordance with provisions for the amending of the charter the final vote on the above changes will be made by the House of Delegates in convention assembled, and that is, that six members at large be added to the executive committee and making eight members of the Executive Committee constitute a quorum.

It was moved by Dr. Herold, seconded by Dr. Bernadas and carried that the amendment as read be tabled.

Dr. Carruth presented the following resolution:

"Be it resolved, that the Louisiana State Medical Society favors the full and complete report of vital statistics provided for by present law and also favors the strengthening of said laws by an act of legislature charging the state board of medical examiners with the duty of refusing to grant and of suspending any certificate granted under Act 54 of 1918, and also to revoke such certificates or permits for persistent and willful violation of any law of the State of Louisiana relative to the practice of medicine or the duties of physicians or the registration of births and

deaths, or any provisions of the sanitary code of Louisiana or any regulation of the State Board of Health of Louisiana." (New Business.)

Dr. Carruth also asked that Dr. Dousson, Registrar of Vital Statistics, be allowed to address the House, which request Chairman Menville stated would be granted.

On motion duly seconded and carried, the session adjourned at twelve-thirty o'clock.

Adjournment.

WEDNESDAY AFTERNOON SESSION.

April 14, 1926.

The afternoon session of the House of Delegates convened at two-thirty o'clock, Chairman Menville presiding.

The report of the Committee on Hospitals was read by Dr. R. G. Ducote, Chairman. Dr. Ducote presented a resolution on Hospital Abuse.

Dr. Fossier spoke at some length upon the subject of hospital abuse and illustrated his talk with figure charts.

The report of the Committee on Medical Defense was read by Dr. R. O. Simmons, Chairman.

NEW BUSINESS.

Under the heading of "New Business," Secretary Talbot stated that the first matter to be taken up was the recommendation made by the Committee on Public Policy and Legislation that any physician or members of the State Medical Society wishing to introduce medical legislation refer same to that committee for its consideration.

Dr. Gelpi moved the adoption of the resolution and the motion was duly seconded and carried.

The amendments to the by-laws proposed by the Journal Committee were read by Secretary Talbot. The matter of printing of titles of authors of papers was also taken up. Chairman Menville suggested that the suggested amendment be disposed of first. Discussion of considerable length followed in which Drs. Gelpi, Gessner, Bernadas, Seemann, Chassignac and Walther took part. Chairman Menville called for a motion. Dr. Herold moved the adoption of the amendment. The motion was duly seconded. Further discussion by Drs. Bernadas, Fossier, Gessner, Chassignac and Gelpi followed. The motion was put to vote and carried.

Dr. Seemann stated that in his opinion the delegates had voted only on that part of the Journal Committee's recommendation touching upon the allotment to the Journal and suggested that the

amendment as a whole be adopted. Motion seconded by Dr. Gelpi. Dr. Fossier again took the floor for discussion. The question was called for, the motion put to vote and carried.

Secretary Talbot read the resolution offered by the Committee on Hospitals. Dr. Dupuy moved the adoption of the resolution, which was seconded and carried.

Secretary Talbot read a request from the American Medical Association for standardization of constitutions and by-laws of state associations, a proposed draft being included with the letter. The communication was referred to the proper Committee on Revision of By-Laws.

A communication from the Bureau of Legal Medicine and Legislation in regard to standardization of traffic laws was read by Secretary Talbot. It was moved by Dr. Seemann, seconded and carried, that the Secretary be instructed to reply, declining to take up the matter at this time.

Secretary Talbot brought forward a request from the A. M. A. to purchase a manual of suggestions for the conduct of periodic examinations of apparently healthy persons, this manual to be distributed to every member of the State Medical Society. Moved by Dr. Fossier, seconded and carried, that the communication be received and filed.

Dr. Herold presented a resolution regarding the prescribing of heroin. Dr. Edgerton moved the adoption of the resolution, motion seconded and carried.

Dr. Chassaignac presented a resolution in reference to expert medical testimony. Dr. Chalaron moved its adoption, motion seconded and carried.

Dr. Chalaron offered a resolution for the publication of articles touching on public health and welfare. Dr. Blackshear moved the adoption of the principle of the resolution but that it be referred to the Council to work out the detail. Motion seconded. Discussion by Drs. Gessner, Walther, Fossier, Gelpi.

Secretary Talbot read the resolution touching upon the recording of vital statistics, offered by Dr. Carruth. On request of Dr. Carruth, Dr. Dousson spoke on the resolution. Dr. Fossier moved its adoption. Motion seconded. Discussion by Drs. Cappel, Carruth, Simmons and Douglas followed. Dr. Douglas moved that the discussion be closed and the motion put to vote. Motion seconded. Discussion by Drs. Seemann and Chassaignac followed and with the consent of the body Dr. Douglas withdrew his motion.

Dr. Cappel moved that the resolution be tabled. Motion seconded. Chairman Menville called for a rising vote and the motion was carried.

The application of the Franklin Parish Medical Society for a charter from the Louisiana State Medical Society was granted. The application of the Union Parish was also accepted by motion of Dr. Gelpi, duly seconded and carried.

Dr. Seemann, Chairman of the Committee on the President's report, stated the committee was not yet ready to report. Dr. Herold, Chairman of the Committee on the Secretary-Treasurer's report stated his committee was not yet ready to report.

The next order of business was the nomination of officers. Dr. Seemann nominated for President-elect, Dr. Herold of Shreveport. Dr. Simmons seconded the nomination. Dr. Hirsch and Dr. Cappel regretted that they could not second the motion. It was moved and seconded that nominations for president-elect be closed and that Dr. Herold be declared unanimously nominated. Motion carried.

Dr. White of Alexandria was nominated for first vice-president by Dr. Ducote. Motion seconded. Dr. LeDoux moved the nominations be closed and that Dr. White be declared unanimously nominated.

Dr. C. P. Gray of Monroe was nominated for second vice-president by Dr. Bernadas. Motion seconded. It was moved that the nominations be closed and the nomination of Dr. Gray be made unanimous. Motion seconded and carried.

Dr. R. G. Ducote was nominated for third vice-president, nomination seconded, moved and seconded that the nominations be closed. Motion carried.

Dr. Talbot re-nominated for secretary-treasurer by Dr. Graves for two years. Dr. Chalaron seconded the motion and moved that the nominations be closed. Dr. Talbot unanimously nominated.

Dr. Bernadas nominated to succeed himself as councilor from the First District by Dr. Chassaignac. Nomination seconded. Moved and seconded that the nominations be closed. Dr. Bernadas unanimously nominated.

Dr. Johns nominated for councilor from the Second District by Dr. J. Landry. Nomination seconded. Moved and seconded that the nominations be closed and that Dr. Johns be declared unanimously nominated. Motion carried.

Dr. L. C. Barrow nominated for councilor from the Fourth District by Dr. Butler. Nomination seconded. Moved and seconded that the nominations be closed and Dr. Barrow declared unanimously nominated. Motion carried.

Dr. Bennett was nominated for councilor from the Fifth District.

COMMITTEES.

Dr. Fossier and Dr. Elizabeth Bass nominated by Dr. Mayer. Seconded. Moved and seconded that nominations be closed and nominees unanimously elected. Motion carried.

Dr. Ledbetter, Dr. Leckert, Dr. Harrison, Dr. Ellis and Dr. Talbot re-elected to serve as the Committee on Public Policy and Legislation. Nominated by Dr. Seemann.

On the Committee on Publication, Dr. Fossier nominated Dr. Chassignac; Dr. Jules Dupuy and Dr. Ayo nominated. Regularly moved and seconded that the nominations be closed. Motion carried.

Dr. Lanford re-elected to serve on Committee on Medical Education for three years.

Dr. Simmons re-elected to serve on Committee on Medical Defense for three years.

Present committee on Hospitals re-elected with the exception of Dr. Ducote who was replaced by Dr. A. J. Comeaux.

Present committee on Health and Public Instruction continued.

Dr. Herold re-elected to serve on Journal Committee and Dr. LeDoux elected to replace Dr. Hoefeld.

The re-election of Dr. Blackshear by the Executive Committee was approved by the body, as a delegate to the A. M. A. for 1926-1928. Dr. I. Hirsch elected as the alternate delegate for 1926-1928. Dr. Seemann elected as delegate for 1927-1929. Dr. Gelpi as the alternate for 1927-29.

Dr. Menville and Dr. Williams selected as nominees for the vacancy on the Louisiana State Medical Board of Examiners.

Dr. Douglas moved that the previous motion in reference to vital statistics which was tabled be brought from the table for reconsideration. Motion seconded and carried. Dr. Gessner took the floor on a point of order, stating that if the intent was to bring up a new resolution on the same subject no motion to reconsider should be necessary. Chair sustained the point of order. Dr. Seemann moved that the body revert to the former order of business. Motion seconded and carried. Dr. Douglas moved that the resolution be taken from the table and reconsidered in its new form and amended. Motion seconded and carried by a standing vote. Dr. Fossier read the resolution in its new form and discussed it at some length.

Dr. Simmons offered an amendment thereto: That it be the sense of this body that there should

be established a Bureau of Vital Statistics in this State separate and distinct from the State Board of Health, Registrar of which shall be a member of this Society, named by the Society and appointed by the Governor of the State; that it shall be his duty to record, gather all births and deaths, and that a penalty shall be placed upon the heads of the households or the parents of the children that are born into the world if they fail to report within.....time; that the Legislature be called upon to pass a law to this effect if it is within their power to do so, and if not, that an amendment to the constitution of this State be submitted to the people for their ratification. The amendment seconded.

Discussion by Drs. Taylor, Dousson and Cappel followed. The Chair pointed out that the discussion was getting too far afield and suggested that the speakers confine themselves to discussion of the amendments. Drs. Gessner, LeDoux, Wright and Simmons took the floor.

Dr. Landry moved that the motion be tabled. Seconded and carried by a standing vote.

The next order of business was the election of fraternal delegates. Dr. Seemann moved that the secretary-treasurer go into consultation with the president-elect. Motion seconded and carried.

New Orleans was selected as the next meeting place.

The meeting adjourned at five-forty-five o'clock.

Adjourned.

 MINUTES HOUSE OF DELEGATES.

Third Session. April 17th, 1926.
10:00 A. M.

The Chairman, Dr. Menville, called the meeting to order.

Dr. Mayer moved the reading of the minutes of the House of Delegates of April 14th, 1926, be dispensed with. Seconded. Carried.

REPORT OF COMMITTEES.

Dr. Couvillon, Chairman of the Council, stated that he had just gotten back to the meeting, and that while he was away had appointed Dr. Herold to act in his place as Chairman of the Council. However, it was impossible to get a quorum of the Council during the present meeting.

Dr. W. H. Seemann, as Chairman of the Committee on the President's Report, read the report of said Committee. Dr. Seemann moved the adoption of the first recommendation in the President's

Report. Seconded. Discussed by Drs. Bernadas, Seemann, Knighton, Ellis, Marvin Cappel. Dr. Seemann recommended that we delete the last part of this paragraph and let the rest of the resolution stand as it is. Seconded by Dr. Couvillon. Discussed by Drs. Harrison, Simmons, Menville, Ellis. Dr. Ellis asked if he could withdraw his motion. Dr. Menville suggested that we state we think it best not to have this resolution presented at this session. Dr. Chalaron moved to the effect that this body permit the President to withdraw that part of his report that dealt with this matter. Seconded by Dr. Blackshear. Dr. Menville suggested that we add that the time is not sufficient for the presentation of said resolution. Carried.

Dr. Wright stated that there is one part of the medical act which sooner or later will have to be modified, and that is the practice of mid-wife in Louisiana.

Dr. Ellis asked that with the permission of the House, and after considering the discussion, that he be granted permission to withdraw this motion so far as he is concerned individually.

Dr. Seemann read the second recommendation of the President's Report. Dr. Seemann moved the adoption of the resolution. Seconded. Carried.

Dr. Seemann read the third recommendation of the President's Report. Dr. Seemann moved the adoption of the resolution. Seconded. Carried. Dr. Seemann moved the adoption of the report as a whole with the correction made. Seconded. Carried.

The report of the Committee on the Secretary-Treasurer's Report. Dr. Herold, member of the Committee, stated that Dr. Ledbetter, the Chairman, had gone off with the folder with all the papers. Dr. Herold stated, however, that they commended the Secretary-Treasurer's Report. They wish to add the name of Dr. W. A. Stevenson, Oil City, to the list of physicians who have died during the past year. They also endorse his recommendations in regard to periodic health examinations, and suggest that this now be referred to a committee as to the proper means of handling this proposition satisfactorily, the committee to report to the Executive Committee during the current year. Dr. Wright moved the adoption of the report. Seconded. Carried.

Dr. John A. Lanford, Chairman of the Committee on Medical Education, read the report of his Committee. Dr. Johns moved the adoption of the report, and to state that he believes that the resolution should be adopted by our American Medical Colleges, and that a copy be sent to Dr. Bass, Dean of Tulane, and other medical colleges. Seconded. Carried. Dr. Wright moved that after

the adoption the committee be commended for this particular resolution, and that our official organ publish the said resolution. Dr. Simmons also asked that it be sent to the State Board of Healths. Seconded. Carried.

In regard to the amendment to the By-Laws for the function of the Journal Committee, the Secretary-Treasurer read the resolution which had been presented to the meeting of the House of Delegates on Wednesday, but which had to lie over to this meeting for adoption. Dr. Herold moved the adoption of the amendment. Seconded by Dr. Wright, who stated that in seconding same that he believes it should be the policy of the House of Delegates to rise to the aid of such a committee as the Journal Committee, and that we should have sufficient confidence in their ability. Carried.

Dr. Bernadas moved that, in regard to the adding of subtitles to names of doctors who are writing papers to be published in the Journal, the Journal Committee be given discretion in regard to same. Seconded. Carried.

Dr. Knighton, Chairman of the Resolutions Committee, read the report of said committee as follows:

Whereas, the members and guests of the Louisiana State Medical Society who have been in attendance upon the 1926 meeting in the City of Monroe are deeply appreciative of the many courtesies received, we beg to submit the following:

Be it resolved, That we extend most sincere thanks to the members of the Ouachita Parish Medical Society for their untiring and most effective efforts to make our stay in their midst pleasant and profitable, and especially do wish to thank the Committees on Arrangement and Entertainment for contributing so much to our comfort and pleasure as well as to the success of the scientific and business programs;

Be it further resolved, That we extend our thanks to the hotels for the splendid manner in which they have taken care of us;

Resolved further, That we are deeply grateful for the delightful and bountiful luncheons served by the Ouachita Parish Medical Society, Saint Francis Sanitarium and Riverside Sanitarium;

Be it further resolved, That our thanks be extended to the Monroe News-Star for the generous space devoted to our proceedings;

Be it further resolved, That we should mention in special way the splendid service rendered

by the Boy Scouts and we thank them most sincerely;

Resolved further, That our thanks be extended to those in charge of the entertainment for our visiting ladies; also the Lotus Club, Golf Club and the Parish and City Officials, and especially the Police Jury and to the citizens in general who have contributed in so many ways toward making our sojourn in the hospitable city of Monroe so delightful and pleasant;

Be it further resolved, That our thanks and appreciation be extended to our retiring President, Dr. E. M. Ellis, for his devotion and energetic effort which has contributed to the successful history of our Society for the past year;

Be it further resolved, That we extend our most profound thanks to our worthy and efficient Secretary-Treasurer, Dr. P. T. Talbot, for the splendid manner in which he has conducted the affairs of his office, which has been evidenced by the outstanding progress manifested in our State Society, and the high character of the Scientific Program offered at our present meeting;

That our thanks be also extended to our Assistant Secretary-Treasurer, Miss Mary Crossen, for her devotion to duty and discharge of work which has at all times been manifested.

Be it resolved, that we give expressions of our appreciation of the splendid executive ability displayed by the Speaker of the House of Delegates, which has so signally characterized the administration of the present incumbent, Dr. Leon J. Menville.

Dr. Taylor moved the adoption of the resolutions. Seconded by Dr. Gessner. Carried by a rising vote.

Dr. Knighton also read a resolution from the committee in regard to the following doctors who passed away during the past year: Drs. Marcus Feingold, J. W. Darby, W. S. Cushman, W. H. Weaver, H. L. Sanders, A. Nelken, F. B. Waits, E. D. Robbins, S. F. Braud, S. M. D. Clark, L. T. Donaldson, Sr. The members of the House stood in silence for one minute in memory of them.

The following names were asked to be added to the list of doctors who passed away during the year, their names however being on the list reported in 1925: Drs. Brewster, Oglesby and C. J. Gremillion.

ELECTION OF OFFICERS.

Dr. Wright moved the nomination of the officers as a whole. Seconded. Carried.

ELECTION OF SPEAKER OF HOUSE.

Dr. Mayer moved that the present incumbent, Dr. L. J. Menville, be re-elected. Seconded by Dr. Knighton. Dr. Menville stated that he thought it out of order, and that in all fairness he positively declines the election. A general discussion followed. Dr. Menville was unanimously elected for the coming year.

Dr. Wright gave a brief talk in regard to how glad the Ouachita Parish Medical Society was to have the privilege of entertaining the Louisiana State Medical Society.

Dr. Menville stated that he had asked Dr. Harrison Jordon to be present at this meeting, but that it would be impossible for him to come. Dr. Jordon is Chairman of the Committee on Public Health of this Legislature. He asked that all remember the name of Dr. Jordon.

It was voted that the order of business be reverted back to Report of Committees.

Dr. R. McG. Carruth, Chairman of the Committee on Hygienic Marriage Law, read the report of his committee. Discussed by Drs. Taylor, Carruth and Gessner. It was moved that the report be adopted. Carried.

Dr. Menville moved that suitable resolutions be incorporated in our minutes showing our appreciation of the unusual service of our esteemed President, Dr. E. M. Ellis. This was offered by Dr. Taylor and unanimously seconded by the House with a rising vote.

It was moved the meeting adjourn.

It was recommended to the House of Delegates by Dr. E. M. Ellis, President, that our Scientific Program be changed as follows:

"That we divide our Scientific Program into at least two sections, or more if expedient, and I furthermore believe if this is done that two days of intensive administration would be all that is necessary for the scientific part of our program, as we all know that no member remains over two days in attendance unless he is an officer.

I believe that it would be to the best interest of the Society if the by-laws were changed so that the nomination and election of officers would be on the first day of the meeting, and by doing this all politics would be eliminated so in the event of more nominations than one for any one office, the issue would be settled before beginning the scientific program. This I recommend for your consideration."

The Committee on the President's Report in considering the above, is desirous of members of the

Louisiana State Medical Society to have the opportunity of expressing their feelings in regard to this proposed change. Before this step is taken changing our Scientific Program, they are anxious to learn if it meets the approval of the profession at large.

After considering the subject write your views to the Secretary-Treasurer, 1551 Canal Street.

The following resolutions which were offered by the Committee on Medical Education were adopted by the House of Delegates:

Whereas, The American Public Health Association at its Annual Meeting in St. Louis, in October, 1925, listened to an address by one of its members, favoring a new doctor in each community where a Health Officer is needed, to be known as a Doctor of Public Health; and

Whereas, Several institutions of learning have introduced courses in Public Health whereby a layman as well as a physician may be instructed and in a comparatively short time qualify as a Doctor of Public Health, (D. P. H.) and be allowed to advise, qualify and practice preventive medicine; and

Whereas, The Louisiana State Medical Society believes that all Health Officials should first be physicians, (M. D.), who have the proper knowledge of the sciences concerned in Public Health, and that such knowledge can not be gained by any layman in two or three years, and

Whereas, Such an arrangement of a layman being a Health Official, places a double expense on the community, since it is necessary for the community to then procure the service of an M. D. in addition to a layman; and

Whereas, The State confers on an M. D. the right to practice medicine and surgery in all of its branches, while the special licensing of a D. P. H. would be special legislation tending to take from an M. D. that right.

Therefore, be it resolved, That the Louisiana State Medical Society believes all positions of trust pertaining to Public Health in any community should be held by physicians, (M. D.) and not by laymen holding D. P. H. licenses; and

Be it further resolved, That the Louisiana State Medical Society views with displeasure any move on the part of the American Public Health Association, which may express a desire to replace physicians as Health Officials by laymen with D. P. H. licenses; and

Be it further resolved, That a copy of this resolution be sent to the American Public Health Association; to all those institutions of learning where courses in Public Health are given with a view to conferring a D. P. H. Degree; and to every State Medical Society with a request that their component County Societies be made acquainted with the proposed activities of a Public Health Association, whose President is a layman.

The Shreveport Charity Hospital staff has decided to accept the offer of the Journal to publish a synopsis of its meetings at one-half cost and the reports of the sessions will soon begin to appear.

Among personal items of interest to friends throughout the state are the recent marriages of physicians in Shreveport, viz.:

Dr. Robert T. Lucas to Miss Ruth R. Dudley of Plano, Texas.

Dr. J. Edwin Slicer to Miss Jeannette Hill of Benton.

Two wards of the Shreveport Charity Hospital were gutted by fire in March, so that the institution is more crowded than usual; fortunately, there were no casualties. Preparations are being made to repair the damage, without delay. This incident illustrates the need of more fireproofing in hospitals and it is sincerely hoped that the present session of the legislature will find the funds to enable this particular institution to take steps in this direction.

PRESIDENTS HEROLD AND HEROLD

It is rare indeed that two brothers in their early manhood are honored in Louisiana or any other state by being chosen by the outstanding members of their professions to be their legal and honorary heads.

Such an honor has recently come to Dr. A. A. Herold, who was elected president of the Louisiana Medical Association and only Friday in Texarkana Mr. Sid Herold of Shreveport was elected president of the Louisiana Bar Association.

It must be indeed gratifying for these two brothers to know that in the same year they should both be so signally honored.

The Times in offering its felicitations to these two worthy citizens of Shreveport and Louisiana feel confident that their administration will be all that could be expected by their best well wishers.—(Shreveport Times Editorial).

LOUISIANA DOCTORS ATTENDING
THE A. M. A.

Alden Bridge—J. B. Hall.
 Alexandria—L. D. Gremillion, L. A. Myers, J. L. Wilson.
 Baton Rouge—J. J. Robert.
 Belcher—T. B. Tooke.
 Berwick—J. C. Berwick.
 Bethany—Thena Robinson.
 Carville—O. E. Denny.
 Caspiana—D. A. Huckabay.
 Colfax—J. L. Woodall.
 DeRidder—T. C. Moody.
 Dixie—L. T. Baker.
 Dubach—J. L. Smith.
 Elm Grove—W. M. Scott.
 Fisher—T. B. Younger.
 Frierson—R. A. Stewart.
 Fullerton—G. R. Carroll.
 Gloster—F. O. Brinkley.
 Good Pine—W. F. Wade.
 Haynesville—Montrose Day, L. T. Waller.
 Homer—J. D. Gladney, J. R. Turner.
 Homesville—H. G. Huey.
 Jeannerette—P. A. Boykin.
 Lafayette—H. G. F. Edwards.
 Lake Charles—G. C. McKinney, D. C. Iles.
 Lecompte—F. M. Lett.
 Leesville—D. O. Willis.
 Mansfield—H. W. Jarrell, B. K. Parrish.
 Minden—Wilkins McDade, S. F. Martin, R. E. Smith.
 Monroe—A. G. McHenry, D. I. Hirsch, G. M. Snellings.
 New Iberia—H. J. Dauterive, J. W. Shaw.
 Ringgold—C. C. Allums.
 Ruston—J. J. Bennett, W. S. Rutledge, S. L. White.
 St. Gabriel—B. O. LeBlanc.
 Shreveport—Louis Abramson, D. H. Alverson, S. C. Barrow, Darf Bean, R. H. Blackman, T. D. Boaz, W. P. Butler, G. A. Caldwell, R. O. Carter, G. H. Cassity, A. P. Crain, H. L. Crow, Oscar Dowling, D. H. Duncan, E. C. Edwards, F. J. Frater, B. C. Garrett, J. M. Gorton, R. W. Gorton, G. R. Gowen, W. R. Haswell, W. N. Hawkins, M. D. Hargrove, J. A. Hendrick, A. A. Herold, W. S. Kerlin, J. M. Mosely, G. W. Murphy, P. W. Oden, H. W. Paul, R. M. Penick, M. Pickard, L. H. Pirkle, H. J. Quinn, Thomas Ragan, C. P. Rutledge, W. J. Sandidge, J. L. Scales, I. H. Smith, A. J. Thomas, F. H. Walke, P. C. Worley, J. L. Kimbell.
 Sibley—B. A. Norman.
 Vivian—J. L. Page, H. W. Wren.
 Winnsboro—J. M. Funderburk, V. J. Funderburk.

NEW ORLEANS DOCTORS WHO ATTENDED
THE A. M. A.

C. A. Bahn, C. C. Bass, Elizabeth Bass, S. M. Blackshear, W. R. Buffington, Aldo Castellani, C. N. Chavigny, G. F. Cocker, Isidore Cohn, J. A. Danna, Amedee Granger, C. E. Granberry, J. B. Guthrie, G. R. Herrmann, Ralph Hopkins, J. R. Hume, Alfred Jacoby, F. E. LeJeune, I. I. Lemann, W. E. Levy, R. C. Lynch, Urban Maes, Rudolph Matas, Abraham Mattes, P. A. McIlhenny, C. J. Miller, J. H. Musser, W. D. Phillips, P. B. Salatich, E. C. Samuel, W. H. Seemann, S. K. Simon, M. T. Van Studdiford, H. R. Unsworth, W. A. Wagner.

Tuesday, April 27th witnessed the very happy occasion of the dedication of the new X-ray Department of Touro Infirmary which was made possible through the gift of Mrs. Edward B. Benjamin and her sister, Miss Emelia Sternberger, in memory of their father, Emanuel Sternberger.

The Department has been arranged and has occasion of the dedication of the new X-ray De-equipment. The entire staff and members of the Board of Managers of Touro Infirmary and a number of distinguished guests were present, including all of the Roentgenologists of the city of New Orleans and others from Louisiana and Mississippi and Alabama together with very distinguished men of Medicine who were returning homeward from the Dallas Convention of the American Medical Association.

Dr. J. Numa Roussel was the toastmaster of the occasion and responses were made by Mayor O'Keefe, President Charles Rosen of the Touro Infirmary Board and Dr. Rudolph Matas in behalf of the Medical Profession. The address of the evening was made by Dr. James T. Case, of Battle Creek, Michigan, his subject being "The Roentgenologist and the Hospital."

TUBERCULOSIS AND PUBLIC HEALTH
ASSOCIATION OF LOUISIANA

Through this medium we extend to our local affiliated groups, seal chairmen and all others who gave their support and co-operation during our recent seal sale, our gratitude for their help in making our campaign a success.

Our gross returns from the 1925 Seal Sale are \$19,781.86, two-thirds of which is retained in the parishes, one-third comes to the state, and 5% to the National Association.

Our Annual Meeting was held on January 27, in accordance with the Charter. A representative number were present and plans for the future were discussed.

It behooves all friends of the tuberculosis cause to interview their various representatives and senators in order that they might bring them an interest in the prevention and eradication of tuberculosis. The Tuberculosis Commission needs more funds and they should be adequately provided for in order that work for a hospital may go rapidly forward. The Tuberculosis and Public Health Association is deeply interested in this and proposes to lend every bit of energy it can bring to play to further an adequate appropriation for tuberculosis work under the jurisdiction of the Commission.

Won't you be sure to see your Senator and Representative personally and explain the need of the situation and solicit support for same?

Our Orleans Parish unit extends thanks to its officers and members who so generously responded to make its 1926 campaign a success. A program of work for this year is being planned by the Orleans Parish unit, which they hope to have ready for our next bulletin.

As Health Day will be celebrated all over the country on May 1st, and has the endorsement of President Coolidge and Health Centers throughout the United States, it is hoped that all our local associations will participate in this demonstration.

Miss Bernice Wright, of Monroe, has succeeded Mrs. Fay Shannon Watts as Executive Secretary of the Ouachita Tuberculosis and Public Health Association. Mrs. Watts, who has resigned because of ill health, was an enthusiastic worker, prominently identified in the tuberculosis cause in Ouachita Parish. Under her guidance the Modern Health Crusade was extensively carried in the schools during the past year. Miss Wright is energetically and enthusiastically continuing this work.

Dr. John Schreiber, formerly associated with our Ouachita Parish unit, has transferred his activities to Washington Parish, as director of the Health unit. Dr. Schreiber has also launched the crusade in this parish.

A school for Dairyman was conducted in Tangipahoa, Louisiana, May 24-25-26, and at Hammond, Louisiana, May 27-28-29, under the auspices of the Louisiana State Board of Health, State Commissioner of Agriculture and the Dean of the Dairy Department of the State University.

WESTERN PHYSIOTHERAPY ASSOCIATION.

The eighth annual meeting of the Western Physiotherapy Association was held at the Hotel President, Kansas City, Mo., April 15 and 16,

1926, under the presidency of Dr. A. David Willmoth, Louisville, Ky. The following officers were elected for the ensuing year:

President—Lynne B. Greene, M. D., Kansas City, Mo.

First Vice-President—J. E. G. Waddington, M. D., Detroit, Mich.

Second Vice-President—O. M. Moore, M. D., York, Neb.

Secretary—Charles Wood, Fessette, M. D., Kansas City, Mo.

Treasurer—W. P. Grimes, M. D., Kansas City, Mo.

Registrar—E. J. Leigh, M. D., Hiawatha, Kan.

Board of Trustees—A. David Willmoth, M. D., Louisville, Ky.; F. E. Dillenbeck, M. D., Eldorado, Kan.

The association meeting was preceded by a six-day session of the Western School of Physiotherapy, a class of 75 attending. Next meeting will be held in Kansas City, April, 1927.

STOMATOLOGY NUMBER.

The July issue of *Medical Life* will be a Stomatology Number devoted entirely to the "History of Stomatology" by Dr. A. J. Asgiss of New York. The issue will be profusely illustrated. There will also be a chapter by E. B. Hardisty on "Stomatologic Education in the Medical and Dental Schools in the United States in 1926."

EVERY BABY A FULL-TIME JOB.

The care of one baby is a full-time job for its mother for 5 hours and 41 minutes every day, and a part-time job the rest of the 24 hours, according to an estimate based on the reports of a group of 17 young mothers. The U. S. Bureau of Home Economics collected and tabulated the mothers' reports. The babies were under 1 year of age.

MINNESOTA FIGHTS DIPHTHERIA.

Diphtheria, the child's worst enemy, is being vigorously attacked in Minnesota. State health authorities propose to stamp out the disease by distributing toxin-antitoxin free in any amount needed to local health officers, physicians, and school boards throughout the state.

HOW TO INSURE HAPPY ADOPTION.

Adoption, like marriage, should not be lightly entered upon. In "Psychoclinical Guidance in Child Adoption," just published by the Children's Bureau, Dr. Arnold Gesell, of Yale, urges all child-caring agencies, both public and private, to

give every child under consideration for adoption complete mental and physical examinations, to determine so far as possible his mental and physical capacities, and to see to it that he lives with his foster parents for a probationary period before the final adoption papers are signed. Dr. Arnold Gesell's article contains the history of several typical cases brought to the Yale Psychoclinic. These illustrate the need of precautionary measures to safeguard the interests of foster parent and child alike.

LOANS FOR BABIES, FRANCE.

French mothers can borrow or rent for new babies cradles, clothes, baby chairs, perambulators, scales, and milk sterilizers through a Cradle Society just formed by the Besancon committee of the Red Cross. Two hundred and ninety new babies have been supplied already, no charge being made in two-thirds of the cases.

MOVIES A HOLIDAY TREAT FOR CHILDREN IN BOLIVIA.

Bolivian children of 12 years of age and under in Bolivia can go to the movies only on holidays and then just to see pictures authorized by the police, according to a decree recently issued by the President of Bolivia, the purpose of which is to safeguard the morals and welfare of the children.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health

Service will be held at the following named places on the dates specified:

At Washington, D. C.....	July 12, 1926
At Chicago, Ill.....	July 12, 1926
At New Orleans, La.....	July 12, 1926
At San Francisco, Cal.....	July 12, 1926

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President, with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

Hotel Dieu, New Orleans, is to be congratulated on the establishment of its electrocardiographic department. This laboratory is equipped with the very latest continental model of Boulitte's electrocardiograph. The department meets a pressing need not only in New Orleans, but in the surrounding territory.

The profession at large is cordially invited to avail itself of this most important means of cardiac diagnosis.

The department is in charge of Dr. A. E. Fossier.

MISSISSIPPI STATE MEDICAL ASSOCIATION

J. S. Ullman, M. D., Associae Editor.

TRANSACTIONS OF THE HOUSE OF DELEGATES, 1926, MISSISSIPPI STATE MEDICAL ASSOCIATION.

The twenty-third annual session of the House of Delegates of the Mississippi State Medical Association met at 8:07 a. m. Tuesday, May 11, 1926, at the Edwards Hotel, Jackson, Miss., President G. S. Bryan, Amory, in the Chair. Roll call showed twenty-six members of the House present.

The Secretary read his annual report, which was referred to the following committee: J. R. Williams, W. L. Little and W. E. Noblin.

The Committee on Arrangements reported through R. W. Hall. At this point a recess of five minutes was had to permit the Councilor Districts to select members of the Nominating Committee, which resulted as follows:

First District—J. W. Lucas, Moorhead.

Second District—D. W. Coker, Walls.

Third District—M. W. Robertson, Rienzi.

Fourth District—

Fifth District—W. E. Noblin, Yazoo.

Sixth District—W. G. Gill, Newton.

Seventh District—E. M. Gavin, Richton.

Eighth District—J. S. Ullman, Natchez.

Ninth District—S. B. McIlwain, Pascagoula.

Dr. John Smyth, Fraternal Delegate from the Louisiana State Medical Society, was presented to the House.

A motion by J. S. Ullman to meet at 8 o'clock Wednesday morning prevailed.

The following amendment to the By-Laws was presented by S. W. Johnston:

"Amend Chapter 3, Section 4, to read 'fifteen' minutes instead of 'twenty' minutes." Adjournment.

The House of Delegates met at 8:10 Wednesday morning, the President in the Chair. Roll call showed forty-five present.

W. L. Little was elected member of the Budget and Finance Committee for three years, succeeding J. S. Ullman.

The amendment to the By-Laws introduced at Tuesday's session was called up and passed.

On motion the Council was requested to consider the publication of the oration delivered by Dr. G. S. Bryan in the lay press.

The following motion by W. H. Frizell was adopted:

"In as much as our present contract with the New Orleans Medical and Surgical Journal is no longer an experiment, but eminently satisfactory, and in view of our present financial condition,

"Be it resolved by the House of Delegates of the Mississippi State Medical Association, That the present contract with the New Orleans Medical and Surgical Journal be renewed in the same form for the next two years;

"Be it further resolved, That the Secretary of this Association be instructed to have printed in pamphlet form, for distribution to each member, the minutes of the annual meeting, together with the minutes of the Woman's Auxiliary, the Constitution and By-Laws of the Association, the President's Address, the roster of members and the roster of those in attendance, and committees and officers."

Treasurer Buchanan made his annual report, which was referred to the Committee on Budget and Finance.

A motion by Willis Walley prevailed requesting the Secretary to furnish the Journal of the American Medical Association with local news items.

J. R. Williams reported for the Committee on Necrology.

W. H. Frizell introduced a resolution looking to the redistricting of the Association into Councilor Districts.

On motion of D. W. Jones the House adjourned to meet at 8:30 Thursday morning.

The House of Delegates met at 8:30 Thursday morning, President Bryan presiding, thirty-six members answering roll call.

On motion the reading of the minutes was postponed until the afternoon session.

J. D. Green read a resolution looking to the correction of some of the Charity Hospital abuses.

W. H. Frizell called up the resolution providing for a redistricting of Councilor Districts. On

motion of J. S. Ullman the matter was referred to the Council with request that it present a plan at the 1927 session of the House of Delegates.

The Secretary of the Council read the report of the Council, which was adopted, following which the House adjourned.

The House met in pursuance of the By-Law provision immediately after adjournment of the General Session at 12:05 p. m., G. S. Bryan in the Chair.

Roll call showed sixty-three present. The report of Budget and Finance Committee was adopted. W. A. Dearman moved a vote of thanks to Jackson and the Central Medical Society for their generous hospitality, which was unanimously adopted.

A motion by the Secretary prevailed, authorizing him to furnish a copy of a periodic health examination form to each member of the Association.

O. N. Arrington moved that the address of President Bryan be referred to the Council with request that it be given the public press. Carried.

S. W. Johnston nominated Vicksburg for the 1927 meeting; H. L. Arnold nominated Meridian, and R. W. Hall nominated Jackson. The vote resulted as follows: Jackson, 5; Meridian, 25; Vicksburg, 30.

The minutes of preceding session were read and adopted.

The Nominating Committee reported as follows, the report being received on motion of S. W. Johnston:

"To the House of Delegates:

"The Nominating Committee has endeavored to select the names of men who are worthy of the offices for which they have been designated. Your Committee has had no thought but that of the merit of the candidates. It is therefore with great regret that we learn of sectionalism, factionalism, and undue political activity for or against one or another candidate.

"Your Committee wishes to take this opportunity to warn the Association that such activities are out of place in a scientific body, and if persisted in can only result in hampering the usefulness of the Association.

"The nominees are:

"For President, John Darrington, Yazoo City; T. E. Ross, Sr., Hattiesburg; H. A. Gamble, Greenville.

"Vice-Presidents, R. W. Hall, Jackson; E. L. Wilkins, Clarksdale; C. E. Catchings, Woodville.

"Councilor, Fourth District, T. W. Holmes, Winona.

"Councilor, Fifth District, D. W. Jones, Jackson.

"Delegate to the American Medical Association, Henry Boswell, Sanatorium; to Louisiana Association, W. G. Gill, Newton; to Alabama Association, R. A. Strong, Pass Christian; to Tennessee Association, J. W. Barksdale, Jackson; to Arkansas Association, D. C. Montgomery, Greenville.

(Signed) "W. G. GILL, Chairman."

On motion of S. W. Johnston, the Secretary cast the vote of the House for all the nominees other than those for the office of president.

W. E. Noblin and A. J. Ware were appointed tellers, and the House cast its vote for President, which resulted in the election of T. E. Ross of Hattiesburg.

(Signed) T. M. DYE, Secretary.

May 13, 1926.

MINUTES OF WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION.

The Executive Council of the Women's Auxiliary to the Mississippi Medical Association convened in regular session on Tuesday afternoon, May 11, 1926, at 3 o'clock at the Y. W. C. A., with 8 members present, State President, Mrs. S. W. Johnston, of Vicksburg, presiding.

Mrs. Frizell of Brookhaven led the opening prayer.

The President called for the Treasurer's report, a summary of which follows:

Amount in treasury at last report.....	\$23.75
Receipts	67.50
Total	\$91.25
Disbursements	41.75
Balance	\$49.50

Respectfully submitted,

Mrs. S. E. DUNLAP, Treasurer.

The President forcefully recommended a unification of committee work with regard to the American Association work and proposed committees on:

- | | |
|-------------------|---------------------------|
| Organization, | Education, |
| Publicity, | Resolutions, |
| Finance, | Programs, |
| Public Relations, | Entertainment, |
| Public Health, | Constitution and By-Laws. |

The following resolution was proposed:

That associate members be allowed at the discretion of the local organizations.

District reports were made by Mrs. Polk, Mrs. Blount and Mrs. Frizell.

The need for more definite aims definitely stated was discussed.

The President appointed Mrs. D. J. Williams chairman of the Nominating Committee.

The meeting adjourned in order to be on time at the reception at the Governor's Mansion.

Signed:

Mrs. S. W. JOHNSTON, President.

Mrs. HENRY BOSWELL, Acting Sec'y.

The third annual convention of the Woman's Auxiliary to the State Medical Association was called to order by the President, Mrs. S. W. Johnston, at 9:30 a. m., in the assembly room of the Y. W. C. A., Jackson, Mississippi, May 12, 1926, with about 40 members present.

The invocation was given by Mrs. J. B. Black.

Minutes of the last annual convention were read by the Secretary and adopted.

The welcome address for the Hinds County Medical Auxiliary was delivered in a very clever and charming manner by Mrs. H. F. Magee, President of the Society.

Her comparison of the occasion to a surgical operation was carried out in a humorous and pleasing manner.

Mrs. H. R. Shands made the welcome address for the City of Jackson and delighted everyone with her charming account of the trials of the long suffering doctor's wife "over the telephone." Mrs. Shands took Mrs. Garrison's place for this address as Mrs. Garrison's mother was very ill.

A most fitting response to the welcome addresses was given by Mrs. W. H. Frizell of Brookhaven.

The state Treasurer, Mrs. S. E. Dunlap, was called on for her report, which was given in full and adopted.

The President announced the resignation of the following councilors:

Mrs. Leroy Wilkins, Clarksdale, First District.

Mrs. T. W. Holmes, Winona, Fourth District.

She also reported that there were no results attained as yet in the Second District, of which Mrs. B. S. Guyton, of Oxford, is councilor, or in

the Third District, of which Mrs. J. M. Acker, Jr., of Aberdeen, is councilor.

Splendid reports were given by Mrs. A. Street, of Vicksburg, councilor to the Fifth District; by Mrs. W. G. Gill, of Newton, councilor for the Sixth District; by Mrs. E. N. Blount, of Bassfield, councilor for the Seventh District; by Mrs. W. H. Frizell, of Brookhaven, councilor for the Eighth District, and by Mrs. L. L. Polk, of Purvis, councilor for the Ninth District.

There was a general demand for a state-wide list of the members of the Auxiliary and recommendations made relative to procuring this list.

Mrs. D. J. Williams made a clear explanation of how and when the dues are to be paid. The amount of the local dues is to be determined by each local organization. Out of the local dues 50c is to be sent to the state Treasurer, and she sends 25c of this to the national Treasurer. As to time, it was decided by the Auxiliary of the A. M. A. that all state dues were to be turned into the national treasury by the first of November, making it advisable that local dues all be paid at the October meeting, a measure that might be indicated in the by-laws of each society.

The following committees were appointed by the President:

On Courtesy—Mrs. Leon Lippincott, Chairman; Mrs. B. T. Robinson, Mrs. Z. C. Hagan, Mrs. W. A. Carpenter, Mrs. G. P. Mason.

On Nominations—Mrs. D. J. Williams, Chairman; Mrs. W. H. Frizell, Mrs. R. B. Austin, Mrs. Parsons, Mrs. E. H. Galloway.

On Resolutions—Mrs. L. L. Polk, Chairman; Mrs. Little, Mrs. E. L. Posey, Mrs. Curry, Mrs. W. G. Gill.

At this point all business was suspended and the President introduced Dr. F. J. Underwood, who made a most helpful and inspiring talk. He expressed appreciation for the work of the Woman's Auxiliary and gave very definite suggestions as to some work that the organization could devote itself to and that falls within its legitimate scope. He gave a splendid account of the work of the Health Camp at Biloxi for under-nourished children between the ages of 7 and 12 years. This camp is under supervision of the State Board of Health. Last year they took care of 20 children for two months and this year expect 50. He suggested that the Auxiliary help furnish the Health Camp, help in selection of the children in the different communities, make talks on the Health Camps to clubs, and communicate with Mrs. R. S. Phifer, Jackson, for anything else needed. The expense for each child is about \$50.00, and it will

take about \$100.00 to get the camp in good condition for this summer. Plans are being made and funds collected for a permanent all-the-year-round camp, \$10,000.00 toward this having already been donated.

Dr. Underwood then gave a helpful lecture on the needs of, and the work being done for, the pre-school child, and recommended that the Auxiliary help in this work.

Reports were then read from the following societies:

The Hinds County Auxiliary, Mrs. J. B. Black.

The Vicksburg Auxiliary, Mrs. Bell.

Harrison-Stone Auxiliary, Mrs. D. J. Williams, for Mrs. Sheely, President.

The Tri-County Auxiliary, Mrs. Frizell, for Mrs. Hewett, President.

Holmes County Auxiliary had no report, and Mrs. A. Doty was suggested as president of this society.

The President followed the reports with her annual address, which was very helpful and stimulating.

Mrs. Williams announced a meeting of the nominating Committee at 9:00 a. m. Thursday.

The meeting was then adjourned to 9:30 a. m. Thursday.

The convention was called to order by the President at 9:30 a. m. Thursday, May 13th, at the Y. W. C. A. Mrs. W. H. Frizell led the opening prayer.

The minutes of the previous meeting were read and approved with corrections.

Business was now suspended while Dr. S. W. Johnston brought a message from Dr. Bryan, who was not able to be present for his scheduled address. Dr. Johnston very ably filled Dr. Bryan's place and stressed the need for doctor's wives to help in the preventative medicine program.

The following report was read and presented for adoption by Mrs. L. L. Polk, chairman of the Resolutions Committee:

First:

Whereas, our President, Mrs. S. W. Johnston, has recommended that local auxiliaries devote some time to work connected with hospitals, particularly the social life of the nurses.

Therefore be it resolved, That the State Auxiliary endorse her suggestions and urge their ob-

servance upon auxiliary members.

Second:

Whereas, the health work among under-privileged children is a subject that touches our hearts.

Therefore be it resolved, That the Auxiliary endorse the plans suggested by Dr. Underwood and pledge the co-operation of the Woman's Auxiliary.

Third:

Resolved, That associate members be allowed at the discretion of the local organization.

Fourth:

Whereas, the A. M. A. urges that Hygeia be placed in all the libraries and public schools.

Resolved, That the Auxiliary of the Mississippi State Medical Association Stress this very important part of health education through the various Women's organizations.

Fifth:

Resolved, That committees of the Mississippi State Woman's Auxiliary be made to correspond with the national committee, which include organization, finance, education, publicity, public relations, program, entertainment, constitution and by-laws.

The report was adopted.

The following report of the Courtesy Committee was submitted by the chairman, Mrs. Lipincott:

We wish to express our thanks to the Auxiliary of the Central Medical Society for the many delightful entertainments provided during our stay in Jackson. Especial mention is made of the tea at the Governor's Mansion so charmingly presided over by Mrs. Whitfield and hostesses, the gracious hospitality of the Y. W. C. A., the delicious lunch at the Parish House, the most pleasant ride about Jackson, including the interesting visits to the Baptist Hospital and the Jackson Infirmary.

We wish to express our appreciation to Dr. Underwood for his most helpful suggestions and to the press for all kindness and courtesies shown.

We very especially wish to thank the members of the State Medical Association and of the Central Medical Society, for their uniform kindness, courtesy and helpfulness, their generous help with our program, and their cordial and bountiful entertainment of Wednesday evening.

The report was adopted, by a rising vote.

The following report was submitted by Mrs. D. J. Williams, chairman of the Nominating Committee:

For President-elect, Mrs. W. H. Frizell, Brookhaven.

For First Vice-President, Mrs. C. A. Sheely, Gulfport.

For Second Vice-President—Mrs. A. G. Payne, Greenville.

For Secretary—Mrs. Henry Boswell, Jackson.

For Treasurer—Mrs. S. E. Dunlap, Wiggins.

For councilors:

First District—Mrs. T. G. Hughes, Clarksdale, for five years.

Fourth District—Mrs. A. M. Doty, Lexington, for two years.

Eighth District—Mrs. R. D. Sessions, Natchez, for four years.

All of these officers were unanimously elected and Mrs. Johnston, the beloved President was given a rising vote of confidence and thanks for her splendid work. She responded in a beautiful manner, saying that she was the granddaughter, daughter, wife, sister and cousin of physicians, and therefore especially in love with this work.

Mrs. Williams announced that there is an annual dues to the Southern Medical Auxiliary of \$1.00, and it was voted that this be paid.

Mrs. Little moved that a note of sympathy and regret be sent Mrs. H. F. Garrison, whose mother's illness prevented her being present at the convention. Motion carried.

Mrs. Williams made a most interesting talk on the meetings and entertainments of the A. M. A. Auxiliary at Dallas, calling especial attention to the address made to the women by the editor of Hygeia.

Mrs. Williams also gave a good report of last year's Health Camp at Biloxi, and extended thanks for all help given by the different auxiliaries.

After a short talk by the President the meeting adjourned to meet next year at Vicksburg.

Signed:

Mrs. S. W. JOHNSTON, President.

Mrs. HENRY BOSWELL, Acting Sec'y.

MISSISSIPPI NEWS.

DELTA MEDICAL SOCIETY.

The Delta Medical Society met in Greenville, Mississippi, on April 9th, and was highly entertained by the Greenville physicians and surgeons. It was one of the best and most enjoyable meetings of the Society since its organization, a meeting characterized by good attendance, splendid, interesting and practical papers, which received full and general discussion. Dr. J. E. Williams, of Benoit, Mississippi, was its able presiding officer, and Dr. R. C. Finlay, of Greenville, was the efficient secretary and genial host, who with all the other doctors of Greenville made our stay pleasant and profitable.

The evening banquet, presided over by our capable and versatile friend, Dr. D. C. Montgomery, was a fitting close to a perfect profitable and enjoyable day. Indianola, Mississippi, will entertain the Delta Medical Society at the fall meeting. Come and be with us, the pleasure will be ours.

NOTICE OF EXAMINATIONS BEFORE THE
MISSISSIPPI STATE BOARD OF HEALTH
FOR LICENSE TO PRACTICE
MEDICINE.

The Mississippi State Board of Health will hold its annual examinations for license to practice medicine in Mississippi June 24 and 25, 1926. All applications to take the examinations must be in the office of the Board ten days before date of examination. This Board will send application blanks on request. The examination fee is \$10.25 with the application. The fee is refunded only in case the applicant does not appear for examination. Diploma must be presented for verification before taking the examination. If diploma is not available on the above dates a certificate from the Dean of the Medical College to the effect that the applicant has successfully passed the final Medical School examinations will be acceptable on condition that diploma is later presented for verification before license is issued.

The office of the Mississippi State Board of Health is in the Old Capitol Building, Jackson, Mississippi. The examinations will be held in the House of Representatives in the New Capitol Building, beginning at 8:00 o'clock each morning on the dates indicated above. The subjects for the first day will be given in the order named: Anatomy, Chemistry, Physiology, Histology and Bacteriology, Pathology, and Materia Medica and Pharmacology. The subjects for the second day will be as follows: Hygiene, Surgery, Obstetrics

and Gynecology, Physical Diagnosis, Theory and Practice of Medicine, Diseases of the Eye, Ear, Nose, and Throat.

MISSISSIPPI STATE BOARD OF HEALTH,
Jackson, Mississippi.

MISSISSIPPI DOCTORS IN ATTENDANCE
AT A. M. A.

Aberdeen—J. M. Acker, Jr.
Basfield—E. N. Blount.
Booneville—W. H. Anderson, W. H. Sutherland.
Brandon—W. H. Watson.
Calhoun City—J. F. Aycock.
Columbus—W. C. Brewer.
Corinth—M. K. Tedstrom.
D'Lo—G. C. Russell.
Drew—R. C. Smith.

Greenville—E. L. Fuller, G. H. Spivey, J. B. Hirsch.

Gulfport—Ezell Macann, M. W. Rainold.

Hattiesburg—C. C. Buchanan, T. E. Ross.

Hazlehurst—J. M. Calching.

Houston—V. V. Philpot.

Jackson—R. W. Hall, C. F. MacKenzie, E. L. Posey, H. R. Shands, F. J. Underwood.

Jefferson City—G. A. Johns.

Meridian—S. H. Hairston,

Prentiss—G. C. Terrell.

Sanatorium—Henry Boswell.

Shannon—S. C. Spencer.

Tishomingo—N. C. Waldrop.

Vicksburg—Garuth Darrington, S. W. Johnston,
G. M. Street, J. S. Ewing.

BOOK REVIEWS

Recent Advances in Obstetrics and Gynecology: By Aleck W. Bourne, B.A., M.D., B.Ch. (Camb.), F. R. C. S. (Eng.). P. Blakiston's Son & Company, Philadelphia, 1926.

The author divides the treatise into two parts. First, he deals with recent advances made in obstetrics concerning several serious subjects which in recent years have been recognized as being preventable, in many instances laying stress particularly on the prenatal care and a thorough training of those intending to engage in obstetrical practice. The author emphasizes the causation of fetal deaths due in many instances to an unintelligent recognition of certain malpositions and the application of improper corrective measures. The chapters on blood chemistry and eclampsia are fully gone into. The question of puerperal sepsis, outside of various attempts with new forms of intravenous therapy, is still open for thorough research, and the author concludes with the same opinion as many other good authorities, that individual resistance plays a very important role in effecting a cure.

The second part, gynecology, opens with a chapter on general progress made in gynecology concerning sterility and diagnosis by the method of insufflation and impermeable substance (lipoidal) to X-ray in the tubes through the uterine cavity.

The chapters on X-ray, in obstetrics and gynecology, by J. H. Douglas, of electrotherapeutics in gynecology, by Justina Wilson, and radium of carcinoma of the cervix, by Malcolm Donaldson, are fully detailed.

ADOLPH JACOBS, M. D.

The Child: His Nature and His Needs: Ed. by M. V. O'Shea. Valparaiso, Ind., Children's Foundation. 1924.

"The Child: His Nature and His Needs" is the title given to a volume of some five hundred pages; a contribution of "The Children's Foundation" of Valparaiso, Ind., which represents a highly meritorious and welcome addition to the literature on the study of the child.

The presentation is entirely simple, lucid and concise and is also to be commended for its happy combining of a finely popular quality with thorough scientific accuracy. Perusal of this book should prove most stimulating and instructive to anyone, whether layman or physician, interested in this extremely important subject, as it is "a survey of present day knowledge concerning child nature and the promotion of the well-being and education of the young."

Professor O'Shea, of the University of Wisconsin, is the editor. There are three parts to the volume and twenty-one chapters, each by an eminent authority. Professor Mary Whitley, of Columbia University, presents "The Child's Instincts and Impulses" and "The Active Nature and Needs of Childhood," in two chapters. Professor E. A. Kirkpatrick, of Massachusetts, has written a splendid chapter on "The Child's Mastery of the Arts of Expression."

Dr. William A. White, with his characteristic skill and brilliancy, writes of "Nervous and Mental Hygiene Among Children in Present-Day Life." In discussing the relation of parent to child, he states: "The relation of the parent to the child is such that quite instinctively the child desires to be like the parent. The parent is the first model and it is very important that he should not fail. When neither parent is a worthy model and the two parents are at war with one another, the child has nothing to hitch to and often becomes hopelessly confused, helpless, and impotent when he undertakes life as an adult. He has never had any training in one direction. He has lacked a model and cannot develop one on the instant."

Dr. William Healy, of Boston, in a masterly fashion, writes on "The Treatment and Prevention of Delinquency." Professor Arnold Gesell, of Yale, thoroughly considers and discusses numerous problems in "The Care of Intellectually Inferior Children"; he emphasizes the value of recognizing defect, especially in the pre-school child, so that early suitable training can be instituted and tolerance and patience exercised. He recommends a maximum of praise and a minimum of scolding and regards vocational training as of paramount importance. In his words, "All but the lowest grades of mentally deficient children are educable, trainable, improvable. We cannot make over a mentally deficient child, into a normal child, but we can organize and condition his behavior in constructive ways."

An excellent chapter, "The Adolescent Period: Its Problems, Regimen and Hygiene," is contributed by Winfield Scott Hall, of Northwestern University. Of further interest to the reader is a comprehensive bibliography and the appendix: Biographical Data Concerning Contributors.

"The Children's Foundation" may be regarded, therefore, as having performed a real service, through the effective and enlightening emphasis of numerous aspects of these problems. Professor O'Shea is to be praised for his contributions, his clear delineation and discussion and his splendid editorial supervision.

Funds have been made available by the Trustees of "The Children's Foundation" making it possible to offer this survey, in the United States, upon the subscription of one dollar to the Publication Fund of the Foundation, for each volume of "The Child: His Nature and His Needs"; from booksellers it may be obtained for one dollar and twenty-five cents a copy.

It would be difficult to overestimate the value of this book, especially to school teachers.

CLARENCE P. MAY, M. D.

Handbook of Diseases of the Rectum: By Louis J. Hirschman, M. D., F. A. C. S. Fourth edition, revised and rewritten. The C. V. Mosby Company. St. Louis, 1926.

This book is confined to a discussion of only those cases which are amenable to office treatment. The plain, unaffected style and clear descriptions go to make a text that should be very useful to general practitioners for quick reference. In the etiology symptoms, diagnosis and treatment of the various diseases only the essential points are included, except some methods which the author mentions only to condemn. It has numerous well-selected illustrations which add greatly to the value of the book.

MAURICE LESCALE, M. D.

Medicine: An Historical Outline: By M. G. Seelig, M. D. Baltimore. Williams & Wilkins Co. 1925.

To the paucity of medical literature, by American authors, this volume of eight lectures is a welcome and valuable addition. Not pedantic, not ponderous, it offers the salient facts, figures, and fancies, of medical progress, in a form palatable for consumption by even the most jaded readers. Its format is excellent, its rhetoric that of the journalist, its facts and opinions those of a well-trained historian.

The blemishes one encounters are minor inexactitudes, largely those of the proof reader. The tyro would find no more instructive volume with which to undertake his studies in this field. Goethe has observed: "The best we derive from history is the enthusiasm it excites in us." In this Professor Seelig's contribution should succeed.

M. MALLOWITZ.

Feeding and the Nutritional Disorders in Infancy and Childhood: Julius H. Hess, M. D., Philadelphia. F. A. Davis. 1925. Fourth edition, revised and enlarged.

This work of Dr. Hess has for many years furnished the student and practitioner with a concise

and simple discussion of infant feeding problems. This edition is the outgrowth of a smaller volume entitled "Principles and Practice of Infant Feeding" first published by Hess about ten years ago.

The Finkelstein classification of nutritional disorders in infants forms the basis of Hess' teaching and is of particular value in that it is predicated on the pathological physiology of these disorders. The discussion of such diseases as rickets, spasmodophilia, celiac disease, scurvy and the anemias of infancy are thoroughly comprehensive and entirely up to date in this edition. Illustrations of gross and microscopic lesions are added where necessary. The chapter on suggested diets for older children up to six years is one of the best features of the book, giving in detail the time for feedings, what to feed and how much.

No pediatric library is complete without this excellent book.

L. VON MEYSENBUG, M. D.

PUBLICATIONS RECEIVED.

Paul B. Hoeber, Inc., New York: Collected Papers by the Staff of the Henry Ford Hospital, first series, 1915-1925. "Diathermy, With Special Reference to Pneumonia," by Harry Eaton Stewart, M. D. "Blood Chemistry, Colorimetric Methods," by Willard J. Stone, B. Sc., M. D. "Thomas Sydenham, Clinician," by David Riesman, M. D.

P. Blakiston's Son & Company, Philadelphia: "Materia Medica and Therapeutics, including Pharmacy and Pharmacology," by Reynold Webb Wilcox, M. A., M. D., LL.D., D. C. L. "Therapeutics, Materia Medica and Pharmacy," by Sam'l O. L. Potter, A. M., M. D., M. R. C. P. Lond.

J. B. Lippincott Company, Philadelphia, London and Montreal: "Diseases of the New-Born," by John A. Foote, M. D.

Lea & Febiger, Philadelphia and New York: "Modern Medicine, Its Theory and Practice," edited by Sir William Osler, Bart., M. D., F. R. S., re-edited by Thomas McCrae, M. D., Vol. III. "Emergency Surgery," by George de Tarnowsky, M. D., F. A. C. S., D. S. M. "The Clinical Interpretation of the Wassermann Reaction," by Robert A. Kilduffe, A. B., A. M., M. D.

Miscellaneous: The Rockefeller Foundation, Annual Report, 1924. "The Further Studies on Decrementless Conduction," by Genichi Kato, Tokyo, Japan.

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