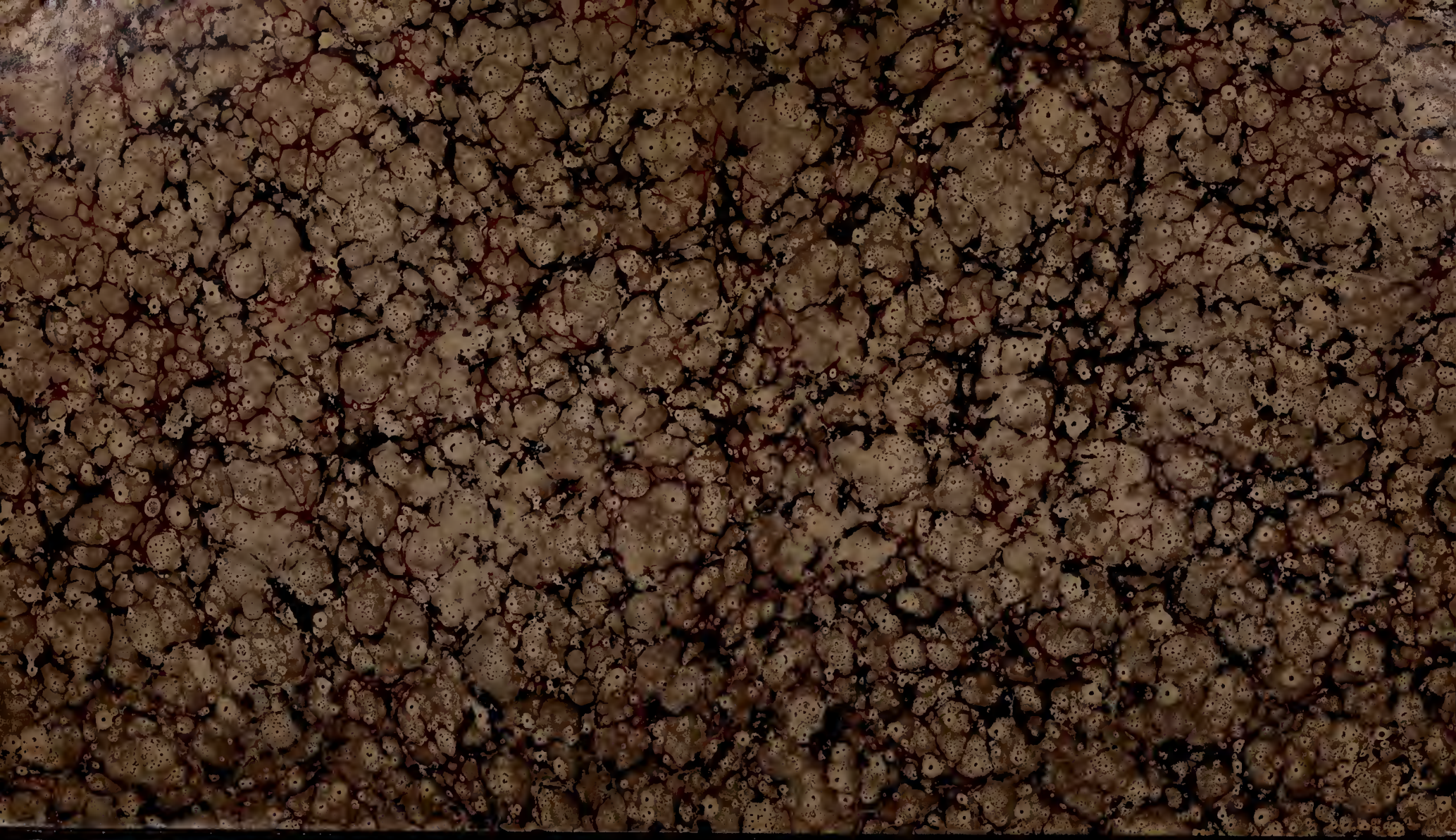

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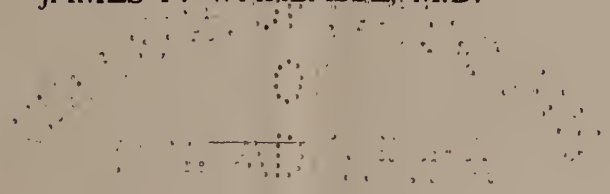

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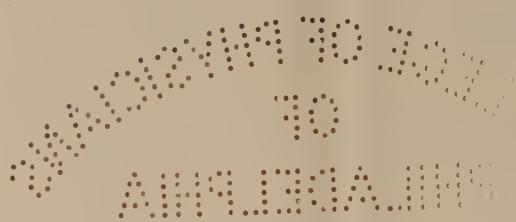

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles.

TETANUS FOLLOWING SURGICAL OPERATIONS.*

By FREDERICK FLAHERTY, M.D.,

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IT is not unusual to have tetanus follow trauma. The literature is full of such cases. Tetanus following surgical operations is comparatively rare, at least the report of such cases is, therefore the report of the following, together with what few cases I found in the literature of the past ten years, with a few comments, seems of sufficient interest to report at this time.

Mr. B—62 years of age—had always enjoyed excellent health, excepting a nervous breakdown some eight or ten years ago, following the shock subsequent to a railroad accident. His habits were excellent. For many years he had suffered from hemorrhoids and for the past two years had suffered greatly from the associated pain and hemorrhage. He had an anemic, sallow appearance and was of a very nervous temperament. He consulted me on the 6th day of January, 1907. On physical examination I found him free from any organic lesions. The urinary examination was likewise negative. He complained of considerable pain in his rectum. Examination of the rectum showed one external pile on the left side the size of a chestnut; the skin on the right side of the anus was discolored as if there had been a subcutaneous hemorrhage. Digital examination of the rectum showed an abnormally roughened condition to the lower portion of the bowel. I advised him that the removal of the hemorrhoids was indicated. On account of some business engagements he decided not to be operated upon until some time in February. I thereupon prescribed a simple ointment. During the evening of the next day his son came to my office and informed me that his father was in great agony; that on this same afternoon he had consulted an irregular practitioner, a self-styled rectal specialist. That this "specialist" had told him that he could cure his piles without an operation. He therefore injected something into the tissues about the anus and removed the one pile which I had noted upon my examination the previous day. I gave the son some anodyne and told him that if his father was no better the next day to let me know. I was called to see him the next morning and found him suffering very excruciating pain. Examination of the rectum showed an acute inflammatory condition; surrounding the anus, instead of a mass the size of a chestnut, as previously noted, there was a mass as large as a hen's egg, already gangrenous. The patient then insisted that something be done, and quite insisted on my doing it immediately; upon informing him of the necessity of some preparations, the securing of the nurse and assistance, he decided to have the work done the following morning. At 9 A. M. on January 9th, the second day from the time of the injection, assisted by Dr. Broad, Dr. Palmer giving the ether, I removed four hemorrhoidal masses with the clamp and cautery, taking no stitches and doing no cutting except cutting off the hemorrhoidal mass before cauterizing the stump. By noon he was out of his ether and vomited only twice. At 6 P. M. he passed urine voluntarily and felt greatly relieved. The following three days he felt much improved, having scarcely any pain in the rectum, the inflammatory condition of the rectum rapidly subsiding. He was able to get out of bed and go to the toilet to urinate. On the 12th, the third day after the operation, his bowels moved twice, the result of some castor oil. Associated with the bowel movement there was some burning in the rectum.

I noted on this day, which was the fifth day after the injection, slight spasms of the sphincter ani muscle; this was especially present when he dropped off to sleep. However, he felt so well the next day that he allowed the nurse to go. The slight spasm of the sphincter muscle persisted; his temperature had remained normal and pulse ranged from 60 to 70 during this period.

Early on the morning of the 14th, the seventh day after the injection, I was called. The patient was having much spasm of the sphincter. The spasms were clonic in character: starting at the anus, they seemed to produce general clonic convulsions. This had been going on during most of the night and continued during the day at irregular intervals, especially when dropping off to sleep. He complained of a slight soreness of the jaw. An occasional injection of morphine with a bromide and hyocyamus mixture seemed partially to control the spasm and give the patient some sleep. The next day the spasm increased in intensity, the jaw became somewhat rigid; the temperature remained normal, the pulse was between 60 and 70. I added chloral to the bromide mixture; this seemed to control the spasm much better. He complained of a slight difficulty in swallowing. The spasm continued during the night of the 15th. Any slight noise, or touching the patient, seemed to bring on the spasm, which still appeared to start at the anus and pass up through the body like a reversed peristalsis, ending in a general convulsion.

On the 16th, the fourth day of the disease, the rigidity of the jaw lessened, and he had much less difficulty in swallowing. I gave 50 cc. New York State Board of Health antitoxin in the buttocks. At that time the temperature was subnormal, going as low as 97.2, and the spasms were not as frequent but more severe. At 9 A. M. on this day, which was the fifth day since the first slight spasm in the sphincter, the temperature went up to 101, pulse 88, respiration, which had been 20-22, increased to 26. I was obliged to catheterize the patient, on account of spasm of the deep urethral muscle. This continued to be necessary from this time to the end.

The temperature was again subnormal. The next morning, the sixth day of the disease, the pulse rate was increased; he had slept most of the night, did not need morphine or chloral mixture to control the spasm; the rigidity of the jaw was greatly relaxed, there was

*Read at the Fifth District Branch of the Medical Society of the State of New York, October 3, 1907.

much less difficulty in swallowing, and he took considerable liquid nourishment. The temperature remained about 98, pulse 98 to 110, respiration 24; patient had a fairly comfortable day and slept considerably. During the night of the 17th he slept at intervals from one to two hours and was free from convulsions. On the morning of the seventh day of the disease his temperature began to rise; at 6 A. M. it was 101.6, pulse 114, respiration 32; he was for the first time slightly delirious; his spasms were again increased in severity. I again gave 50 cc. New York State antitoxin, but his spasms continued severe during the day. His pulse increased, becoming irregular; his temperature steadily arose, and at 4 P. M., while catheterizing him, he had a slight convulsion, during which his respiration and pulse seemed to cease entirely. However, he revived but did not again become conscious; his spasms now lessened and his temperature steadily rose to 106, and he died in a slight convulsion at 2 A. M., on the morning of the 19th, the seventh day after the appearance of the convulsions.

The period of incubation in the above case was five days from the time of the injection of the first operation, and three days from the second clamp and cautery operation. The local manifestation of the disease for the first forty-eight hours would point conclusively to the rectum as being the point of entry of the infection; the spasm being confined entirely to the sphincter the first forty-eight hours, then passing up through the body and ending in the general clonic convulsion. The trismus and difficulty in swallowing were slow in manifesting themselves; opisthotonos was never well marked. There was no temperature except slight rise on the evening of the fourth day, until the last twenty-four hours of the illness. The pulse did not show the effect of the toxin until the end of the fourth day; the mind remained perfectly clear until the last twenty-four hours. The peculiar point of entry of the infection with the local tetanus, the time of year, it being mid-winter, made the early diagnosis almost impossible.

Jacobson,[1] at the American Surgical Association meeting at Cleveland, in May, 1906, in a paper on the "Serum Therapy of Tetanus," reported five cases of tetanus following aseptic operations upon the intestines which he collected from the literature. One reported by Brewer, one by Willy Myer, one by Kamerer, and one by Goodrich. Four of these were for removal of the appendix in the quiescent period. In the fifth case colostomy was performed for the removal of a cancer from the splenic flexure of the colon. Tetanus appeared in these cases in nine, ten and eleven days respectively. Again he reports a case by Warbasse in which tetanus appeared six days after an abdominal operation for hysterectomy. He also cites a case following an unclean operation for varicocele performed by a doctor connected with an advertising institute and later admitted into St. Luke's Hospital in St. Louis, reported by Mudd.

In another case the infection followed in a Bassini operation for hernia; it occurred in the Goettingen Klinic, and was attributed to a case of tetanus having been treated in the Klinic the day preceding the operation.

Hammond[2] reports a case following an operation for pus tubes and ovarian abscess. The period of incubation was six days; the patient died twenty-seven hours after the first symptom. He thought the point of entrance of the infection was some carious teeth from which the patient suffered.

H. C. Wood[3] reports a case following a hemorrhoid operation with a clamp and cautery occurring on the ninth day after operation. He believed the tetanus due to using water from the Schuylkill River not boiled sufficiently long to kill the tetanus spores.

Thompson[4] reports a case following a varicocele operation which died on the third day after a strictly aseptic operation in which he could not explain the source of infection. Period of incubation was eight days.

Douglas,[5] of Nashville, reports a case following the removal of a simple growth. He found that his catgut was contaminated.

Emmet[6] reports a mild case which recovered following the simple cutting of a fissure in ano.

Coe[7] reports two cases as occurring in the General Memorial Hospital in New York, one operated for double pyosalpinx, period of incubation sixteen days; the other operation was for ovarian cyst and fibroid, period of incubation nine days.

Bissel,[8] at St. Francis Hospital, New York, reports two cases, one of fourteen days' incubation, following an Alexander operation; the other following a myomectomy on the ninth day after operation. Dr. Janeway considered the last four cases infected by Croton water, which at that time was found to contain tetanus spores.

Recently I noted in the daily press the death of Dr. Robinson, of Elmira, from tetanus after an operation for appendicitis. Dr. Brown, of Elmira, writes me that in this case the patient was bitten by a cat during a convulsion, the wound healing promptly; nine days later he was operated for appendicitis, no pus was present, and the wound healed promptly; six days later tetanus manifested itself, and he died in five days.

I have reported the foregoing cases as they show the type of operations most often complicated by this dreadful disease, the time at which it usually appears, and the possible source of entrance of the tetanus germs. Jacobson, in his paper, calls attention to the fact that the tetanus bacillus is a frequent inhabitant of the intestinal tract of animals, and quotes Pizzini as having found them in the feces of man. He offers this as an explanation of the occurrence of tetanus in clean operations upon the intestinal tract.

In the case I reported I had every reason to believe that the infection gained entrance

through the rectum previous to my operation. However, it is evident from the reported cases that tetanus does occur in what we consider strictly aseptic operations. It occurs at a time after what usually is a normal convalescence of six to twelve days, when the surgeon has every reason to tell his patient that he is out of danger, and when suddenly, like a bolt out of a clear sky, trismus, difficulty of swallowing and convulsions occur, and the patient is dead in a few days.

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CESAREAN SECTION.

INDICATIONS FOR OPERATION; TECHNIQUE AND RESULTS IN FIVE RECENT CASES.*

By W. B. REID, M.D.,
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THE history of Cesarean Section in pre-aseptic days was accompanied by such a frightful mortality that it was justly abandoned, with the exception of an occasional post-mortem done for the purpose of saving the life of a child. With the advancing low mortality of abdominal surgery, puerperal hysterotomy has not kept pace because the high mortality placed such a prejudice against the procedure that "perforating the head," "craniotomy," "induction of labor," "symphysiotomy," "pubiotomy," and the "vaginal Cesarean section of Duhrrsen" were resorted to.

The following quotation taken from a recent text-book gives the popular opinion of the profession regarding the operation as it stands to-day: "With the improvement in the technique of abdominal surgery, statistics of Cesarean section have steadily improved, until at the present time it is possible to collect sixty-eight consecutive cases with a mortality of 5.8 per cent., and twenty-seven cases with a mortaliy of 3.7 per cent.; but in general practice the mortality remains high, and will probably continue so."

The "induction of labor" is an uncertain procedure, unsurgical and unscientific.

"Symphysiotomy," "pubiotomy," "vaginal section," and "perforation with craniotomy" have a limited field of usefulness which will gradually grow more limited as the conservative operation of Sanger becomes more widely known, and its practical low mortality more fully appreciated.

It is for the purpose of recording and emphasizing the foregoing that the following clinical cases are presented for your consideration.

All of the five cases have occurred in practice during the past eighteen months, with the exception of number one, which was operated upon twice in the series, once in April, 1903, and again in January, 1906.

The indications for the operation are either positive or relative, the former when the maternal or fetal dystocia is so great that delivery in any other manner is absolutely impossible.

The relative indications for the operation are not so clearly defined, and furnish debatable ground; for example, when indications would suggest that embryotomy can be done successfully and without great risk to the mother, in the presence of a dead child, it is easily decided, but, if the child is alive, the proper course to pursue has been one of dispute by those advocating their pet procedure. At the present time most operators are agreed that a conjugate of 7.62 C.m. with the child living, and 7 C.m. with the child dead, demand the operation.

HISTORY OF CASES.

No. 1.—Mrs. G., Italian, age 34, was first seen by me in consultation with several physicians at the Rome Hospital, on March 27, 1902. She gave the history of six previous pregnancies which went to full term when craniotomies were performed and dead children delivered.

The labor in which my services were requested had been in progress forty-eight hours.

Physical examination showed such extensive edema of the genetalia and pelvis that mensuration of the outlet was out of the question.

Auscultation showed absence of fetal heart sounds, so perforation and craniotomy were resorted to, and after a most difficult and prolonged operation we succeeded in delivering a horribly mutilated fetus. The previous deliveries and our added traumatism caused a slow convalescence, the patient being confined to the hospital six weeks. She was instructed on discharge from the hospital, that should she again become pregnant to report at once.

In October, 1903, she reported at my office that she was pregnant, having skipped her two previous menstrual periods. Physical examination showed a pregnant uterus of a probable three months' duration. Measurements subsequently verified and completed at operation showed a rachitic pelvis with all the diameters contracted, but the antero-posterior most marked. The transverse diameter was 13.87 C.m., oblique 11.43 C.m., antero-posterior 5.86 C.m.

On April 6, 1903, labor pains started and at 9 A. M. she was delivered by Cesarean Section of a twelve-pound, healthy male child.

No. 2.—In the fall of 1905 she again reported pregnant, but as the date could not be definitely settled, we waited until labor began, which was January 21, 1906, when I delivered her of a ten-pound male child, by a second section.

Time of operation: First, twenty-nine minutes; second, twenty-three minutes. Time in the hospital: first delivery, thirteen days; second, fifteen days.

No. 3.—On May 18, 1907, I was called to see Mrs. W., in consultation with the family physician. She had been in labor twenty-four hours with no apparent progress; two attempts at forcep delivery had been made. Twenty-one years previously she had given birth after a prolonged and difficult labor to a seven-months baby. Vaginal examination showed a wide-open cervix, no engagement of head.

*Read hefore the Fifth District Branch of the Medical Siciety of the State of New York at Syracuse, N. Y., Octoher 3, 1907.

Operative preparations having been previously made in the patient's own home, a farmhouse, she was given ether and I attempted delivery with high forceps; these failing, version was attempted, but owing to the firm contraction of the uterus over the child, this failed. Cesarean section was then restored to and she was delivered of a nine-pound male child, which is still alive and healthy. Time of operation, nineteen minutes.

No. 4.—On March 31, 1907, Mrs. S., a primapara, age 21, was brought into the hospital at 11 A. M., in a deep coma. She was a patient of one of my associates, and was known to have a heavy albuminuria for which she was being treated. The husband had been informed of the seriousness of her case and instructed if convulsions occurred that the patient be immediately taken to the hospital. On the morning of the 31st, she awakened at 7 A. M., complaining of severe nausea and headache. She vomited several times and remained in bed, the husband staying home from work to act as nurse. After vomiting, she felt much better until 10.30 A. M., when without further symptoms, she had a severe eclamptic convulsion. At 11 A. M., while in the ambulance on the way to the hospital, she had a second convulsion. At 11.30 A. M., while on the operating table and during my examination, she had a third convulsion. Examination showed a living child. Vaginal examination showed a closed cervix with no engagement of head. She was hastily prepared and a living seven-pound female child delivered by abdominal section.

Owing to the deep uremic coma, little anesthetic was required. The tubes were ligated with linen thread. Mother and child both recovered and left the hospital in seventeen days. The edema and albumin both rapidly disappeared. Time of operation, eighteen minutes.

No. 5.—Mrs. C., age 48, came to my office pregnant January, 1907, and gave a history of two previous pregnancies which went to full term; when delivery with the forceps or other means was found impossible, the living children were perforated, and after much difficulty the mutilated bodies delivered.

Measurements showed a general contracted pelvis with an antero-posterior diameter of 7 C.m. On February 19, 1907, Dr. C. E. Coon measured the pelvic outlet by means of the X-ray. I know of no one having previously made use of the X-ray for measuring the pelvic outlet in pregnancy for the purpose of ascertaining the necessity of Cesarean section.

The date of confinement was computed as likely to occur between April 7-14, 1907. On April 7, 1907, the time we elected, Cesarean section was performed and the woman easily delivered of an 8½ pound healthy male child. The child cried lustily and was apparently perfectly normal in every way throughout the entire day. About 7 P. M. the mother remarked to the nurse that she had noticed no movement nor breathing of the child for a few minutes. The nurse stepped across the room to the crib, inspected and found the child dead. Two questions naturally arise regarding the cause of death: 1st, The election of the operative time as labor had not started. 2nd, Did the effects of the X-ray on the fetus in utero have anything to do with the inexplicable death?

Time of operation, twenty-one minutes. The mother left the hospital on the twentieth day.

DESCRIPTION OF OPERATION

The following personal technique is essentially different from the classic. Its simplicity and time-saving features, I believe, have had much to do with the operative recoveries.

PREPARATION OF PATIENT.

If time permits, two ounces of castor oil are given the night before operation. Emergency cases are given an enema, and if vaginal examinations have been made, a douche of lysol, otherwise nothing is done until the patient is on the operating table, when the abdomen is scrubbed with soap and gauze, followed by Harrington No. 9 and alcohol. While preparing the patient the anesthetic of ether is given.

INSTRUMENTS.

Two knives, one for the skin and one for the uterine incision; scissors, dissecting forceps, needles and plenty of artery forceps are all that are required.

SUTURE MATERIAL.

Plain linen, catgut, horsehair and silkworm gut.

ASSISTANTS.

The fewer the assistants, the better. One operative assistant, one for the anesthetic, and one to take the child.

ABDOMINAL INCISION.

The incision should be made in the median line 12-15 C.m. in length, usually with the umbilicus as the median point, the latter varying according to the position of the uterus, whether high or low in the abdomen.

It is interesting how little bleeding takes place from the abdominal incision, and no time should be spent fussing to put artery forcep to any pin-point oozing.

Before opening the uterus, care should be taken for the protection of the abdominal cavity from sepsis and control of hemorrhage.

Both of these are provided for by properly instructing the operative assistant, before the operation, as to how the hands should be held in order to most effectively hold the uterus and the abdominal wall together, making the incision in the abdominal wall so closely hug the uterus as to not only control the blood supply by pressure on the broad ligaments, but also to protect the abdominal cavity from sepsis, and at the same time hold back any presenting intestines. I wish to call your attention to a most grievous mistake in description of this step in the technique and its illustration in a recent text-book, not that I wish to criticise the text in general, because as a whole it is the best book in every respect on the market to-day. I refer to Edgar ("The Practice of Obstetrics," 1907 edition), which is just out. In his illustrations, Fig. 1237, p. 1913, the assistant's hands are shown held in the wrong direction, and improperly pushing the uterus away from the abdominal incision toward the point of least resistance, the pelvic cavity.

He also advises lifting the uterus out of the abdomen where sepsis is suspected. This necessitates a very large abdominal incision, which increases the possibility of ventral hernia, and is unnecessary when the assistant grasps the abdominal wall and uterus properly.

In illustration 2 the assistant is shown with the hands turned in the opposite direction from Fig. 1, with her face directed toward the patient's head.

With the hands thus grasping the uterus as the latter contracts after delivery, it is not pushed down into the pelvic cavity away from the abdominal incision, but is held firmly against the abdominal wall, and when sufficiently reduced in size, it is easily slipped through the opening, out on the abdomen, where the uterine sutures can be easily inserted.

UTERINE INCISION.

The uterus should be incised in situ, the incision being about 15 C.m. If the placenta is met, which happened twice in these cases, it is either pushed aside or cut through. The membranes are then ruptured, a foot seized, and the child rapidly delivered. The cord is clamped between the clamps and cut.

UTERINE SUTURES.

The uterine sutures of linen should be applied in two planes. The deep row should be 1¼ C.m. apart. They should be inserted into the external aspect of the uterus about one-fifth inch from the margin of the incision, and should emerge at the level of the space between the mucous and muscular layers; crossing to the opposite side, the same stitch should be inserted between the mucous and muscular layers and emerge between the latter and the peritoneum. This is down to but not through the mucous membrane. These should be tied as inserted for controlling hemorrhage, care being taken not to tie them too tightly so that they blanch the tissues, lest they cause an aseptic necrosis. If due care is not

Uterus Held Improperly.

Fig. 1.—With the hands holding the uterus in this manner, it is impossible to control the blood supply in the broad ligaments or protect the abdominal cavity from sepsis.

Uterus Held Correctly.

Fig. 2.—With the hands grasping the uterus as above, the pressure comes toward the point of the wedges instead of the base. In this manner it cannot slip away from the grasp of the hands as the broad ligaments pulling from below hold it firmly against the palms.

PLACENTAL DELIVERY.

If the placenta does not loosen spontaneously, the uterus is gently massaged. After the placenta and membranes are delivered, the uterus, if properly held by the assistant, gently slips out of the abdominal cavity, where the suturing can be easily accomplished.

Before beginning the suturing, the general peritoneal cavity should be protected by placing sponges of gauze or towels behind the delivered uterus.

used in tying the sutures, a rise of two or three degrees in the post-operative temperature will occur, which may cause the operator much anxiety, if no real harm come to the patient.

The second row should be of Bartlett catgut in the peritoneal coat of the uterus, covering in the first row of linen sutures. If it is desired to sterilize the patient, the tubes should then be divided and ligated.

ABDOMINAL SUTURES.

The abdomen should be closed with three rows of sutures. The first of catgut for the peritoneum, the second of silkworm through the parietal walls, and the third of horsehair for closing the skin.

AFTER-TREATMENT.

The after-treatment of the mother is practically the same as after a laparotomy for any condition.

CONCLUSION.

Cesarean Section is an operation which under favorable conditions is more safe than is considered by the general profession.

If judgment and caution are exercised by the operator, there should be no more danger to the mother and less to the child by Cesarean Section than by the use of forceps as commonly applied in the private home.

To be sure, this is a small series from which to draw conclusions; nevertheless, although some of the cases were poor surgical risks under the conditions in which they were encountered, I am able to report them without operative mortality.

THE SOLUTION OF THE MILK PROBLEM.*

By JAMES JOHNSTON, M.D.,

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THE milk business is really two businesses—dairying and distributing.

These two businesses have nothing in common. Dairying is a charming, natural, wholesome occupation with a history interwoven with the traditions of all civilized peoples. Dairying has to do with the care and management of cows, and with the breeding and rearing of calves. It requires study of foods, of physiology, of hygiene and veterinary medicine. It is a business well worth being any man's life work. It offers attractive financial returns and contains possibilities for further development sufficient to tempt the most scholarly as well as the most practical of men.

Distribution of milk is a commercial matter entirely.

The sort of knowledge employed in the distribution of milk is mostly tricks. It is in the distributing business that is to be found the petty thievery that robs the morning cream pitcher and the baby's milk bottle. It is here that the unsold milk of yesterday is worked off on the unsuspecting customer and the shortage of supply is stretched. It is here that the careless bottle washer perpetrates his daily negligence, and it is here that practically all of the conflict of the milk business with the health authorities occurs.

The measure of a man's worth in dairying is his capability and integrity. In distributing, on the other hand, the qualities that are found to be the most remunerative are smoothness and duplicity.

These two businesses have been combined and the two followed together from time immemorial. But whether the cows are cared for by one and the milk carried and sold by another, or the two operations are done by the same individual, the distinction is there nevertheless and the line of demarcation between the two businesses may be drawn with the milk. The proper work of the dairyman ends when the cow is made ready to be milked; the tricks and the dangers of milk distribution begin with the milking of the cow.

The milk business is one of the very largest businesses in the United States. It is not, as yet, under one control; and, possibly in a measure for that reason, it is not the same all over, but varies greatly in different sections of the country. This is well shown in the figures for per capita consumption. The per capita consumption varies from a quarter of a pint a day in some of our larger southern cities, where the supply is unsatisfactory and inadequate, to as much as two pints a day in favored northern towns, where the supply is from some wholesome sources close at hand. Individuals have their own peculiarities, their likes and dislikes, but the daily consumption of milk by communities is found to be always in exact proportion to the character of the milk supply.

Milk is our most important food. The milk question is one of the most important problems now before the public for solution. Medical practitioners have known this fact for a long time. Health boards have become aware of it. Philanthropists have learned the facts and have devoted themselves to it as the most imminent concern of the times.

The general public, however, has not as yet waked up. The average citizen thinks that he knows good milk when he gets it, and if he has any fault to find at any time it is only with the lack of richness due to watering or skimming. He thinks of milk as a natural food that has been used for so long a time that there can be no doubt about it and no questions requiring his personal attention concerning it. He overlooks the fact that milk is not taken in exactly the natural manner and that modern methods of handling it, peculiar to this country, have given it a new life with which it is his duty to make himself acquainted.

There has been a very great amount of labor performed by scientists during the past few years in defining the dangers that lurk in milk and in defining the remedies for these dangers. There is, however, a very great amount of labor

*Read before the Medical Society of the County of Allegany, January 17, 1907.

unperformed in the application of these remedies. In almost every community the citizens have taken away the free conduct of the milk business from those engaged in it by the enactment of laws. It has become a public business regulated by the people. Until recently, and for the greater part of the country even yet, the requirements of the consumers thus expressed concern only their pocketbooks. They asked only for full milk and full measure. The laws fixed a legal standard and prescribed penalties for anyone who furnished anything less than that.

It is easy and pleasant to say that the consumer framed these laws in his own interest: he certainly should have done so. Yet, it is one of the peculiarities of our law-making that laws are seldom or never framed to restrict any large interest in favor of any other large interest without both interests being consulted. This appears to have been true of the milk laws. Milkmen never opposed these laws, and in fact take a great deal of credit to themselves for having actually favored them. But the milkmen know the effect of this law, the remote and incidental effect, in further detail than the consumer does.

As the milkman sees the law it does not prevent dishonesty but merely sets a limit to it. Or, it makes a certain amount of dishonesty, which previously might have troubled him, appear now to be perfectly right because perfectly legal. A legal standard composition for milk must necessarily be made low in fat. The law must be aimed so as not to hit any innocent man and therefore the legal percentage of fat, or cream, must be a little less than is naturally found in the poorest milk; that is, milk from the poorest cow.

Before the passage of such a law as this the milkman was forced to skim down fearfully, with one eye on his customers and the other eye on his competitors. But with this law they may all skim down with easy consciences, lower no doubt than many had dared to skim before. For when the law establishes a standard and says to a dealer that he must not furnish anything worse than this or he will be prosecuted, it also says to him, in effect, that if he furnishes anything better than this he will be a fool. And when every milkman has a separator, and has a good excuse for separating all of his milk in order to clean it, it is the easiest thing in the world for him to pour back only sufficient cream to comply with the law and keep the balance as his own.

The system of protection by law, even when well enforced, works badly in every way. It is quite impracticable to examine milk as it is delivered from door to door in daily retail quantities. And when examined in bulk and left in the hands of the dealer there is such a wide-open opportunity for changes, even without guilt on the part of the custodian, that the work of the inspector may be useless.

Another trouble is this—it is well known that the work of inspectors is not relished by consumers any more than by dealers, and that when anything like a crusade is undertaken by the authorities the sale of milk drops off immensely. When one reads at the breakfast table that his milkman was fined on the day before, one is very likely to curtail the amount that he puts in his coffee, and the little event goes far to build up in his mind a permanent prejudice against milk and to limit the quantity that he wants for himself or for his children. However practical the general plan of regulation by law may be when applied to other commodities, it is a total failure when applied to milk. Protection by law is protection by wit in any case, and the sharpest wits are always found in those whom the laws are made to grind.

The more this matter is studied the more clear it becomes that the public must take a fresh start in controlling the milk business. There is this radical trouble with laws, that they fail to prescribe any reward for merit. If inspectors could retain possession of the milk and complete the distribution of it themselves, it would be much more worth while to inspect. If they were given proper facilities for taking care of it, with instructions to dispose of all that was left over, they could safeguard the interest of their employers much more effectively than they do now. If, in addition, they could decline to accept milk without making out a criminal case against the owner, they would be in a still better position; and they might take a natural pride in their work, and in time they would become a quietly working force tending to make milk better. In other words, they would become the buyers for the people, and the trust of the people would be in their buyers rather than in their inspectors.

Based upon recent work in the bacteriology of milk, we now have other and additional laws, that deal with the cleanliness of milk as well as with its composition. It is only in a few cities that these laws are in operation, but it is as good as certain that, unless something still better is found, they will be adopted elsewhere and eventually become general.

Yet, again, it is worth while to notice, we find on examination that these laws are made in the interest of the consumer but with the approval and in the interest of the distributer. These laws abolish small dealers. It is impossible to distribute milk in open cans, or unclean bottles, or in any manner that permits it to become warm, and remain within these laws. With the small dealer there is abolished the greatest menace of the milk business. The small dealer is everywhere the dirtiest and most incorrigible. But these laws also enable

the big dealer, who does his work better, to get an increased price for it. This increased price cannot be objected to as an imposition, because it is earned by increased labor and increased cost of equipment; yet it is undoubtedly objectionable.

Since milk is a recognized source of danger to the whole community, there must be no second quality distributed anywhere. The betterment of the supply to the rich is a long stride in the right direction, but it is not a solution of the problem. It will not do to cut off the supply of the poor. Good milk and good service cost money, and it may be said that good milk, even at an advanced price, is cheap food. It may be true that it is a genuine economy for the poor as well as for the rich to buy the very best milk that can be had; yet it is also true that increased prices are very unwelcome and seriously cut down, if they do not cut off, the supply to very many homes.

In quite a number of cities we have an opportunity to study something else, another use of money in the milk business, and another attempt to perform an hygienic work for the benefit of the people. This is usually described as a sanitary milk plant. These plants are operated by companies that are avowedly business organizations. Hygienic possibilities are an inducement to subscribers to the capital stock and also an advertisement of the milk and milk products to customers. The method of treatment of the milk is the principal feature of the business. These companies are all distributers, very few have any production of their own; they are formed to exploit the commercial end of the milk business exclusively. They are commonly promoted by agents of supply houses, who are not afraid to drop in wherever there is a considerable business in sight. They aim to do the whole of the business in a city, they are willing to comply with the laws and are willing to stand or fall on their merits.

They do good in the first place by calling attention to the dangers in ordinary commercial milk. They undertake to eliminate these dangers by special processes and they do not ordinarily make any extra charge for this service. They expect to effect an economy by consolidation of existing businesses, by systematic distribution of their products and by including the manufacture of all ordinary milk products in their business. They save the expenses and waste of competition and they do not need to increase the prices.

The success of such a company depends upon its having a monopoly. The excuse for its having a monopoly rests in its ability to do its work in a superior manner without increased cost. When milk is clean and its temperature maintained at a low point it will keep much longer than is ordinarily supposed. The popular idea that milk must be fresh or be sour has arisen from the ordinary experience under ordinary conditions. When milk contains many bacteria and these are encouraged in their growth by favorable conditions, it will sour very quickly. But if the number is very small and the growth is retarded by cold storage, it is found to remain sweet and wholesome for a considerable length of time.

In the average city, where archaic methods prevail, the hand of welcome may very properly be extended to the sanitary milk plant. Yet there is an opportunity for abuse and mischief in this, too; and the public should be made aware of it. It is too effective to be permitted to remain in the hands of men whose only object is to make money. And its effectiveness is rather in the way of making milk marketable than in making milk good. What is contemplated in these plants is, first: to rid the milk of dirt that has escaped and passed through the strainer. This can be done by passing it through high speed separating machines, a process that is called clarifying. As evidence of the effectiveness of this treatment, it may be said that no milk is ever produced, even from the cleanest farms, that will not yield some result in the way of sediment when so clarified.

The second thing contemplated is to rid the milk of bacteria. Bacteria are of no use in milk and really should not be there. Milk in the udders of the cow is normally free from bacteria and, when taken naturally, that is, as the calf takes it, it encounters only the bacteria that exist in the mouth and in the digestive apparatus of the calf. These play a physiological rôle and assist in its being broken up and digested. But when milk is brought from the udders of the cow after the methods of the dairy farm it is always found to contain bacteria which can only be regarded as accidental and useless. There is a complete dissimilarity between the hand of the milk maid and the mouth of the baby cow. However admirable the hand it will inevitably permit access of the milk to the air and in this way the addition of bacteria which will not perform any useful work in the career that this milk is destined to pursue.

The common varieties of bacteria are quite harmless and do not make the milk any the worse as food for their being contained in it. But they do shorten the keeping period of the milk. There is danger to health when the germs of disease gain access to the milk. And that they do so gain access to the milk is no idle dream.

It is unquestionably true that from a most minute number, not more than may have been contained in a drop of water left after washing the can, the total bacterial content of the can of milk may, in a very short time, become inconceivably great. This development may

occur at any time, whenever the can is allowed to become warm. It may occur while the milk is in the custody of the dairyman, or the distributer or the householder. There is not as yet any satisfactory method of clearing milk of bacteria. Boiling will do it, but this gives the milk a cooked flavor and interferes with the rising of the cream.

The constitution of the milk is changed by boiling: the albumin is coagulated and the natural carbonic acid gas, together with the air that is mixed in during the process of milking, is driven off. The loss of these gases makes the milk taste flat, but the food value is not lessened, nor is the milk less digestible because of this change in the albumin. Twenty years ago it was taught that cows' milk should be boiled before being fed to babies. This was perhaps a matter of opinion. Lately it has been stated rather frequently that milk loses something of its vitality, or its vitalizing properties, when sterilized in any manner. This is also a matter of opinion, it has not been demonstrated. Other natural albuminous foods, such as eggs and meat, are not objected to when cooked, and it is difficult to understand a different rule for milk. Boiling it very frequently and very properly resorted to in homes, especially when there is a suspicion of the milk or an evidence of indigestion, such as diarrhœa in a child, which may be due to bacteria. But the objections are insuperable so far as the trade is concerned. No one will buy cooked milk, and everyone wants to see the cream line in his milk bottle.

Another method is by the addition of substances that inhibit the activities of bacteria. The objection to this method is that all such substances inhibit also the activities of the digestive ferments in the stomach. Borax, salicylic acid and formaldehyde are the types of substances so used; and these are used constantly and in enormous quantities, prohibitory laws to the contrary notwithstanding. A method of ridding milk of bacteria by the use of hydrogen peroxide has been tested in Germany with promising results, but it has not as yet been used on a commercial scale.

The practice of the sanitary milk plants is a sort of half way measure. The milk is heated short of the cooking point to kill the mature bacteria and then the spores are checked by refrigeration. This is all done at one quick operation. It does not alter the flavor of the milk, nor prevent the rising of the cream and the formation of a distinct cream line. This process is pasteurization. When well done pasteurization offers considerable protection. It may make milk safe for food which previously was dangerous. But its most certain result, a result which may be obtained even when the work is not well done, is that the milk will keep longer. All bacteria have not the same power of resistance; some are much more easily disposed of than others. Among those that are tenacious of vitality are, unfortunately, some of the most malignant. While one most easily destroyed by this process is that interesting specimen, the bacterium lactis ærogenes, which is responsible, all by itself, for the peculiar phenomena of souring.

This bacillus is exceedingly plentiful. It may be depended to be present in the air everywhere. It is the active agent in the fermentation of sugary solutions of all sorts, causing them to sour when exposed. It is present in the digestive tracts of all animals. It may be found in large numbers in the upper bowels of babies only a few days old, even when they are perfectly healthy and fed at the breast. In fact they are present only when the baby is well, and their absence from the stools may be taken to indicate illness.

The change that they effect in milk does not spoil it for consumption. Milk is a rich food material that is unprovided with means of defense, and is intended only for nourishment. If the babe does not get it someone else or something else will get it in a very short time. The bacterium ærogenes may be depended upon to get it under ordinary circumstances in about twenty-four hours. It does not consume the milk, but it sets up a peculiar fermentation in the sugar of milk by which lactic acid is developed and spontaneously casein is precipitated from solution by the change in the reaction of the milk from alkaline to acid. This change is really a step forward in digestion. It renders the milk more absorbable, and does not impair it as a food at all. Neither does it offend the palate. There is nothing in all the long list of food products more delicious than good, fresh milk soured with a pure culture of lactic ferment. It tastes good and it is good. It is subsequent changes that spoil the milk. Changes that follow the souring, or changes that are not made by the bacillus lactis unassisted. It is the late and mixed fermentations and putrefactions that make the milk repulsive. So it is no great and good thing to get rid of the bacterium lactis ærogenes by pasteurization. When left alone it gives warning. When it is abolished there is no warning. When it is abolished the milk may be old, other bacteria may be present in large numbers unannounced, or even it may be that putrefactive changes have set in, and yet the milk is salable—it keeps.

Pasteurization is done with machines in which the milk is heated in thin layers, fully exposed to the air. This drives off odors; another advantage—such as it is. But none of the machines on the market is automatic, and it is really the operator that is responsible for its results. It is quite possible to make milk worse instead of better by this process. This

will be the case if it is done slowly, or if the milk is not thoroughly and immediately chilled. It is not at all unlikely to happen if the operator has his mind on only the one bacterium that I have described, and allows himself to become less and less painstaking so long as his product does not sour.

Another good thing that the sanitary milk plants have accomplished is the abolition of competition. Ignorance and competition are the two causes of all the vices in the distributing end of the milk business. For years the Department of Agriculture has sent out free information and instructions for milkers and milkmen. But who pays attention to it? Not the man in competition. He may read it and understand it well enough, and he may appreciate the importance of it. But he is not disposed to do any more in the way of following it than his competitor does. Improvements in methods must pay before they can be regarded as practicable. Extra care and extra labor cost money, and unless a dealer can see a return for his money he is unwilling to spend it.

One might suppose that a more desirable article of milk would command a better price, and that enterprise would pay as well in the milk business as in any other. But the milk business is not like any other. Ways that pay are of other forms and sorts than improvement in the milk. The ignorance that is one of the vices in this business is not confined to the producer or the dealer. It is shared by the householder who is always ready to save a cent and is entirely unable to discriminate. This is the incurable thing that makes it necessary to abolish competition.

When competition is abolished, that is when milk is bought wholesale subject to examination, the sins of the dairymen become expensive to themselves, and their ignorance soon disappears. And the sanitary milk plants must be credited with having shown how, by combining the manufacture of milk products with a milk distributing business, the whole milk business of a community may be controlled and systematized and improved without increasing prices. This control is the important feature to be realized by those who would help the people to come into their own.

Sanitary milk plants are a good thing, even though pasteurization has its limitations. Pasteurizing may be omitted and the plants retained for the unquestionable good that they can do. But who shall control the plants? If they are managed by public-spirited men who would buy the best milk obtainable and pay a price that would stimulate the dairymen, who would furnish rich full milk to their customers without regard to the legal standard, who would be governed in all things by the interest of the people and not particularly by their own immediate interests, all would be well.

But should a community expect a business man or a business organization to do work for the interest of the community, or to keep in mind any other thing than to make money?

There is a rule that seems to be founded very deeply in the order of things in this world which requires us to do for ourselves. There can be no other solution of the milk problem than that communities must act for themselves as communities and do for themselves, fully according to their lights and according to their opportunities. What is true of milk is equally true of milk products. The interest of each community requires that the whole dairy supply be brought under one management and each day's production utilized as a whole in accordance with the local market.

It is simply idle to specify what is wanted in laws. It is equally idle to expect something for nothing, either from a dairyman or from a dealer or from a stock company.

What is wanted in every community is honest service in the purchasing of milk and honest service in bottling it in the very best manner. This is not unattainable. There is nothing more sure than that honest service can be had everywhere by simply paying for it. Nothing suits human nature so well as good work and good wages.

I do not believe that there is any other solution of the milk problem than to let each community declare the distribution of milk a public service and employ its own servants. How this may be done is of little consequence. Perhaps if it be done in many ways, one way may appear in time to be best. Or there may be no best way. It may be with the form of milk service as with the form of government—the form that is managed best, is best. But it may be that one form might be more easy of adoption than another. It may be that the immediate acceptance of this proposition by any community might be hastened or retarded by the form of common ownership of the plant proposed.

Milk has never been listed among the public utilities for which municipal ownership has been advocated. There are many, no doubt, who ardently advocate municipal ownership on general principles who would be willing to add milk to this list. And there would be no special difficulties in the plan. A board of commissioners could manage a milk plant as well as a water department or an electric light plant. But the question of municipal ownership is such a big question in itself that it would perhaps be better if it is allowed to demonstrate itself in the fields already allotted to it; and better for the milk problem if it is worked out under a plan less burdened with difficulties and antagonisms.

The recently published opinions of an eminent legal authority regarding stock companies, limited as regards the ownership of the stock, have been widely approved and have not been,

so far as I know, objected to or contradicted. He gave illustrations of the advantages of such companies in working out social problems, and prophesied that they would increase in numbers and usefulness. They have the business strength and effectiveness of stock companies, while they conserve mutuality of interest and escape the speculative features, such as gambling in shares.

Such a company as this might be started in any city, by anyone and at any time. It might be started by a few or by many, who need only keep in mind the eventual placing of the shares as widely as possible among consumers. In the beginning the work of the plant would be an education for the people; and in the end the education of the people would continue and increase the scope of the work of the plant. Then the people would really control the milk business, and then the scientific work of the dairy division, and of innumerable other institutions and individuals, would be welcomed and utilized; and this would go on indefinitely, with profit to the people and satisfaction to all concerned.

Regarding the purchasing of milk. It must not be overlooked that the true interest of consumers is bound up with the interest of the producers. If the citizens of any community can be aroused to the necessity of acting together, they can be trusted to put some servant in charge of their interests who will buy better for them than they could individually buy for themselves. Without caring to specify, for the moment, whether it is better to pay a big price for wholesale milk or not, it would be an advance toward an ideal if the subject were arranged to come up for discussion once in a while. Experience would show. And I believe that there is more hope for the dairy interests in this plan than in anything heretofore suggested.

If this whole scheme is carried out so as to eliminate the unnecessary expenses, saving the large sum that can be saved by systematic delivery, omitting the advertising and soliciting cost and saving waste by converting each day's surplus immediately into butter or some other better paying product, it is easy to pay bigger prices for wholesale milk than have hitherto prevailed.

Nothing could suit the dairy interests more than that it should be called on to fulfil certain definite demands. Up to date there has been no particular breed of cows evolved for the especial duty of providing city milk. It is as good as certain that the best milk for household use is not the milk that is richest in cream. Native or grade cows are to be preferred to thoroughbreds for all around richness, flavor, and even balance of nutritive values.

I do not care to anticipate too much, yet it is certain that if cities learn how to get what they want they will soon learn to specify something in particular, and they will be willing to pay for it. And it is not too much to anticipate that there will be an evolution of new breeds to meet the needs of the city delivery and the different needs of the different kinds of milk products.

A GENERAL CONSIDERATION OF RADIOTHERAPY.*

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IT is a great honor to be asked to prepare a paper for the purpose of restoring the loss of confidence and to stimulate the lack of interest in radiotherapy which I understand exists throughout this section of the country. Associated with this honor is a great responsibility, for a misleading, radical or careless paper might easily negative the excellent work already accomplished by your honored President. To properly point out to you the advantages and limitations associated with this field of work, I feel it necessary to cover almost the entire subject of radiotherapy. To do this satisfactorily in a reasonably short article is a matter of considerable difficulty. I will, however, endeavor to indicate to you in a conservative manner how the rays should be used and the results that you may expect to obtain by their action upon various pathological conditions. Before considering the actual application of X-rays to diseased tissues it might be permissible to discuss very briefly the various methods of producing the rays, the instruments of precision, methods of protecting both the operator and patient, the cause and means of restoring the loss of confidence in radiotherapy and, lastly, a consideration of the general technics of application.

PRODUCTION OF THE RAYS.

The essential parts for the production of X-rays are two in number. First, a modified Crookes tube, which we will call an X-ray tube; second, an electrical apparatus capable of supplying a current of sufficient potential to excite the tube. The instruments employed to obtain the required electromotive force are the induction coil, the static machine and the high potential transformer. The latter although possessing certain advantages over the induction coil when used with the alternating current, has not been extensively employed in this country and it will not be considered in this paper. The Tesla coil is an apparatus which furnishes a high potential current, in fact the discharges are of the high-

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frequency type and such currents behave in a peculiar manner inside of a vacuum tube. Although the Tesla coil may be employed to excite an X-ray tube, I understand it has not been very extensively used, and in this paper the word coil, when used, will mean the Ruhmkorff coil.

The question for present consideration resolves itself into the static machine vs. the coil. If a physician desires to do difficult and rapid radiographic work the coil becomes a necessity. Combined with high frequency attachments this type of apparatus certainly possesses a wide range of usefulness. The disadvantages of the coil, such as the oscillatory discharge, the troublesome interrupters, etc., are rapidly being overcome by the perfection of new instruments. The static machine, in the first place, possesses the advantage of simplicity, its operation being attended with very little difficulty. It generates a unidirectional discharge. It may be used in localities where it would be impossible to employ a coil. It is not nearly so hard on the tubes and presents a wider field of general therapeutic usefulness. By far the largest part of my radiotherapeutic and radioscopic work is done with a static machine. I am thoroughly convinced that a twelve-plate machine will answer the purpose in nearly all cases where radiotherapy may be expected to be of benefit. Although the treatments will be a little longer, they are attended with far less trouble and expense than where a coil is used. Now to conclude the subject of apparatus. If the physician who desires to enter the field of radiotherapy is a general practitioner and does not desire to do the most difficult X-ray work, I consider the static machine the proper apparatus to employ. If on the other hand difficult and rapid radiographic work is to be attempted, it becomes necessary to have a coil. It seems hardly necessary to state that if the physician desires to enter the field of radiotherapy, radiography, radioscopy and electrotherapy, he should obtain both types of apparatus.

X-RAY TUBES.

A most important desideratum in radiotherapy is the maintenance of a constant vacuum in the interior of the tube. The vacuum of a tube not having a regulating device may rise several degrees during a single exposure. For obvious reasons therefore, a tube fitted with some regulating device is essential. The question of safety to the operator and patient may also be considered in this connection. If a tube is actuated by a static machine it is only necessary, on account of the freedom from powerful indirect rays, to cover the anterior hemisphere with material which is impervious to the X-rays, but if excited by a coil it is advisable to place the tube in a box lined with lead. Dr. Henry G. Piffard has designed a safety treatment tube which has proved eminently satisfactory. The tube is made of thick lead glass which is impervious to rays of low or moderately high penetration. A soda glass window is placed in front of the anode which allows the rays to come in contact with the part to be treated. Furthermore, the tube is fitted with an adjustable automatic vacuum regulator. It has been conclusively shown by Cole that the fluorescence of a tube when in action is not due to the passage of X-rays through the glass, but to the formation of X-rays by the contact of diverted cathodal rays with the glass. These X-rays are known as parasitic rays and they shoot off from the tube in all directions. They have proven to be both a source of trouble and of danger. As a result of recent investigations tubes will undoubtedly soon be perfected where, by means of a pipe of suitable material placed within the tube, the cathode stream will be conducted directly to the target. A minute hole in this pipe, placed in front of the anode, and covered with some material like mica or aluminum, will allow of the passage of X-rays but will entirely confine the cathode stream. Such a tube will answer the requirements of radiography and will be a safety treatment tube as well.

RECENT INSTRUMENTS DESIGNED FOR THE PURPOSE OF ACCURACY AND EFFICIENCY IN RADIOTHERAPY.

Unfortunately, radiotherapy has not as yet reached the stage where it can be termed an exact science. Much work has been done in the hope of perfecting instruments whereby X-rays of a known quality might be employed in exact dosage. These endeavors have not been associated with laudable success, although some headway has been made. In the first place, we know that a given tube will, under varying degrees of vacuum and varying degrees of energization, deliver rays that vary in their ability to penetrate different thicknesses of a given impediment. This degree of penetration may be determined by the clever device of Benoist. The radiochromometer, however, only ascertains the maximum and not the average penetration of the rays which issue from the tube. In other words it simply indicates the existence of certain rays which are capable of passing through a certain thickness of aluminum. In routine clinical work, if one is well acquainted with his apparatus, practically the same information may be obtained by observing the spark gap which registers the tube resistance. Also by the color of the fluorescence, a yellow glow indicating a maximum of low rays, while a green color indicates a maximum of high penetrating rays. We still lack some device whereby we can estimate the relative proportion of soft and hard rays which together make up the mass of radiation. Personally when an inspection of the fluorescence of the tube and the spark gap leave me in doubt, the examination of a heavy bone mounted upon a shielded handle (as suggested by Piffard) will give the required information. The object of determining the quality of the

radiation is to select such radiation as will expend the greater part of its energy within the depths it is desired to effect.

Now having settled the question of quality it becomes necessary to estimate the quantity of the selected radiation to be employed to obtain a given result. It must be sufficient to accomplish the purpose for which it is to be used, and yet it must be carefully controlled as a safeguard to the patient. To accomplish this purpose there are several devices upon the market which are supposed to measure the quantity of radiation delivered in a given unit of time. The first to be considered is the Holtzknecht chromoradiometer, which method consists of exposing a certain secret chemical combination to the rays and comparing the color changes taking place with an arbitrary color scale. To the same class belong the tablets of Sabouraud and Noiré of Paris, which consist of platinocyanid of barium, and which change from yellow to brown under the influence of the rays. Although I confess to having obtained good results by the use of the pastiles of Sabouraud and Noiré, both these methods are dangerous and unreliable. A great deal depends upon personal equation, upon atmospheric conditions and also upon many other factors. These methods have been rather extensively employed throughout Europe, but they have never been in favor in this country.

In the literature one finds accounts of many instruments originated for the purpose of estimating the quantity of radiation. Time will hardly allow of a consideration of these devices. For the present purpose it will suffice to know that there has been no method devised as yet which has stood the test of time, or which has received extensive confirmation. There is one instrument, however, which has been of considerable service. I refer to the magnetic milliampèremeter. A milliampèremeter in its proper position registers the actual amount of current passing through the tube, from which is deduced the amount of radiation given off. To obtain accurate information the milliampèremeter must be used only with a unidirectional current such, for instance, as is derived from the static machine. When used in connection with a Ruhmkorff coil where we are dealing with an oscillating current certain precautions must be taken. The direct or break current from a coil is the one we desire to utilize, while the made or inverse current is the one we try to exclude. These discharges do not bear a constant relation to one another. Usually the direct discharge will predominate, but at times the inverse discharge will equal or even become greater than the direct current. As a rule one can readily detect the inverse discharge by the appearance of the tube and also by the fact that the needle of the milliampèremeter frequently moves in the wrong direction. A much better way to detect the inverse current is to place an oscillascope in the circuit. If the inverse discharge is found to be present a Villiard valve or a modification of the same should be employed. This valve if placed in the proper position will, as a rule, completely choke off the inverse current and the milliampèremeter will read correctly.

Now to sum up the question of precision. We are able to estimate the maximum penetration of a given radiation by means of the appearance of the fluorescence, by the length of the spark gap and by the radiochromometer or modifications of the same usually designated as penetrometers. The milliampèremeter also furnishes valuable information regarding the tube resistance, thereby giving an idea as to the character of the vacuum. We have no accurate means of estimating the quantity of radiation, but by the use of an ammeter to register the amount of current passing through the primary circuit, providing the coil is used; a milliampèremeter to register the amount of current passing through the tube, providing the above mentioned precautions are taken, and the operator is thoroughly familiar with every part of his apparatus, the quantity of radiation can be judged with a fair degree of accuracy. I cannot leave this subject without a word of caution regarding the pernicious habit of the operator using his hand to judge of the quality and quantity of the radiation. The hand should never be employed for this purpose. Furthermore the fluoroscope should be fitted with lead glass to protect the face and eyes, and mounted upon a large screen, to protect the body.

PROTECTION TO OPERATOR AND PATIENT.

The question of protection to both operator and patient is an important one. Carelessness for the patient's safety may lead to severe burns. Carelessness on the part of the operator regarding his own safety may lead to permanent sterility and possibly impotence as well. These facts are well known, but just what effect deleterious continued radiation may have upon the nervous, circulatory and lymphatic systems as well as the internal organs is not so well understood. In any event the occurrence of these accidents to the operator can be entirely avoided by proper protection. Suitable protection for the patient will at least safeguard every part but the immediate tissue under treatment. As has already been stated, if the tube is to be actuated by a static machine it is only necessary to cover the anterior hemisphere with material impervious to the rays, providing the operator stands at some distance from the tube. The patient should be still further protected by the utilization of suitable funnel shields connected to the tube covering. When a coil is used the tube should be placed in a lead-lined box, having an opening in front fitted with funnel shields of various sizes, and a lead glass window at the top through which the operator may watch his tube. For

the majority of cases to be treated the Piffard tube answers the purpose of protection admirably and saves one the trouble and expense of other methods.

THE CAUSES OF AND THE MEANS OF OVERCOMING THE LOSS OF CONFIDENCE IN RADIOTHERAPY.

In the latter part of 1895 the medical profession was made acquainted with Roentgen's astounding and important findings. Both the medical and public press soon contained greatly exaggerated accounts of the wonderful diagnostic possibility of the X-ray. Then followed glowing descriptions of the marvelous effect of the rays upon certain pathological conditions, particularly the dreaded malignant growths. It was soon discovered that most cutaneous affections would yield to the treatment, that goitre, splenic leukæmia and many other diseases would respond to X-radiation. The dangerous character of the rays was unknown, and the world was optimistic indeed. Then came the shock. It was found that many malignant tumors would not yield to the treatment, and in a large percentage of the growths that did respond, the improvement was only temporary. Radiographs were so often misinterpreted that the courts refused to consider them as reliable evidence. Operators became sterile, cancers developed upon their hands, and many patients were badly burned. Physicians found they could not control the radiation; that is, they would treat one patient and obtain a most satisfactory result, while another patient treated in apparently the same manner would develop a severe radiodermatitis. These observations were not only published in the medical journals, but found their way into the lay press as well. The whole thing was mysterious; optimism rapidly gave way to pessimism. Fortunately, however, the old slang phrase and maxim, "A good thing can not be held down," remained true in the case of radiotherapy. A few conservative and scientific men retained their faith in the X-ray and instituted studies, investigations and observations, the result of which has been to lay a firm and reliable foundation upon which progress can take place. To-day, although there is much to be learned, one may say that the value of the X-ray and its proper application is well enough understood to make it of great value in the field of diagnosis and of therapy.

In radiotherapy the student of the X-ray rarely causes a burn unless such effect is desired. The experienced radiographer obtains the most difficult pictures without untoward results, and the logical interpretation of radiographs is gradually restoring their value as legal evidence Much harm is still being done, however, by unscrupulous manufacturers and by unskilled and careless practitioners. Enough has already been said to show that more is required in radiotherapy than to push the button and let the tube do the rest. That there are physicians who work upon this principle has been demonstrated to me time and again. There are many other abuses which have aided in producing this loss of confidence. There are, for instance, many physicians who do not believe the X-ray to be of value as a therapeutic agent. It is hardly necessary to say that such opinions are usually based upon careless study and a superficial consideration of the subject. Another factor is the treatment of disease by X-radiation when more suitable means might be employed. In this connection I would like to quote the following from Piffard's writings: "When a gentleman tells me that he uses the X-ray as his regular and routine treatment for all cases of acne and another says the same concerning eczema, the most charitable construction is to consider them radiomaniacs and to regret the poverty of their therapeutical resources. If they are dishonestly employing X-rays when other more suitable means are at command, there is but one name that can be applied to them, namely, radiografters."

Radiologic misinformation is another source of trouble. This is a term advanced by Piffard and means the incorrect and misleading statements which are to be found in certain papers, text-books and catalogues. The following incident may be mentioned as an illustration: A certain dealer in X-ray outfits advertised the Piffard safety treatment tube. It was stated that the tube was constructed of material impervious to the X-rays and that it was fitted with a lead glass window which would positively prevent the development of burns. Incorporated in the advertisement was an illustration showing the tube in direct contact with the skin. I am quite certain that Dr. Piffard would not sanction the use of his tube in this manner, nor do I think the advertiser properly interpreted the word safety.

The public press has been and always will be a serious obstacle to progress. In one paper one reads of the wonderful cures and marvellous diagnostic results of the X-ray. In another paper will appear accounts of the disastrous effects, such as sterilization, the production of cancer and even death by the use of the X-ray. In the *New York Times* of Sunday, April 14, 1907, there appeared an article upon X-radiation which undoubtedly produced a very unfavorable and entirely faulty impression in the minds of those who had the misfortune to read it, for it must be remembered that the lay mind will interpret such writings in an entirely different manner from the specially educated physician. There is no way to keep such matter out of the public press, because they can abstract from the medical journals, but many of these writings are the report of interviews and, of course, these can be refused by the physician.

To restore confidence in radiotherapy and to establish a firm foundation for one of the most

valuable therapeutic remedies which science has given us requires the co-operation of every physician. The operator should possess a theoretical knowledge of the X-ray as well as a practical familiarity. He should not only be familiar with its biological effect upon human tissues, but should study its action upon the photographic plate, for experimental radiography will develop much useful knowledge. I feel confident that if every physician who is entering, or who has entered this field, will employ the X-ray when indicated and only when indicated, will employ a safe technic, will instruct his patients regarding the advantages and limitations of the Roentgen ray and will make conservatism and caution his motto, radiotherapy will soon occupy the position it justly deserves.

DISEASES TO BE TREATED AND HOW TO TREAT THEM.

The class of diseases known as cutaneous affections offers the most satisfactory field for the work of the radiotherapeutist; we will therefore consider the dermatological disorders first. Among the most rebellious cutaneous affections with which the physician has to deal, the vegetable parasitic diseases of the hairy regions rank high as examples wherein the use of the X-ray has produced brilliant results. In all probability these diseases are cured by the production of complete epilation, and possibly by the bactericidal action of the rays. In tinea tonsorans and favus, on account of the rotund contour of the skull, it is necessary to treat one section at a time. These areas are carefully marked out with ink, the remaining portion of the scalp suitably protected, and the treatment to consist of five- or ten-minute applications three times weekly until epilation or a mild erythema occurs. The treatment of favus and disseminated ring-worm of the scalp by this method usually requires from three to fifteen weeks, but this is indeed a short time if one considers the number of years demanded by other methods of procedure. Rays of low penetration should be employed both as a protection to the brain and to obtain a quick epilation. Rays of medium or moderately high penetration will frequently produce epilation without the occurrence of erythema. In most of the diseases to be treated by X-radiation it is customary to place the tube so that the target is about eight or ten inches from the skin. Again, with the technics as employed in America, unless the operator has had considerable experience and is thoroughly familiar with his apparatus, it is advisable to give two or three five-minute exposures and wait two weeks, when if erythema fails to appear, the methodical treatment may be instituted. Such procedure is thought advisable as a means of protection against the possibility of individual susceptibility. In tinea barbæ and non-parasitic sycosis the effect of X-radiation is quite the equal of the above-mentioned conditions. Remarkable results are often obtained in sycosis vulgaris. Not infrequently this disfiguring disease, after resisting ordinary treatment for ten or fifteen years, will yield to three or four applications of the X-ray without causing epilation or the production of erythema. The percentage of recurrences in this class of cases is very small, providing the treatment has been thoroughly applied. Patients treated for tinea tonsorans, favus and tinea sycosis cannot be considered cured until repeated miscroscopic examinations fail to demonstrate the spores.

In hypertrichosis, although good results may be obtained, this method of treatment is not to be commended. Epilation is only transient and must be effected several times before the hair will entirely cease to grow. This procedure invites the risk of a severe burn, and even in cases where no inflammatory reaction occurs, the oft-repeated exposures will frequently cause the skin to become wrinkled and to assume a glazed and atrophic appearance.

In lupus vulgaris the X-ray usually gives very superior results. It is frequently necessary to cause a mild radiodermatitis. The cosmetic effect is better and the percentage of recurrence is no greater than when other methods are employed. In this disease, as in most cutaneous affections, the very low penetrating rays are usually employed, but I prefer rays of medium penetration.

Erythematous lupus does not yield very well to X-radiation, in fact the condition is frequently exaggerated by this treatment. Much greater satisfaction will be obtained by the use of the actinic rays, the high-frequency spark and chemical treatment.

Although the disease known as tuberculosis verrucosa cutis is amenable to X-radiation, it is advisable to treat it surgically rather than with the time-consuming and expensive X-ray treatment. The rays may be used to prevent recurrences.

In the treatment of keloid X-radiation gives better results than any other agent heretofore employed. Especially is this true of acne keloid where it appears to possess a specific action. Occasionally it will be found necessary to push the treatment to the point of severe erythema. In this disease, as in most cutaneous affections, it is advisable not to confine the rays strictly to the affected tissue but to treat a little outside of the actual disease. Recently I had the pleasure of treating a gentleman who had developed an extensive acne keloid, or to be more exact a condition known as dermatitis papillaris capillitii, upon the back of the neck. The tumor was four and one-half inches long, three inches wide, and about two inches thick. The tumor was X-rayed irregularly for a period of four months when it entirely disappeared. This patient was presented by Dr. J. A. Fordyce at the Sixth International Dermatological Congress. Cicatricial tissues resulting from burns and other accidents

do not always respond to X-radiation. In rhinophyma the results of X-ray treatment are frequently beneficial.

In obstinate cases of karatosis palmaris and plantaris the result of this treatment is highly satisfactory and the relief afforded appears to be more permanent than when other means are employed.

There are certain forms of chronic eczema which, especially when associated with infiltration and intense pruritis, and which have failed to respond to the ordinary forms of treatment, will frequently respond to X-radiation. The same may also be said of diseases like petyriasis rubra, hypertrophic lichen planus, etc. Mycosis Fungoides may be indefinitely controlled, but not cured, by X-radiation. In any affection accompanied with considerable pruritis this treatment will invariably overcome the itching, but it is considered preferable to employ other means to accomplish the purpose.

The X-ray undoubtedly possesses a specific action in nearly all cases of acne. Especially is this true of acne indurata. Its curative action in all probability depends upon the atrophic changes produced, its power of promoting absorption, and possibly also by its bactericidal action. Recurrences are quite common, but repeated exposures will produce a complete cure. The X-rays, however, should never be used for the treatment of acne until every other resource has been exhausted. Very soft rays are usually advised, and frequently it is necessary to produce a mild erythema. I have, however, obtained good results by the use of rays having a little harder quality. Rays of this character are less liable to burn the skin, and not only appear quite as efficacious, but the result seems to be more permanent. In rosacea this treatment is of little or no value.

The X-rays have been used with success in alopecia areata, psoriasis, verruca, hyperidrosis, varicose ulcers, nevus and many other cutaneous affections. As a rule these conditions can be cured by simpler means, and it is better to employ the X-rays in very rebellious cases only.

Malignant tumors. The X-ray treatment of deep-seated malignant growths has given very poor results and should only be employed in inoperative cases or as a post-operative procedure. Sarcomata appear to yield to the treatment better than carcinomata. Cancer of the superficial mucous membranes may respond to the treatment, but the results are so uncertain that such procedure should not be advised whenever a thorough operation is possible. In cancer of the breast, although the disease may be arrested, and even apparently cured, one is not justified in advising X-radiation unless the case is inoperable or the patient refuses surgical aid. In cutaneous malignant neoplasms X-radiation has given greater satisfaction, but even in these cases, if the tumor can be thoroughly removed by surgical methods, it is probably better to advise such procedure. There is one type of epithelioma which deserves special consideration. I refer to the rodent ulcer. This disease is usually situated upon the face, and frequently in such position as to be practically inaccessible to the surgeon. In such cases the cosmetic result is far superior and recurrences probably less common than where surgical methods are employed. In treating malignant tumors it is preferable not to employ rays of soft quality. With the exception of rodent ulcers a superficial burn is of no great value, and in most cases it is advisable to use medium or hard rays and plenty of them. In this connection it might be stated that post-operative X-radiation to prevent the recurrence of malignant tumors is apparently of great value.

The treatment of pulmonary tuberculosis has proved to be a failure. Although this treatment is of value in tubercular bone lesions and sinuses, preference should be given to the surgeon. Tubercular glands, especially when associated with scrofuloderma, frequently react better to X-radiation than to surgical methods.

Certain cases of rheumatism may be greatly benefited by mild application of high penetrating rays. This is especially true of chronic non-suppurative arthritis associated with considerable periarticular infiltration and more or less pseudoankylosis. This treatment should only be used as an adjunct to other methods.

The literature contains several reports of the successful treatment of goitre by X-radiation. I have treated several such cases by this method, and only received a good result in one case, which happened to be of the exopthalmic variety. To be effectual one must employ large quantities of rays possessed of hard quality, and they should pass through the tumor horizontally, so as to avoid the spinal cord.

Splendid results have been obtained in splenic leukemia by this method of treatment. When applying the rays to deep-seated tissues the quality must not only be very hard, but they should be filtered through tin-foil, aluminum or leather so as to avoid injuring the skin by soft rays, which are always associated, to a greater or less extent, with the hard rays.

In conclusion may be mentioned the administration to a patient of chemical substances which flouresce when acted upon by X-rays. Morton asserts that he obtained good results in tuberculosis, malignant growths, etc. This work, although interesting, has not as yet received very extensive confirmation.

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THE ADVANTAGES OF A COUNTRY WATER-SHED.*

By CLARK G. ROSSMAN, M.D.,
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THE three practicable sources of a potable water are:

1st. From an uninhabited or but thinly populated water-shed directly, or, preferably, with the intervention of an impounding reservoir.

Such a source may be unobtainable on account of prohibitive distance or geological conditions. It is most available in hilly and poor farming districts.

2nd. Good ground waters, i. e., spring or well water which by its passage through the ground has become thoroughly freed from impurities. It is adapted to small and medium-sized towns on account of the usually restricted supply.

3rd. Filtration of surface waters which would otherwise be unsuitable for domestic purposes.

The advantages of a pure spring or deep ground water are self-evident and need no sanitary discussion.

Of primary importance in consideration of a surface water supply drawn from a rural water-shed is *prevention of pollution.*

In the selection of a water-shed, aside from the financial and engineering considerations, a bacteriological, microscopical and chemical examination of the water are essential. The former deals with the present, the latter with the past.

But of still greater importance is a *sanitary survey* of the region, which predicts the future.

It consists of a thorough knowledge of the source of the water and of the opportunities for pollution, both constant and occasional, to which it may be exposed.

We are bound to use contaminated water, so long as the individual is allowed to fertilize the fields or truck-garden with human excreta, or is permitted to continue the use of a privy which overhangs or drains into the small stream, or the village is permitted to contaminate the creek which flows near by, through its direct drains, or the seepage from its privy vaults and cesspools. Most water supplied to municipalities is purified sewage of greater or less concentration.

With continued growth of cities and consequent greater demands for larger supplies, and increasing population of the rural districts, it would seem that the day is not far distant when a naturally safe and suitable water will become a thing of the past.

Thus the question of potable water becomes one of purification of sewage, its treatment and disposal. It can be avoided only when a municipality is financially able to acquire absolute possession of all the territory which comprises its water-shed. In large works this will necessitate the wiping out of many farms and even villages and towns as well as the destruction of industries. But by scientific reforestration it might be made a source of considerable revenue.

Possibly it might be feasible to make State parks of water-sheds, if of sufficient area.

Protective measures are naturally of first importance. These are divided into two classes:

1st. Those which must be enforced during the construction of the works, thereby avoiding epidemics of the type which Ithaca not long since experienced.

2nd. Those which must be enforced after the works are placed in operation.

Communities seldom regard the welfare of other communities, but are satisfied if no nuisance is created within their own limits. It is here that the State by its laws and through its Board of Health should interfere for the protection of each community against all others.

Fortunately by that most powerful agent, *sanitary education,* State sanction of all new sewage disposal plants, and Rules and Regulations for the Protection from contamination of Water Supplies, our own State is aiming at this goal.

When this protection is afforded through adequate laws, *properly* enforced, the disposal of sewage must be such that it will *lose permanently its power for harm.*

How this can best and most economically be done, with the least trouble to the householder and in the least offensive and obtrusive manner, is a question to be solved in each instance.

The first aim is the getting rid of the sewage, the disposing of it in such manner and in such place that it will not create a nuisance or be a menace to the health of others.

The ordinary country privy is constructed for the avowed purpose of retaining the solid matter as long as possible upon the premises; they become centres of pollution and infection. The liquid portions escaping, pollute the soil, neighboring wells and stream.

The closed cesspool is often sanctioned as a sanitary contrivance, but unless it is situated at such a distance that no possible contamination of a water supply could take place it is a great abomination, on account of the false security which it gives; for practically no cesspool is water tight, though many are thought to be so.

The chief aim in managing a rural water-shed is to prevent *immediate contamination, insufficient natural filtration, or surface washings* into the feeders of the supply.

The best mode of control of privies is the institution of the impervious pail and dry earth system. The contents of these pails, like all other garbage and waste, solid or liquid, should be buried or disposed of in such manner that no surface washing can take place and at such distance from any tributary to the water course that

*Read at the first annual meeting of the First District Branch of the Medical Society of the State of New York, in New York City, October 28, 1907.

natural filtration will be efficient in preventing contamination.

For the purification of sewage from large institutions or villages the septic tank supplemented by filtration is applicable. The main point is that disease germs shall not be present in our drinking water. If they can be kept out in the first place at a reasonable expense, it should be done. If they cannot be kept out the aim should be to limit as far as possible the number which enter the water supply and to remove as many as possible of those which gain entrance.

The ownership of the entire water-shed would naturally afford perfect protection. When this is not feasible the municipality should have control of all that area which is submerged and a strip of land from two hundred to three hundred feet distant from high-water mark. The same control should also be had of all principal feeders.

If a municipality is financially unable to procure a sufficient absolute distance protection of its water supply, it must then depend upon State Board of Health "Rules and Regulations for the Protection from contamination of Public Water Supply." These (as in this State) are adapted to the locality and endeavor to minimize any possible pollution of the water, through regulations concerning the proper disposal of waste and the further maintenance of possible sources of contamination.

These rules should provide for patrol and frequent stated sanitary inspections of the water-shed as well as regular bacteriological examinations of the water. Legal protection of a water supply is a very great safeguard, but cannot guarantee absolute protection. The water is still liable, through carelessness or negligence, to pollution, in a similar manner to the celebrated town of Plymouth case.

It is this unintentional pollution which is most dangerous and difficult to prevent. In a large percentage of this class the first responsibility rests upon the individual physician, in making an early diagnosis of a water-borne disease, giving proper instructions for the disinfection of the patient's excretions and sick-room materials and waste, then making immediate report to the Board of Health, which in turn should notify the municipal authorities so that close supervision may be kept over the proper carrying out of adequate methods for prevention of contamination of the water supply.

The following notice is posted at frequent intervals and conspicuously in the Province of Ontario:

THE POLLUTION OF THE WATERS OF THESE LAKES MUST STOP.

Naturally the waters are pure and must be kept so. The Provincial Board of Health of Ontario hereby give notice to all householders, hotel proprietors, owners of boats and steamers of all kinds and the public generally, that the practice of depositing domestic sewage, house waste, human and animal excreta (liquid or solid) or pollution matter of any kind whatever in the waters or upon the shores of the lakes and their tributaries, MUST CEASE FORTHWITH.

This is in the right direction. The language is unmistakable. But from observed and personal experiences I am fearful that it is not as effective as it is imperative.

After careful selection, and jealous care of a water-shed, *purification* of the water if liable to pollution is required.

The most important agents of purification are, *dilution, time, sunlight, aëration, sedimentation and filtration.*

Dilution, time, sunlight and aëration are nearly self-explanatory. A storage reservoir if available and of ample capacity is desirable, the larger the better. Sedimentation is somewhat uncertain, but in a period of two weeks about 90 per cent. of the bacteria will have precipitated.

Suitable preparation of the storage reservoir will in a large degree prevent the growth of microscopic life which sometimes gives to waters of this type its harmless turbidity and bad odor.

In a storage reservoir of considerable capacity organic, as well as other material, will settle to the bottom. Changing temperatures bring about overturning of the water in November and again in the spring. This organic matter is brought to the surface at these times and serves as food for infusoria and diatoms, which then grow in enormous numbers.

Wasting the surplus of water at the bottom and drawing from a few feet below the surface during the periods of stagnation will lessen the impurities and objectionable odor, at the time of the next overturning. Treatment with copper sulphate will also inhibit the growth of these unpalatable organisms.

Dilution, time, sunlight, aëration, and sedimentation each performs a part, though no great dependence can be placed in either. The logical deduction is therefore that in most cases filtration of the water will be required where there is danger of sewage pollution.

In brief, the advantages or disadvantages of a rural water-shed as compared to other sources depend upon the ability or inability to prevent contamination, and the thoroughness with which pollution material, which is or may be present, can be removed.

From 1872 to 1905 the City of Hudson drew its water supply from the Hudson River directly in front of the town. The source was not all that it might have been. The water was purified by slow sand filters, which, however, were not covered and probably not cared for as they should have been.

From 1899 to 1906 there were reported an average of 62 cases of typhoid fever, originating in the city, per 10,000.

During the same period there was a mortality rate of 8 per 10,000 from diarrhœal diseases principally occurring among adults, and some

deaths from "malaria." By far the larger number of these occurred during the months of January, February and March, a time which suggests that the diarrhœal diseases and malaria should also be classed as typhoid.

In 1906 a gravity supply was obtained from a thinly populated rural water-shed, mostly upland pasture and woodland. It comprises an area of 51½ square miles with a population of about fifteen per square mile. The most densely populated section is a small village of about 100 inhabitants. There were no serious industrial wastes to contend with and but few instances of gross pollution. The water-shed can develop 25,000,000 gallons daily, a sufficient supply for a town of 250,000 inhabitants with a per capita consumption of 100 gallons.

An integral part of the system is a separate storage reservoir of 90 days' capacity. From this reservoir the water is drawn to and passed through a slow sand filter and is passed on to a second uncovered storage reservoir of about three or four days' capacity.

The bacterial content of the feeders shows a maximum of 1,800 and a minimum of 157 per cubic centimetre. The water as delivered to the city has contained a maximum of 141 and a minimum of 12 with an average content of 55 germs per cubic centimetre. At no time has the bacillus coli communis been discovered.

These factors have reduced the number of cases of typhoid fever originating in the city to 4 per 10,000. Polluted ice and some questionable milk probably account for some of these.

There has also been a very considerable saving in operating expenses of the water supply, due to the fact that water will run down hill more cheaply than it can be pumped up.

The lessened morbidity and mortality from water-borne diseases, though more difficult to compute in dollars, has been undoubtedly of far-reaching and greater economic value.

(The material for this paper has been drawn from standard works on sanitary engineering, filtration and sewage disposal.)

The physician makes a sorry spectacle if when called suddenly face to face with a case of syncope, uterine hemorrhage, biliary or renal colic, etc., he is without the necessary agents to give relief. He can write a prescription, yes, but in the meantime valuable time is lost; and when the emergency is at night, the "prescription" is sometimes a mockery. An hour or two may pass before one succeeds in having the prescription filled. A physician told us that he was once called to a distressing case of angina pectoris, at night, and the circumstances were such that he would willingly have given a hundred dollars for a pearl of amyl nitrate, put into his hands that night.—Critic and Guide.

NEURASTHENIA OR NERVOUS EXHAUSTION.*

By JOHN D. BONNAR, M.D.,
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IN approaching the discussion of this subject, we are confronted with its unlimited area of operation and its wide diversity of causes. On the other hand, its ways of manifesting its existence in individual cases are about equally limitless—depending, as they do, upon age, location, idiosyncracy, and co-existing diseases, or disturbances of the normal functions. Such character at once distinguishes the ailment, while rendering the complete diagnosis rather indefinite; therefore, with our present knowledge of the subject, it becomes us to deal cautiously in making our views known to the patient, while carefully weighing all the co-related features and, by processes of elimination and deduction, arrive at a decision.

It is a well-accepted principle of practice, that, where many remedies are prescribed for any disease, its true nature or its special remedy remains unknown. Likewise where vast and widely differing causes appear to produce the same general result, there is yet an obscurity as to the real pathology. Such we regret to admit is the case in neurasthenia. Nevertheless its known existence as a member of the morbid affections which afflict man, gives it classification amongst the more usual diseases.

That it is a "condition" rather than a specific entity I feel justified in believing; yet, with our limited proof, we must await later investigation to verify such view.

In this day of germ theory of disease, we have grown rather skeptical about pathological states, except in so far as may reasonably be produced by the destructive germ influence. The time has gone by when we can loosely ascribe to chill or atmospheric states, or even heredity, the rôle of honor as causative forces in precipitating a sickness. We now look for some culprit, in the form of bacillus or germ. When we have isolated the venal force, we thereupon proceed to seek its antitoxin. Thus the materialistic has supplanted the more or less ill-defined influences which held the stage in the older school. But influences are yet such vital forces, we must carefully weigh them and often decide whether such are not even now worthy of being ascribed the prior place in producing morbid states that predispose to the growth of the germ While thus casually delineating some of the preconceptions which arise out of the study of this quite prevalent sickness, I shall now place before your attention the picture of Neurasthenia or Nervous Prostration, as commonly met in our practice.

Weakness, not attributable to any well-known cause, is the most salient symptom. The his-

*Read before the Eighth District Branch of the Medical Society of the State of New York at Buffalo, September 26, 1907.

tory of each case, however, will usually reveal the existence of some excess, psychic or physical, thence we are guided, in eliciting the history in the individual case, following, from cause to effect, each line of morbid force that is revealed, till the full array of facts are in mental revision, then relation as primary, secondary or later-morbid factors. Thus the sum of abnormal discords are voiced by this vital instrument of human instincts, emotions and ambitions. Small wonder if our point of view changes quickly when mind and body, as causative forces, alternately take the lead.

The patient is irritable and easily excited, but soon exhausted, leaving a feeling of apathy. He suffers from exhaustion, fear and inability to make decisions. Inconstancy is also a marked feature, but intellectual capacity is not materially lessened, yet patient forgets easily.

Spontaneous mental acts are lessened, visual memory-pictures lessened, power to think lessened, yet subject to habit of introspection to a morbid degree.

Subjective symptoms are headache, vertigo, sleeplessness, fear of sickness, nosophobia, often combined with hypochondria.

Some of the single symptoms are also combined with this same despondency. Lead-cap headache is a special feature, while insomnia is often so persistent as to dominate the clinical picture. Pavor nocturnus is often a troublesome feature, particularly with children, who suffer with frightful nightmares. Nyctalgias are often of such distressing nature that patients are nightly tormented with dreadful pains in the epigastrium. In other instances the pain is felt beneath the sternum. Special senses also manifest the existence of some abnormal influence.

Such is due to its effect upon the motor nerve supply, rather than the nerve of special sense, for, while sight and hearing are not weakened, there is a distinct debility manifested in the muscles of the eye, supplied by the third pair of cranial nerves, which give motor power thereto.

Athenopia is a condition of neurasthenia brought about by eye strains, as from hyperopia or astigmatism, or muscle unbalance. Again we find, when the patient attempts to stand, with the eyes closed, a tremor of the eye lids occurs—fibrillary tremor of the orbicularis palpebrarum. Orbicularis oris tremor is also noticed.

Motor disorders manifest themselves in weakness, tremor and slight fatigue, but never increase to paralysis, are always general and not confined to one nerve area, never combined with atrophy, nor with alterations in the electric excitability. While tremor is a frequent symptom, it is of the rapid vibratory nature and of small amplitude.

Slight degrees are also found in healthy persons after smoking, venery or drinking, and also from psychic excitement. Deep reflexes are generally increased, especially of the knee reflexes. Foot clonus is occasionally observed, also increase in the mechanical and nerve excitability.

Whenever the knee reflexes are wholly absent, organic nervous disease is liable to be present. Stuttering and mutism, particularly during school hours, are found among children suffering from overstudy, or lack of proper rest and sleep. Fear is also a strong factor in such cases, and Hippus is also not a rare symptom with children.

Neuralgia, while not often found, sometimes occurs as an hemicrania, in neurasthenic patients. Parasthesias, formications and a feeling of coldness, more usually of the feet, but also of the hands, or in the region of the quadriceps extensor femoris muscle, are symptoms—the latter occurring from some sudden shock or fear. Pruritis ani or vulvæ are quite common occurrences—heredity, in this respect, was markedly shown in a cited lineage of mother and three daughters, all having the same pruritis ani et vulvæ at age of thirty years—possibly only co-incidental, yet of sufficient interest to be related by Mayer on "Diseases of Nervous System," as given by Oppenheim. Another sister had a general alopecia—a neurasthenic sequence. Urticaria of a neurasthenic type is found.

Vasomotor disturbances, as erythrobia—morbid flushing—may be very stubborn. A neurasthenic form of intermittent limping is seen. Heart disturbances are closely allied to these vasomotor influences, arising from this disease.

Paresthesias, resembling angina pectoris, occur. Psychic excitement, or coffee or diet may readily increase the pulse, out of proportion with their normal effect.

Tachycardia, as though the heart would stop, I have seen in some well-marked cases of this sickness. Impotence, in male patients, occurs relatively often, which gives rise to our careful enquiry into personal habits—genital and convivial. While bladder disturbances are seldom, seminal losses are quite liable, where debility becomes marked.

Digestive disorders are also frequent—particularly hyperacidity of gastric juice and occasionally severe pain.

Constipation is frequent—may be in the nature of a cause.

Nervous hepatic colic occurs in some (Furbringer), but its diagnosis, as being due to neurasthenia, would depend largely upon the absence of icterus, swelling of the liver and absence of other neurasthenic symptoms, yet the chronic cases of these liver ailments may cause, in part at least, the neurasthenic state. Salivation and also an abnormal dryness of the mouth, are experienced. Albuminuria is also found as sequence to psychic excitement, also oxaluria, while general nutrition need not suffer in the slightest.

Increased tendon reflexis, increased excitability of sensory and, to a lesser degree, also of motor nerves are present, while the cardiac nervous system evinces, in many cases, abnormal

excitability. We are thus led to yield to Bouveret's contention, that this is a disease of the nervous system.

This contention is strengthened somewhat by the fact that in chronic intoxication, allied in his characteristics to neurasthenia, Nissel's method has shown minute alterations in the ganglionic cells, but in this neurasthenic disease the alterations are so minute, our present methods cannot detect them. The anatomic basis being in doubt, we cannot properly speak of neurasthenia as being a material disease of the nervous system. It tends to take a chronic course, increasing gradatum. A certain periodicity is also found.

Having thus briefly outlined the symptomatology, let us now observe the states, conditions, or influences, which act as causes. Its common occurrences to-day suggest its origin in the "strenuous" life of our people and thus affords an insight into its essential nature. For this let us be thankful. As already noted, neurasthenia is a disease of very common occurrence. Both sexes are afflicted, but, in its pure type, it is more frequently found in men than women —the latter suffering more frequently from hysteria.

Such authors as Osler, of Oxford, and Charcot and his pupil, Ellis, all corroborate the view that between these two diseases—neurasthenia and hysteria—there is a close relationship. In fact they go so far as to regard the hysteria in the nature of a resultant to that debility brought about by the morbid train of ills, developed in what is denominated nervous prostration or neurasthenia.

Dr. Austin Flint gives as causes of hysteria, "sudden disappointment, mental anxiety, prostration, violent anger," and, as causes of neurasthenia, "long continued anxiety, or inquietude, increased by other causes, which tend to diminish the vigor of the body, with respect to the hours of sleep and rest." This, you will observe, is a most striking similarity in the symptoms of the two diseases.

Charcot gives, as the direct cause of hysteria, causes that act by causing derangement, particularly of nutrition, of the nervous system. That loss of insensibility, in hysteria, shows evidence of nerve exhaustion, in the centers of nerve sensation, are theories advocated by such noted authors as Sollier and Ferra, while Gilles de la Tourette believes that hysteria is largely due to desire for simple affection. With the latter exception, we must admit the peculiar and striking similarity of these affections and some sameness in their pathology.

In fact, the contention of Charcot is that hysteria is due to a derangement of the general nutrition of the nervous system. This is also admitted to be the most marked condition in neurasthenia, hence their differentiation, to say the least, becomes complicated by such weight of authority.

Having thus cursorily shown the relationship of the causes in neurasthenia and hysteria, in major features, I will not weary you with further comparisons, but recite still a few more of the marked sources from which this prostration of energy springs. Middle life is the most fruitful period; hereditary predisposition has marked effect where exciting causes supervene. Neurapathic predisposition is likewise a favoring forerunner; congenital weakness of system, particularly of the nerves. Psychic and physical degenerative stigmata are associate causes. Toxicological taint, as from alcoholism of parents, may lay the foundation; emotional nature is also an important etiological factor.

Prolonged psychic excitement, mental overwork, night working and over-heated rooms, also all moments that weaken the organism, loss of blood, and fevers are potent causes of this complaint. Toxines, while a factor, are not a frequent cause. Debility of genital powers and defective hearing or loss of smell provoke the onset.

Those afflicted with persistent scoliosis are frequent subjects. It may be of toxic origin, as from chronic alcoholism, nicotine, lead or arsenic. Syphilis is also a fruitful cause. Autotoxic source is not well established, yet finds a supporter in Bouchard. Sexual disorders, especially abuse and Onanism, or interrupted conjugal life, lay the foundation in many cases. Cephalic injuries and shocks, particularly when combined with psychic excitement, as in railway accidents, are a fruitful cause.

Diagnosis.—Neurasthenia must always be diagnosed by exclusion. First satisfy yourself that no organic trouble exists. Phthysis, diabetes, a hidden carcinoma, or uric acid diathesis may induce symptoms resembling neurasthenia, and must be carefully sought, and, if not found, eliminated.

Hypertrophy and heart murmurs are never of the functional character, so, if existing in case of weakness, the nature of such weakness must be sought out in other causes than neurasthenia.

Acceleration of pulse in neurasthenia is more of an emotional source, and is due to vasomotor disturbances. In organic heart affections, such as stenosis, respiration is of dispnœic character and retarded, not quickened, as in neurasthenia. While organic heart disease may itself cause neurasthenia, we must, however, take the general symptoms into account in forming our diagnosis. We should carefully consider the points of resemblance in neurasthenia and such diseases as dementia paralytica, disseminated sclerosis and cerebral tumor, but the differentiation will be shown in the history and lack of mechanical and electrical excitation.

Melancholia, paranoia and nervous condi-

tions, due to some exhaustion, not of a general nature, are readily eliminated from the field of doubt. This, however, is not so in some border-line cases of hypochondriasis and some of hysteria, which either complicate the neurasthenia or are, *per se,* the sickness.

In neurasthenia there are no spasms, while paralyses of the special senses, as are found in hysteria and in both diseases, are seen occasionally in the same subject. I found both, of singular intensity, in a lady patient recently. She suffered extreme prostration from conjugal abuses and emotional shocks, till, wholly wrecked, she fell into an hysterical and neurasthenic state—only dispelled by the removal of the cause.

The prognosis depends largely upon the cause—that from emotional, excessive mental or excessive physical work being the best.

The treatment must depend in each case upon the nature and severity, hence there are no hard and fast rules by which we can prescribe for the sickness.

Rest, in cases of great debility, may be imperatively needed, while in incipient cases, quite active physical exercise would be equally good; hence we must determine the special as well as the more general phases of each case. Some patients will show signs of anemia, and for such iron, manganese and beef are indicated, while nerve depression suggests nux, and cold extremities, arsenic, iron and general tonics, together with properly regulated exercise.

In all, such food as will be readily assimilated without any likelihood of leaving much residuum to cause fermentation, is indicated. Establish confidence of patient in his recovery, treat any special diseases which are manifested, such as hepatic torpor, lythemic condition, syphilitic taint, all wastes of whatever nature found in patient, then take up the general treatment of the case.

Before considering removal of primary cause, we must determine whether any immediate demand exists for checking effects produced. Having thus circumscribed the case with such temporising expedients, we are in position to adopt constitutional remedies, amongst which I would name hydrotherapy. Cold rubs at a temperature of 77 degrees are good, and well borne. Cold sitz baths are also useful. Galvanization of head and back is of much help in some chronic cases, so also are electric baths. Massage is also most useful where active bodily exercise is unsuited. Change of surroundings is often the one thing needed to restore sleep and hope in recovery.

Insomnia, if persistent, may be relieved by bromides, or, in case of their failure, paraldehyde, sulfonal or trional, or an alternation of these may be given in doses of from one to two grams, yet never persisted in for any length of time, only till normal actions return, or where ineffectual other means are adopted. The rest treatment of Dr. Weir Mitchel, followed by liberal feeding, is much favored.

Too much treatment is liable to create in the mind of your patient an impression of the great seriousness of the sickness, hence, while keeping careful watch of every condition, such should not be made the subject of comment to the patient. A rational way of living and removal of all special causes as far as possible, and avoidance of their repetition, will, in absence of any organic disease, afford most hopeful prospect of permanent cure.

Observations and Inferences.—In the pure type of this disease, we find the nervous system is its particular seat of action; manifestations of special derangement of the organs, being usually traceable to the nerve action thereon. This occasions enquiry as to the way this is brought about. The cerebro-spinal and sympathetic (organic or vegetative) systems of nerves, while differing in their functions, are, however, intimately related in the workings of the animal economy. While the cerebro-spinal, by its dual nature of motor and sensory powers, presides over the special senses and the motion and feeling of our bodies, they also send fibres to join with the sympathetic system which forms a double chain of ganglia connected by nerve trunks into one complete circuit within the great cavities of the body.

In normal conditions, the functions of our body are automatically performed. The sympathetic system, through its ganglia and its terminal nerves of distribution on the surface and in the texture of each organ following the vascular ramifications, keeps each organ in regular line of duty. The spinal nerve filaments which join this system at the ganglia on either side of the spine are found to send their filaments in company with the fine terminal fibres of the organic nerves. Whatever disturbs or acts upon one system of nerves will, when extreme or of long duration, make itself manifest in the other. The peculiar analogy between the nervous system and an electric battery, gives us basis of deduction that would not occur in absence thereof. The electric fluid of the battery has its similar in what is denominated "neuricity," while the central cells, with their dendrites, are in the nature of a battery, the axiones being the wires. Now, if we should carry out the analogy fully, we should be led to see that anything that occasioned a waste is comparable to the short-circuiting or grounding, so to speak, of the electrical circuit. Hence disease or injury from physical or psychic shocks which draw heavily upon our powers of resistance, could in time deplete from the supply of nerve fluid so as to reduce to debility the whole system. Again it has been proved that nicotine applied to the pre-ganglionic fibres, or when injected in sufficient amount, paralyzes the action of the organs supplied there-

from. Cutting of such nerve root also paralyzes the organs; hence we infer, that whatever depresses the cerebro-spinal system will finally debilitate the functions of such organs, supplied thereby. Irritation of the sympathetic causes contraction of the arterioles and capillaries and, as in case of the nerve supply to the eye, we find that the irritation of the sympathetic in the neck will produce an enlargement of the pupil, but a complete severance of the nerve will produce a contrary effect, showing that the dilator muscle of the iris is supplied by the sympathetic nerve. Hence we see that anything that disturbs the normal workings of this system, produces organic changes. Therefore we are warranted in concluding that mental, moral, emotional, traumatic or toxic influences, while borne for a time will, if continued, reduce below normal efficiency the working of the whole system—neurasthenia supervening.

Flushings are due to temporary suspension of organic nerve influence in the vasomotor system. Internal conjestions and inflammations are simply more extreme stages of this suspension of sympathetic nerve control over the blood supply of an organ or texture of a body. Chills of the surface to-day, making themselves manifest on the morrow in internal congestions, are at first resisted by the defensive force of sympathetic nerve control over the internal circulation. But when tired in this defensive act, the weakened powers of the nerves yield to the pressure of blood, then internal conjestion, or possibly an inflammation, may result. Toxines, psychic or physical influences, which lower the tone of one or more parts of the body, must obviously tend to weaken the organic nerve control of such, thus inducing disease therein and acting as an avenue of escape of neuricity. Similarly any such morbid forces will likewise disturb the normal formation of the enzymes or catalytic ferments in completing the end products of digestion.

Thus the enzymes are changed in their nature and action by feeling the force of such physical or psychic shocks.

When the opsonic index is superseded by the morbid wave, debility or disease, or both, may result. It may be neurasthenia simply, or it may be such with complications precedent, synchronous or sequent.

Do not think that because I urge the use of plain remedies and the exercise of common sense I am opposed to medicinal agents. I believe in drugs, when drugs are needed; and I believe in giving efficient doses. Nothing seems so fatuous as playing with drugs in insufficient doses. When one desires to divide skin or muscle, one needs a knife that will cut. So also when one needs a drug, it must be pure, it must have power. The physician must know not only what he is giving, but how much. Besides this, he must have courage to give enough.—John B. Roberts.

SOME RECENT ADVANCES IN MEDICINE.

ESPECIALLY IN PATHOGENESIS, DIAGNOSIS, AND TREATMENT.*

By DE LANCEY ROCHESTER, M.D.,
BUFFALO, N. Y.

A QUARTER of a century ago, morbid anatomy and diagnosis by ordinary bedside measures were taught nearly as well as at the present time. Indeed, it is a question whether the close observations of the facies of the individual, his decubitus, and the characters of pulse which are to be learned by palpation of the blood vessel, were not more closely studied then than now, when we have so many mechanical and laboratory methods of investigation ready to our hands.

In this quarter century, however, the study of pathogenesis, the origin and evolution of disease, has made most rapid progress. Our ideas as to the origin and methods of propagation of many diseases have been very materially changed.

The group of spontaneous diseases has almost entirely disappeared; the group of inherited diseases has notably diminished.

The groups of infectious diseases and of diseases due to vicious metabolism have decidedly increased.

In *Flint's Practice,* Edition of 1881, occurs the following: "While all microscopical observers now admit the frequent, if not constant, presence of bacteria in most infectious diseases, they are not agreed as to the pathological importance of these organisms." After a brief review of the subject, Flint in the same volume says: "From what has been stated may be drawn the following conclusions:

"1st. That living organisms are active agents in the contraction of all infectious diseases, is a

*Address of the President of the Eighth District Branch of the Medical Society of the State of New York, delivered at the annual meeting at Buffalo, N. Y., September 25 and 26, 1907.

In his introductory remarks Dr. Rochester spoke of the organized profession of the State and the importance of having an authoritative body to speak for the profession on matters relative to State hygiene, medical legislation, etc.; this being one of the functions of the State Society. He said that the functions of the county societies are partly scientific, partly social, and partly political. It is among the functions of the county society to maintain high ethical standards in the profession, to obtain evidence against, and prosecute, such individuals as may be found practicing medicine illegally, to see to it that the health of the people in various localities in the county is not jeopardized by either ignorance, neglect or crime, and to aid the State Society in its endeavors to maintain high standards of medical education.

He said that the functions of the District Branches of the State Society are, or should be, scientific and social only. The object of these societies should be to promote social intercourse among the physicians in the several counties which unite to form the Branch and to encourage good scientific medical work among its members. These ends are to be accomplished by well-attended meetings and by interchange of ideas among members.

logical inference, explaining better than any other theory pathological events.

"2nd. This theory appears to have been established by facts in the case of two diseases—namely, malignant pustule and relapsing fever. Reasoning analogically, its application to other infectious diseases is extremely probable.

"3rd. For other infectious diseases the facts, as yet accumulated, are not yet sufficient to demonstrate the correctness of the theory."

Think of the advances which have been made since then in our knowledge of the origin and evolution of this group of diseases. What was then merely a probable theory has become a proven principle, and we now define an infectious disease as a disease caused by the entrance into and growth within the body of a pathogenic micro-organism, which by its presence and the products of its growth causes the morbid changes in the tissues and the clinical phenomena characteristic of the disease.

I have already referred briefly to the falling off of diseases from the inherited group, and the increase in number of those in the infectious group. Probably the two most striking examples of this transfer are tuberculosis and acute rheumatism.

As our studies have progressed, it is becoming more and more evident that environment is a much more potent factor than heredity in the evolution of diseases.

The modes of transmission of disease—especially infectious disease—have been and are being investigated, and great benefits have been derived and are still to be derived from these studies.

It is interesting to note at this time, that in 1881 Flint refers to yellow fever as "portable, though not communicable," and as "a purely miasmatic infectious disease."

As long ago as 1805, a Spanish physician, Don Cabanellas, proved the noncontagious character of the disease, by sleeping with his five children in the beds in which yellow fever patients had died. It remained, however, for the United States Yellow Fever Commission, consisting of Doctors Reed, Carroll, Lazear and Agramonte, to prove, in 1900, the correctness of the suggestion of Finlay of Havana, made in 1881, that the disease was carried by the mosquito. Yellow fever and malaria have been shown to be disseminated by mosquitoes, which are thus shown to be truly pestiferous insects.

The infectious agents of other diseases have been found in other common insects, notably in the housefly and in the bedbug.

The fact that immunity from an infectious disease is conferred by one attack of this disease has been recognized for many years, but it is only within the last twenty-five years that any scientific investigation of the matter has been made. Studies in immunity have been of service in showing a decided difference in the character of the poisons produced by different infectious germs and the consequent difference in the development of antagonistic principles in the system of the patient—some antitoxic and some antibacterial.

I think it was in 1882, perhaps a few years later, that Metchnikoff first brought forward his theory of phagocytosis—the ingestion and digestion of bacteria by the leucocytes—as nature's method of attacking and overcoming infecting micro-organisms. This theory has, since then, been warmly upheld and violently attacked by different observers; the final trend of opinion now is that phagocytosis does occur and is one, but not the only, method of defense set up against the infectious agents.

Besides the phagocytes, there are other elements of defense found in the blood serum. These antibacterial elements are, to quote from Wright, of London, "bacteriotropic in the sense that they turn toward and enter into combination with the elements of the bacterial body. Our knowledge of the modifications which are affected in the bacterial body under the influence of the bacteriotropic substance in the blood fluids is extremely incomplete. It is known, however, that the effect of the blood fluids on the bacterial body may manifest itself in various ways; the bacteria may be killed without being dissolved; the bacteria may not only be killed, but dissolved. We may group these together as bactericidal and bacteriolytic effects. The bacteria may be so altered as to agglutinate in the presence of salt (agglutinative effect). The bacteria may be so altered as to be readily ingested by phagocytes (opsonic effect—opsonin, to convert into palatable pabulum). Inasmuch as the blood fluids produce in bacteria the different chemicophysical effects here enumerated, and inasmuch as agglutinative and opsonic effects can be obtained independently of each other and independently of any bactericidal or bacteriolytic effects, we may assume that we have in the blood fluids, in addition to bactericidins and bacteriolysins, also agglutinins and opsonins."

"Of these four varieties of bacteriotropic substances the opsonins appear to be the most important. We may ascribe to them a predominating importance, first, because it can be shown that the opsonic effect is exerted by either the normal or immune blood on every species of bacteria, whereas the agglutinating effect is exerted only on special varieties of bacteria, and the bactericidal and bacteriolytic effects are exerted among pathogenic micro-organisms apparently only on the typhoid bacillus and cholera vibrio. The opsonins derive further practical importance from the fact that they can be accurately measured, and that it is possible, seeing that the opsonic effect of the normal blood fluid is very marked, to register not only (as in the

case of the agglutinating power) an increase, but also a reduction in the opsonic power of the blood. Such increase and reduction of the opsonic power is, of course, measured by comparing the amount of purely induced phagocytosis which is obtained with a normal blood with the amount of purely induced phagocytosis which is obtained with the blood of the patient under consideration." This is what Sir Almoth E. Wright has called the opsonic index.

It is obviously far beyond the scope of this address to enter into description or discussion of the methods of producing the specific vaccines by means of which the index may be raised—that is, the power of resistance increased in individual diseases.

Sufficient to say that, according to his observations and the confirmatory work of others, we have had given us another weapon for use in warring against infectious diseases.

The two great practical results are the production of the antitetanic serum and the diphtheria antitoxin, both of which may be used as cure and as preventive each for its specific disease. Let us hope that the opsonic vaccines may prove as valuable.

The names of Pasteur, Koch, Metchnikoff, Behring, Klebs, Loeffler, Ehrlich and Sternberg will always be connected with the work as to the nature of infection and immunity.

A quarter of a century ago, the so-called ductless glands were considered as useless appendages of the body, the cause for whose existence was unknown. Studies during these later years have revealed to us that there is a secretion from these ductless glands which is taken up either directly into the blood or into the lymph spaces, and that serious diseases result from disturbance of this secretion —one class from a pronounced increase in the secretion, and another from an abnormal diminution of such secretion. This interesting phase of disease is illustrated in the nervous, circulatory and metabolic disturbances from disease of the thyroid, Graves' disease and myxœdema; of the suprarenals, Addison's disease; of the pancreas, in diabetes, etc.

The study of pathogenesis, the origin, dissemination and evolution of disease, is most interesting, and leads naturally to the prevention and treatment of disease; but between these there is the recognition of the disease as a clinical entity. Here, too, we find that great progress has been made.

In addition to the ordinary studies of pulse, temperature, respiration, physical examination and general clinical symptoms, our powers of diagnosis have been greatly increased by the study of the blood; numbers and characters of cells and their relation to each other, cultural investigation of the blood, agglutination and opsonic tests with known bacteria, etc., and by the accurate measurement of the blood pressure—microscopical examination of the other fluids of the body—studies of fluids in pleural cavities and peritoneum, the number and character of cells in such fluids, and the presence or absence of infecting organisms, the spec. gr. of such fluids as indicating exudates or transudates; studies of cerebrospinal fluid obtained by lumbar puncture. The value of the X-ray as an aid to diagnosis has been well demonstrated.

At the present time we almost never hear of acute general peritonitis, because we have learned that such cases have their origin in one or another circumscribed locality, and that, if recognized while still confined to that locality and treated promptly and energetically, the spread to the general peritoneum is prevented.

I have only to refer to appendicitis, cholecystitis, gastric ulcer, duodenal ulcer, typhoid ulcer of the ileum tending to perforation, and immediately come to our minds, as aids to diagnosis, the careful physical examination of patient, the chemical study of gastric contents and of stool, the studies of blood pressure and of the changes in number and relation to each other of the blood corpuscles, and the prompt institution of such medical or surgical procedure as prevents the extension of the local disease. Puerperal septicæmia is almost an unknown disease at the present time.

In the study of disease of the kidney, we have, in addition to the study of the urine and the blood and blood pressure, the means of separating the urine from each kidney, and then of studying the secreting power of each. In displacement of kidney, we do not hesitate to cut down upon and anchor the wandering organ; or, in cases demanding it, to remove the entire organ.

With all our laboratory aids to diagnosis, we must not, however, neglect the careful clinical study of the patient; the previous history, the environment, the occupation, the mode of onset, and the careful study of the symptoms and physical signs can never be replaced by the most careful laboratory investigations.

In the treatment of disease also great advances have been made in the last twenty-five years. Drugs are being used less and less, and when used, it is usually for a definite specific effect. Polypharmacy and empiricism are dying out. In their places recognition is made of the recuperative powers of nature when the patient is put in proper environment and such physiological means are employed for his recovery as carefully conducted baths, dietary, massage, exercise, etc.

Before closing this imperfect review of the advances which have occurred in medicine in the last twenty-five years, I want especially to call your attention to the fact that none of these advances could have been made if it had

not been for the existence of an instrument to which the science of medicine owes its greatest advance, and to which humanity therefore is greatly in debt. That instrument is the modern microscope. No one has a right to practice medicine at the present day if he has not a microscope at his command to aid him in his study and diagnosis.

I wish also to call your attention briefly to the fact that, while the medical profession recognize the infectious nature of such diseases as tuberculosis, pneumonia, etc., there is only a small proportion of the laity which does so, and that small proportion does not recognize the fact that a disease which is infectious is, therefore, preventable, and therefore should not exist.

In an address before the economic section of the American Association for the Advancement of Science, in 1906, Professor Norton, assistant professor of political economy at Yale University, said:

"One million, five hundred thousand persons must die in the United States during the next twelve months. Equivalent to 4,200,000 persons will be constantly sick. Over 5,000,000 homes consisting of 25,000,000 persons will be made more or less wretched by mortality and morbidity. Of the people living to-day, over 8,000,000 must die of tuberculosis, and not a hand is raised by the federal government to help them. Over 6,000,000 must die of diseases of the heart, and not a wheel of the official machinery is set in motion at Washington for their alleviation or cure. Eight million must die of pneumonia, and the entire event is accepted by the American population with as resigned a mind as the Hindus show, who in the midst of filth indescribable await the day of cholera."

To these terrible statistics, let us add the untold numbers of children who acquire infectious diseases in school and the enormous fatality of these diseases.

The death rate in scarlet fever varies in different epidemics—in mild epidemics from five to ten per cent.; in the severe epidemics, it is from 20 to 30 per cent. Moreover, even from mild cases serious consequences sometimes occur—chronic heart disease, deafness, etc.

Measles ranks third in the death rate among eruptive diseases. While the death rate from the disease itself is not so very high, its pulmonary complications render it one of the most serious of the diseases of children.

Whooping cough with its complications must be regarded as a very fatal disease of children.

When we consider that these most fatal diseases—tuberculosis, pneumonia, scarlet fever, measles and whooping cough—are all infectious and, therefore, all preventable, let us, as medical men, do all in our power to reduce the number of these diseases by insistently calling the attention of the authorities and of the people in general to the fact that they are preventable and the means of prevention are simple—namely:

1st. The prohibition of spitting except into receptacles which may be burned or thoroughly disinfected. The infecting agents of all these diseases exist in the sputum as well as in certain other discharges.

2nd. Proper isolation and thorough disinfection of person and dwelling.

3rd. Proper and thorough medical inspection of schools.

Let us make it our endeavor to crown the work of the last twenty-five years of discovery by a twenty-five years of practical application of the knowledge gained and the elimination of infectious diseases from civilized communities.

ADDRESS OF THE PRESIDENT OF THE FIFTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.*

By NATHAN JACOBSON, M.D.,
SYRACUSE.

I ESTEEM it a great privilege to preside over this first session of our district organization.

Every member of our profession rejoices that the differences which parted us nearly a quarter of a century ago and which then seemed to justify the creation of two large medical bodies in this State have now been cleared away and that again we can gather together as a truly united brotherhood. It is a source of gratification that this reunion has been effected in a manner so eminently satisfactory that it has the hearty approval of the entire profession. Its benefits can be but dimly foreshadowed at this time. The Medical Society of the State of New York, representing as it does the most important and influential State in our country, should make its influence keenly felt both upon scientific medicine and the body politic.

The reorganized State Society, as you are all aware, differs entirely in the fundamental principles of its construction from those which governed its predecessor.

For a full century the medical society of this State was a restricted organization. It was a delegated body composed of representatives from each county co-equal with the number of assembly districts in the State. These delegates could become members only after a service of three years, and not until admission was thus secured could their successors be chosen. The number thus made eligible to membership in the State Society was proportionately so small that it became necessary to increase the representation from each assembly district.

But in the reorganized body there are no favorites. No member of the medical profession in good standing has the door closed upon him, and every member of each county society in the

*Read at the First Annual Meeting at Syracuse, October 3, 1907.

State by virtue of such membership becomes a member of the Medical Society of the State of New York. The character of the society is therefore entirely changed. Instead of being limited to a chosen few, it now becomes the popular medical body of the State. All medical men stand alike, have like interests and like opportunities in the society, and there is everything to stimulate the youngest as well as the oldest member to put forth his best efforts for the advancement of his profession.

The new State Society goes a step further. It seeks to safeguard its members. By virtue of membership in our State Society ample protection is afforded against prosecution for alleged malpractice. We present a solid front to any one who seeks to injure a member of the Medical Society of the State of New York who has done his full duty by his patients. The knowledge that such a barrier of defense has been erected by our State Society will in itself tend to lessen the number of such prosecutions.

One of the most emphatic expressions of the new spirit which animates our Society is found in the substitution of a single board of medical examiners in place of the three boards which preceded it. No better expression of sincerity of our purpose could be given than this act which proposes to admit to the practice of medicine in this State all graduates who have attained a recognized standard without regard to the school which graduated them. And so we are justified in saying that our motto is henceforth to be "Equality and Fraternity."

The State Society furthermore publishes a journal which is at once its official organ as well as supplies a splendid medical monthly gratuitously to its members. More than this, it issues annually an authentic directory of the medical population of the State. Surely both are most valuable publications. It is apparent that the new State Society offers many attractive features which its predecessor could not.

By the popularization of the Medical Society of the State of New York a single annual session becomes inadequate to give its host of members an opportunity to present the results of their study and labor. To overcome this difficulty the district branch meetings have been instituted. It will rest with each of the judicial districts of the State which constitute the territory of the branch organizations to show the wisdom of the creation of these separate medical bodies. It should be the first purpose of the district branches to include in their membership every regularly qualified practitioner of medicine within their borders. The county societies as at present constituted by no means represent the membership they should. A systematic effort should be made by each county society to this end.

Each section of the State has its own hygienic problems to work out, and I know of no better means of accomplishing this purpose than through the medium of the district branches.

We have had in the past organizations in different parts of the State including more than single counties. These need not necessarily be disturbed, nor can I see that with the creation of the branch societies that their period of usefulness is ended. The occasion may arise when it might be wise to meet in joint session with them. But each covers a distinct territory and in no way conflicts with the district branches.

This is the first time that the entire medical profession of this judicial district has met as an organized medical body. From the ready responses that have come from all sections of the district to the invitation to co-operate to make this, our first session, a memorable meeting, I am satisfied that this branch not only can be made, but actually is, one of the strongest medical bodies of the State. The difficulty has not been to secure enough material for this meeting to make an attractive scientific program, but rather to find a place for each one who desired to contribute. Had it not been for the limited time at our disposal there is no doubt but that a much more extensive program of at least equal merit could have been readily secured. It has been the purpose to have all parts of the district represented, and at the same time to include such a variety of subjects as would make the program one of general interest.

It is high time that the doctors of northern and central New York were brought together, learned to know each other better, became acquainted with the individual necessities of the respective counties making up this district, and were stimulated to work harmoniously together for the purpose of strengthening the influence of the medical profession in the community which this district represents.

It is with pleasure, then, that I welcome each of the members of this Fifth District Branch of the Medical Society of the State of New York to the central city of our State. We welcome you to this institution of learning which disseminates its influence not only throughout this State but is making itself felt over the broad expanse of our entire country.

I bespeak for you in the name of the medical profession of Syracuse a hearty welcome.

We members of a great profession find it to our mutual interest and undeniable advantage to form ourselves into societies. The coming together and getting acquainted, the reading of papers, the orally related cases, the presentaion of specimens—these are constant and continual helps; and the discussions that follow, no matter how far apart the views may be, all help to keep awake and develop in us the more advanced ideas in the practice of a profession in which we are bound to use our best efforts to protect and care for that most sacred and holy temple in the universe, the body of man.—President H. M. Hicks, address before the Medical Society of the County of Montgomery.

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Further information on last advertising page.

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Editorials.

THE PUBLIC HEALTH.

DURING the past year we have called attention editorially to two urgent public needs: measures for securing physical fitness in those upon whose occupations depend the safety or damage of the lives and limbs of many persons, and the necessity for federal supervision and interest in hazardous trades and occupations in which many lives are jeopardized. The time will come when these two matters will receive abundant attention. In the meantime we may labor to advantage to shorten the interval between now and that happy day.

As an example of what is going on in the direction of the unnecessary destruction of lives we may cite a recent report of Mr. Holmes, chief of the Technical Branch of the Department of the Interior. He reports some 23,000 lives lost in the United States through mine explosions during a period of less than eighteen years. These disasters, he says, are due to lack of proper regulations, ignorance, and carelessness. The recent Monongah and Connellsville disasters come under the easily prevented category.

But it is a far cry from the Department of the Interior to the saving of human lives or public health. There is a great profession and a science devoted to the saving of human lives, study of this subject has been in progress by this profession since the dawn of civilization, but the Department of the Interior has little or no relation to it. When we have a national department whose specific function is the preservation of life we shall be approaching the sensible solution of this question, and not until then.

That paragraph in the last annual message of President Roosevelt, which refers to this subject, is a gleam of light of transcendent brightness shed upon the wilderness of official documents. It reveals that the federal government is at last awake to the need of consideration of the public health. Here is the paragraph referred to:—

> There is a constantly growing interest in this country in the question of the public health. At last the public mind is awake to the fact that many diseases, notably tuberculosis, are national scourges. The work of the State and city boards of health should be supplemented by a constantly increasing interest on the part of the national government. Congress has already provided a bureau of public health and has provided for a hygienic laboratory. There are other valuable laws relating to the public health connected with the various departments. This whole branch of the government should be strengthened and aided in every way.

This is but a suggestion and does not imply the organization of any new department, but it does show the President's interest in public health, and it is to be hoped and expected that further enlightenment soon will result in something more positive. If the Chief Executive has studied and recommended means for preserving the forests, it is not too much to presume that the same attention may some day be accorded to the sons of men.

NEWER IDEALS OF PEACE.

THE glamour of militarism and wars is receiving some pretty hard knocks these days. It is only a question of time when the adjudication of differences between nations will be settled not by determining which is the stronger in battle but by legal arbitration, as the individual citizens now settle their differences. It is argued by some that we must have militarism to stir the blood, to incite patriotism, and to serve as a channel through which the heroic may make sacrifices for the common good. All of these it is shown by Jane Addams* can be met in a better way. The suggestion of William James has been taken up and a moral equivalent for war presented—"something herioc that will speak to men as universally as war has done, and

*"Newer Ideals of Peace." By Jane Addams. The Macmillan Company.

will yet be as compatible with their spiritual natures as war has proved itself to be incompatiable."

Verestchagin, Tolstoi and Jean de Block have shown the horrors and disadvantages of war; Jane Addams has shown something better in its place. She says that "moralists agree that it is not so much by the teaching of moral theorems that virtue is to be promoted as by the direct expression of social sentiments and by the cultivation of practical habits; that in the progress of society sentiments and opinions have come first, then habits of action, and lastly moral codes and institutions. Little is gained by creating the latter prematurely, but much may be accomplished to the utilization of human interests and affections. The Advocates of Peace would find the appeal both to Pity and Prudence totally unnecessary, could they utilize the cosmopolitan interest in human affairs with the resultant social sympathy that at the present moment is developing among all nations of the earth." She says that we are even now discovering moral substitutes for the war virtues in the struggle toward a higher social order. The newer heroism manifests itself at the present moment in a universal determination to abolish poverty and disease, a manifestation so widespread that it may justly be called international.

In illustration of this new determination, it is shown that one immediately thinks of the international effort to rid the face of the earth of tuberculosis, in which Germany, America, Italy, France and England are engaged with such enthusiasm. This movement has its international congresses, its discoverers and veterans, also its decorations and rewards for bravery. Its discipline is severe; it requires self-control, endurance, self-sacrifice and constant watchfulness. Its leaders devote much time to careful study and demonstration, they reclaim acres of bad houses, and make over the food supply of large cities. One could instance the determination to do away with neglected old age, which finds expression in the Old Age Pension Acts of Germany and Australia, in the State Savings Banks of Belgium and France, in the enormous number of Mutual Benefit Societies of England and America. In such undertakings as these, with their spontaneous and universal manifestations, are we beginning to see the first timid forward reach of one of those instinctive movements which carry onward the progressive goodness of the race.

Thus it is seen that the newer humanitarianism offers emotional stimuli, as well as moral codes. Is it not to be hoped that the times approaches when each nation will substitute viril goodwill for the spirit of warfare? Are we not much too timid and apologetic in regard to this new humanitarianism, and do not yet realize what it may do for us in the way of courage and endurance? We continue to defend war on the ground that it stirs the noble blood and the higher imagination of the nation, and thus frees it from moral stagnation and the bonds of commercialism. We do not see that this is to borrow our virtue from a former age and to fail to utilize our own.

"VIVISECTION" IN THE STATE OF NEW YORK.

THE signatures of medical men in this State are being solicited to a petition in favor of a proposed bill entitled an "Act to prevent cruelty by regulating experiments on living animals."

This proposed bill is so speciously drawn that, on hasty reading, it may seem, even to medical men, comparatively unobjectionable. In fact, some practitioners have signed the petition, regardless of the fact that the bill might easily be made more stringent by amendments. Their action, however, is an error, as is now recognized by a number of the signers who have withdrawn their signatures.

The bill specifies in which cases anesthetics must be used, while the fact is that the habitual use of anesthetics in laboratories has long been practised. It is easy, therefore, to overlook the fact that exceptional experiments may be necessary, as they have been in the past, in which it is indispensable, for the good of mankind, to omit the anesthetic, just as such exceptional cases arise in operations upon human beings. In the latter cases, the surgeon is absolutely free to withhold anesthesia from his patient; but an operator is forbidden by the proposed Act to withhold it, in certain specified cases, from an animal to be operated upon, no matter how important, for the advance of human knowledge or the relief of human suffering, the experiment may be which anesthetics would defeat, no matter

though the pain might be less than that inflicted in the gelding of a horse or the "winging" of a bird. The absurdity of such provisions at once appears, upon consideration, as does the unwisdom of the limitations placed by the bill upon demonstrations.

It is also most injudicious that a system of reports should be established by law, so that the system might readily become a means of persecution, should the State Commissioner of Health be perverse, or yield to the pressure of the agitators by whom the administration of the law would be jealously watched.

The foregoing objections to the bill are not the only ones. Indeed, the persistency of agitators regarding experiments on animals would make the proposed law merely that "entering wedge," that "first instalment" for which some of them have long clamored. The passage of the bill in question would not forestall further agitation, as is claimed; it would incite to it. This is abundantly clear from the foreign experience of thirty years. We shall have the agitators with us always, whatever we do, or leave undone, short of submitting to the complete cessation of experiment. Therefore, let us follow the example set a few years ago in Washington, by the medical men of the whole nation; let us not surrender our present rights, and betray our trust to our successors, by inviting the State to withdraw from us one "jot or tittle" of its present confidence. Let no change be made, with our consent, in the present legal status of experimental medicine and biology. Let no medical man of the State of New York sign the petition to change the present laws, which amply suffice for the purposes of scientific experiment, and, should the case ever arise, for the the punishment of wrong doing.

TONSILLOTOMY OR TONSILLECTOMY.

FOR a long time tonsillotomy has been one of the most commonly performed of all of the operations upon the human body. It is the one operation least confined by specialism, and is performed by the general surgeon, the laryngologist and the general practitioner, we may say, with almost equal success. Within recent time the laryngologist has begun to deprecate the operation, and to advise and practice complete removal of the tonsils instead of simply amputating the part projecting medianwards beyond the pillars of the fauces.

In an article on tonsillar hemorrhage Chevalier Jackson* makes the statement that few operations are so generally badly done as those upon the tonsils, and that tonsillotomy is an utterly unjustifiable operation. He shows that nearly all operators at the present time slice off the projecting portion of the tonsil with a tonsillitome or other instrument apparently with the idea of ridding the patient's throat of the mechanical obstruction of the projecting portion. This operation, he says, closes up the glands of the deeper portion of the tonsil under the scar tissue, which forever interferes with the function of the remaining portion and leaves the patient in most cases worse than before; and patients who have had periodical attacks of acute tonsillitis will have them more often than before, and "rheumatism," infective arthritis, endocarditis, and a host of other ills which have been traced to the tonsils are made worse or their occurrence is rendered more likely by removal of a part of the tonsil. It is advised that the proper and surgical way to remove the tonsil is to dissect it completely out of its capsule. When this is done there is less likelihood of hemorrhage, the operation has accomplished a cure of the conditions at which it is aimed, and above all it differs from tonsillotomy in that it has not engrafted another pathological condition upon the tonsils.

This question as to which is the better of these operations should be settled by the laryngologists. The principles above enunciated are not without good foundation, and we are prepared for the conclusion that they are correct.

A SERUM AGAINST TYPHOID.

ATTENTION has recently been called to the inoculation against typhoid fever practiced in the British Army.† These inoculations were practiced with a vaccine prepared after the method of Wright, and produced remarkably satisfactory results. Many other attempts are still in progress and the outlook for a successful serum or vaccine against typhoid is most hopeful.

The work of Chantemesse‡ is the most recent and shows a vast amount of careful research. This observer reports upon one thousand cases

Annals of Surgery, Dec., 1907.
† NEW YORK STATE JOURNAL OF MEDICINE, Vol. 7, No. 12.
‡ *L'Hygiène Gén. et Appliquée*, Oct., 1907.

subjected to treatment by a serum obtained from the horse. His observations cover a period of six years. The mortality among his patients was 4.3 per cent. as against a mortality of 17 per cent. among about the same number of patients treated in the other hospitals in Paris. Other physicians who employed his serum report equally good results. At the military hospital of Val-de-Grace ninety cases were treated with the serum with the result of five deaths. During the six years preceding, the mortality had been over ten per cent. These comparative statistics have focussed a good deal of attention upon this serum, which Chantemesse believes can be made instrumental in reducing the present mortality from typhoid at least seventy-five per cent. He lays especial stress upon the early employment of the serum, and shows that the matter of time is of great importance. The earlier the injection the greater is the probability of success. This means that early diagnosis is imperative. To this end he describes an ophthalmo-typhoid reaction, which if dependable marks an epoch in typhoid diagnosis.

The studies of Chantemesse promise much help in the treatment of typhoid fever. He states that he has not seen a death where the serum was used within the first ten days of the disease. While we can not be sure that this particular serum is to conquer typhoid, still it comes from that field of therapeutics out of which we most hopefully look for help, and we are prepared to receive it at the value placed upon it by its discoverer.

A WONDERFUL FEAT AND A REMARKABLE COMMENT.

THE following is an editorial which appeared in a New York daily paper. From a medico-scientific standpoint it is interesting; from a medico-economic standpoint it is worthy of remark.

To-day Edward Payson Weston, sixty-nine years old, completed his walk from Portland, Maine, to Chicago. He left Portland October 29, so that the trip consumed less than a month. He averaged nearly fifty miles a day, covered a total of more than 1,200 miles, walked ninety-five miles in one day, and repeatedly tired out horses that were being driven beside him. He traveled the same road forty years ago, but the last journey was made in better time than the first in spite of the old pedestrian's increased age.

Weston is the finest example in the world of the athlete who never "goes stale." Prize fighters have been held up to our admiration for years as models of physical perfection; yet we doubt if there ever was a prize fighter who at sixty-nine could have endured a physical strain at all comparable to that through which Weston has triumphantly passed. There is no secret about the veteran's method. He did not train especially for his task. He had no need to train, for he has never in his long life been out of training. He has confined his diet to wholesome food, lived as much as possible in the open air, kept his nerves steady and his muscles hard by reasonable exercise, and never once "applied hot and rebellious liquors" to his blood.

There will be few or none seeking to emulate Weston's achievement. Pedestrianism as a profession or a "stunt" has gone out of fashion. But the old man's fine example as an exponent of the life of simple diet and fresh air ought to make a peculiar and effective appeal to millions who now pin their faith to drugs and to doctors.

The remarkable feature of this editorial is the implication that healthful, wholesome living is not related to the medical profession so much as drugs are. We take no umbrage at this inference concerning our profession, for it too truly expresses the judgment which the public places upon us. We are esteemed as having a greater knowledge of drugs than of how to maintain the human body in health. But such an expression as this should cause some introspection, for, while we may have a very excellent opinion of ourselves, our usefulness as an economic factor in the community is much hampered by the public judgment of our interests and capabilities.

FRESH AIR.

FRESH air, properly speaking, is not a therapeutic agent in the treatment of consumption, nor is atmosphere a therapeutic agent in the treament of coal-damp poisoning, nor is depriving a maniac of a loaded revolver a therapeutic measure. These things consist in restoring natural and healthful conditions as nearly as possible. Breathing fresh air improves the health and resistance of any one who is habitually without it, and that means pretty nearly everybody. Fresh air increases the resistance of those with consumption. It also does the same for those without consumption and for those with other diseases, chief among which is that great symptom-complex from which most of us suffer and which, for want of a better name, we will call stuffyness, due to the breathing of vitiated air. To advise continuous fresh air for the consumptive alone is hardly fair to those who are still doing their full day's work without complaint—they need it too. Let us not neglect them while they are yet not consumptives.

STATE SOCIETY MEETING.

The annual meeting of the State Society will be held at Albany, January 28, 29 and 30, 1908. For the program see page 52.

Observations.

ON THE FATE OF MEDICINE.

The medical profession is actively engaged in carrying on a propaganda of destruction of the necessity for its own existence. It lives by the presence of the diseases which it is striving to make extinct. As a business it puts aside business principles; as a profession it is the most beneficent force at work at the present time for the improving of the conditions of human life. If it were a business, it could very properly say: We will make ourselves as competent as possible to heal your diseases if physical misfortune overtakes you or if you are so foolish as to make yourself sick. That would certainly be a laudable enterprise and the physician would thrive beyond the thrift of the butcher or baker or banker.

If medicine were a business and the medical profession were a trust, the plague, and smallpox, and cholera, and diphtheria would be rife and feeding fat the doctor's wallet. But one by one the causes of the diseases have been learned, and the means of prevention applied. And, oh, the thankless toil and labor this has cost! The medical profession has not only discovered the life-saving, preventive measures, but it has begged and plead with the people to accept them. It has humiliated itself before legislatures, it has appealed to governmental authorities, it has spent its substance in the education of the people, it has labored with the individual for the sake of his own health, it has taught the mother how to save her babies from sickness—and all the while taking the bread from the mouths of its own children.

* * *

Now, more than at any time in history, medicine is laboring so successfully in the interest of the prevention of diseases, and the great value of this work is becoming so well appreciated, that we are confronted with new conditions and possibilities of metamorphosis of medical activity. We stand upon the threshold of the time when preventive medicine shall be something more than an exceptional benison; we stand upon the threshold of the time when the actual practice of preventive medicine will be pursued with all the activity which the ancient physicians applied to the so-called healing of diseases.

We may properly ask the question, to what is this leading? What is to be the fate of the medical profession? And the answer is plain to one who has read clearly the history of his race and who has faith and hope in the destiny of man. *The destiny of the medical profession is its own obliteration.* Let us be thankful that this is true, for this is the living spark that vivifies it and makes us know that it is a living thing. All that is in process of evolution upwards must lose itself and disappear. All that truly lives must die into something else. The dead rock endures unchanged for ages, but man dissolves himself into mankind and dies.

* * *

When I speak of the obliteration of the medical profession I do not speak with the tongue of the prophet, who sees unto the very end, but rather with the insight which discovers the steady workings of that great evolutionary force which day by day, *"Ohne Hast, ohne Rast,"* sees the diminishing necessity for the doctor. This is the reason why he is entitled to the designation Doctor. The true mission of the teacher is to lead her pupil to the goal where he can be independant of her. Emerson has said that the State exists for the purpose of making men wise, and when all men have become wise the State, or government, will have no excuse for existence and will cease.

Medicine is a noble profession because her sons are entitled to this title of Doctor. We should guard it jealously. Doctor means teacher. It is one of the two great titles. The other is Mother. The Teacher and the Mother have a similar mission. It is to make those who look to them for succor independent of them. Each is working towards the weaning of its charge. The Mother-duty is to nourish and train and guide the child towards the day when it may be utterly independent, and thrive as well without her. She herself must forge the blade to cut her offspring from her. If she fail in this she fails in her highest duty. The function of the teacher is the same. The goal toward which he leads his pupil is to make the pupil possessed of *his* knowledge and the benefits of *his* talents. The true teacher withholds no secret of his profession. He gives all. He strives to make his pupil perfect, even as himself. He makes the pen with which the pupil writes his emancipation. If he fail in this he has not taught well.

As the mother is to the child so is the medical profession to all mankind. It is slowly but inevitably, with beneficent purpose and with lofty aim, abdicating the necessity for its own existence.

"A striking example of the sacrifice of health from avoidable and preventable suffering is the great number of physical and moral wrecks, the victims of the very prevalent habit of worry. So close are the relations of the mind and the body that one of the most prolific sources of suffering is continuous worry, and one of the surest ways to restore health that is threatened is to keep the mind cheerful and hopeful. Excessive ambition, misdirected energy, longing for the unattainable, regret for the unalterable, anticipation of future happenings, lack of a sense of perspective, fretting over non-essentials, indecision, reopening of troublesome questions already settled, avarice, selfishness, excessive emotions, uncontrolled passions, and the actual cultivation of the melancholic state, are some of the important causes of mental anguish and subsequent physical suffering that are not commonly associated with the baneful breaches of hygienic laws to be demonstrated by teachers of practical physiology."—*Pyle: A Manual of Personal Hygiene.*

Items.

EDITED BY

FREDERICK TILNEY, A.B., M.D.

PHILOSOPHICAL DOCTORATES AND THE MEDICAL PROFESSION.—The growing demand for post-graduate courses in medicine is very generally felt throughout the country, while on the other hand it is questionable whether or not the universities and higher educational institutions have as yet taken adequate cognizance of this demand.

In this connection the following table reprinted from *Science*, August, 1907, is of interest. The figures show the total number of philosophical doctorates conferred by the American universities in the past decade, as well as an enumeration of the major subjects offered.

	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	Total.
Chemistry	27	32	26	28	27	33	35	36	38	38	320
Physics	11	7	15	24	12	14	17	14	19	22	155
Zoology	12	11	11	15	16	12	15	15	22	18	147
Psychology	18	15	9	13	8	18	10	21	12	10	134
Botany	11	11	12	8	12	9	17	15	16	15	126
Mathematics	11	13	11	18	8	7	13	20	9	11	121
Geology	6	5	5	10	6	10	7	4	11	7	71
Physiology	4	1	4	1	8	8	1	3	3	8	41
Astronomy	3	2	4	5	2	4	4	3	4	3	34
Paleontology	0	4	2	1	0	2	2	3	2	0	16
Bacteriology	0	1	1	1	1	3	3	0	1	3	14
Anthropology	2	0	2	1	0	1	2	1	0	1	10
Agriculture	0	0	0	0	2	2	2	2	0	2	10
Anatomy	0	1	0	1	0	4	0	0	0	3	9
Engineering	0	0	0	1	0	3	1	3	0	0	8
Mineralogy	0	2	0	0	1	1	0	1	1	0	6
Pathology	0	0	0	0	0	3	0	0	1	1	5
Metallurgy	0	0	0	0	0	0	0	1	1	1	3
Geography	0	0	0	0	0	0	0	1	0	0	1
Meteorology	0	1	0	0	0	0	0	0	0	0	1
Total	105	106	102	127	103	134	129	143	140	143	1232

A review of this table brings out two striking features from the medical standpoint: first, the extremely small percentage of degrees conferred in subjects cognate to medical science; and second, the relatively small number of such subjects available to the medical man. Beyond question, this system of courses, as well as requirements, afford the most nearly ideal plan for post-graduate work in any branch whatever. Indeed, it is surprising that the medical profession has not been able to avail itself of just such opportunities as might thus well be provided for it. The necessity of post-graduate work to the physician cannot be gainsaid, but the profession seems to content itself with the more or less desultory courses offered by the various medical post-graduate schools. Undoubtedly if there existed a very general demand for these more co-ordinated courses prescribed for the attainment of the philosophical doctorate, the universities would respond to it by adding extended opportunities in the several branches of medicine. One objection to be raised by the medical man is the great length of time required to obtain the degree (five to seven years), and yet this consideration should not be held too highly, when the advantages to be derived from a well-planned and supervised course of study is thought upon. In this day of specialism, it seems that a long and thorough period of such training should be required before the physician could be adjudged proficient in any particular line of work. Certainly it is to be hoped that the near future will witness a more generous attitude in the university faculties toward advanced courses in medicine, to the end that all those who so desire may find opportunity to broaden and make more satisfying the knowledge already obtained in the medical school.

CORNELL UNIVERSITY MEDICAL COLLEGE faculty, after mature deliberation, have concluded that the usual "high school" education so commonly accepted as sufficient preparation for the study of medicine is inadequate. The great advances in recent years in all the natural sciences have led to corresponding advances in the practice of medicine and surgery, and this has overburdened the medical curriculum as now in operation for the average student to such an extent that the present four-year course in medicine is impossible. Too large a proportion of the time is given up to fundamental and non-professional instruction in chemistry, physics, biology and other kindred subjects upon which the knowledge of diseased conditions is founded, and too small a proportion to the specialized information which is imperative in the education of a properly equipped physician. The period of four years is deemed sufficient at present if devoted entirely to strictly medical subjects; otherwise it is not. Without attempting to enter into a discussion involving the advantages of a strictly scientific or so-called academic course in arts, philosophy and literature, the President and Trustees of Cornell University have decided to adopt the requirements advised by the Faculty of the Medical College for admission to the course leading to the degree of M.D.

Therefore in and after 1908 candidates for admission to the Cornell University Medical College must be:

I. Graduates of approved colleges or scientific schools; or

II. Seniors in good standing in Cornell University or in any other approved college or scientific school whose faculty will permit them to substitute the first year of a professional course for the fourth year in arts and science, and who will confer upon them the bachelor's degree upon the satisfactory completion of the first year of the course in Cornell University Medical College; *or*

III. Persons who, while not possessing a bachelor's degree, give evidence by examination that they have acquired an equivalent education and a training sufficient to enable them to profit by the instruction offered in the Medical College.

In and after 1909 all candidates for admission to the Cornell University Medical College must have at least such knowledge of physics and in-

organic chemistry as may be obtained in college by a year's course in these subjects when accompanied by laboratory work; and in and after 1910 all candidates for admission must possess a similar knowledge of biology.

Although all "approved colleges or scientific schools" offer courses in the natural sciences, they are not always obligatory, and it was felt to be unfair to a few possible students to demand these subjects the first year the new requirements are in operation.

The Trustees also felt that it was unfair to refuse the exceptional student of unusual abilities who could obtain independently an educational equivalent to that implied by a degree from a college or scientific school, and there will therefore be a committee appointed from the faculties of the different colleges in the University to determine the qualifications of such individuals who may apply for admission, but without the requisite official certificates.

ENGLISH AND AMERICAN FOOTBALL STATISTICS.—We have long since become inured to the innuendoes and slurring comparisons which reach us from the United Kingdom, holding up to us as they do the well-nigh ideal state of affairs existing in football conditions there. We have become accustomed to regard the game a thing of beauty as played upon its native Anglo-Saxon soil. Not only has the skill of play been developed to a marvelous degree, but the percentage of fatalities and even injuries have, we are repeatedly assured, been restricted to an enviably small figure. The essential nature of the participants—to say nothing of their up-bringing—is itself of such a character as to preclude the possibility of brutality in the game. All of which we accept in good part. It may be, however, that we have all this while allowed ourselves to be regaled by a too rosy picture, for now the *Lancet,* of November 16th, reports that this year's crop of casualities in England to date includes six deaths and sixty disablements from football. This seems to be doing pretty well for a beginning, inasmuch as the English football season does not close until the end of March. Some few things may be said in our favor still.

DR. KOCH AND THE CROCODILES.—From certain newspaper reports it would seem that Prof. Koch has been rather assiduously cultivating the acquaintance of the great sauropsidan monarch of the Nile. The professor has struck up this intimacy as a result of his efforts to solve the mysteries of the dread African scourge, known as the Sleeping Sickness. For eighteen months the eminent scientist isolated himself on an island in the middle of Lake Victoria Nyanza, where the affection is very prevalent. While here, he observed that Glossina palpalis, the carrier of the germs of the disease, was dependent upon the crocodile as the chief source of its nourishment, sucking the blood between the plates of the animal's hide. Dr. Koch claims that the most important result of his investigation is that a positive diagnosis of the diseases may now, for the first time, be made; while the means to combat it are at last in our possession. Here again we see the professor in the somewhat familiar rôle of vesting himself with priority in discoveries which must rightfully be accredited to other men. The supposed relation between the Sleeping Sickness and the crocodile had already been exploited by Mr. Neave Sheffield in 1906, while the subcutaneous injection of arsenic, the specific which Koch claims to have discovered, is, to all intents and purposes, the same therapeutic principle employed by the French Jesuits over a hundred years ago. If it were not for several similar deviations in the past, we would willingly enough extenuate this mild and harmless megalomania on the ground that the learned professor was too long isolated on those drear islands, with such grewsome and inhospitable companions as crocodiles are reputed to be. But where's the good? The unlovely reptilian is already scapegoat for enough.

STONY WOLD SANATORIUM NEEDS MONEY.—The increased cost of food-stuffs and other necessities has had much to do in causing the shortage in the funds of the Stony Wold Sanatorium, at Lake Kushaqua, in the Adirondacks. The work and efficiency of the institution are greatly embarrassed for these reasons. Ninety-one patients are at present under treatment. The number of applicants turned away is greater than ever before.

AMERICAN JOURNAL OF UROLOGY.—Beginning with January *The American Journal of Urology* will be edited by Dr. William J. Robinson, Editor of the *Critic and Guide, Therapeutic Medicine,* etc. The journal will be enlarged in scope so as to include venereal and skin diseases, and there will be added an abstract department which will review the genito-urinary and dermatologic literature in every civilized language.

We extend our best wishes for success to this journalistic project, and predict that under the able editorship of Dr. Robinson, this publication will be infused with new life and interest.

COCAIN CRUSADE.—In the early part of December a number of complaints were received by the authorities of New York City from the College of Physicians and Surgeons, to the effect that a considerable quantity of cocain was being dispensed in the city upon forged prescriptions. The blanks upon which these forgeries were made, were the property of a well-known physician who was, of course, in total ignorance of the irregularity. The blanks could be obtained from a certain saloon, provided the person were known to the proprietor. Instructions were sent to the Corporation Counsel to prosecute all cases in which indictments were found. Surely, this

is a good cause, calling for the best concerted action. Yet the crusade, even now, languishes until it savors of the futile activities of Béranger's famous legendary king who, once a year, marched his men three leagues from home—then marched them back again.

Chantemesse's Ophthalmo-reaction in Typhoid Fever.—Once more we are to see a so-called decisive, pathognomonic sign for typhoid fever go to the wall, and again witness the discomfiting, although not unfamiliar, spectacle of a medical investigator in confusion. As is the rule, the inordinate desire to rush into print with medical novelties, long ere they have had the beneficent seasoning of second thought, is doubtless the undoing of this hasty thesis by Chantemesse. In July of this year, that author reported to the Paris Academy of Medicine that a few drops of typhoid toxins instilled upon the conjectiva of the lower lid caused a redness and secretion, which reaction he deemed a positive sign of typhoid fever. Still more recently Kraus, Lusenberger and Russ have published a series of results obtained by conjunctival instillation of typhoid toxins prepared according to the method of Chantemesse. In twenty-two typhoid patients, with a positive Widal, they noted a typical reaction in all, within six hours, thus far corroborating the work of Chantemesse. On the other hand in twenty-two patients suffering from various diseases, including pneumonia, multiple sclerosis and tuberculosis, the reaction was observed in 50 per cent. of the cases. That this particular reaction is not peculiar to the typhoid toxins is witnessed by the fact that diluted tuberculin when instilled upon the conjunctiva of twelve typhoid patients produced the typical reaction of redness and secretion in eleven of the cases at the end of eighteen hours. The fact that Chantemesse might, just as well as not, have made these control-tests himself, all the more emphasizes the shortcoming. In general, such research is, at best, disconcerting; although, in the tolerant spirit of the day, it should not be altogether decried, since ofttimes even faulty work has its suggestive value.

Herter Lectures.—Ernst H. Starling, Professor of Physiology in the University of London, will give the Herter Lectures of the year on the subject, "The Fluids of the Body," beginning January 6th at 4 P. M., and continuing at the same hour throughout the week at the Carnegie Laboratory of the University and Bellevue Hospital Medical College, 338 East 26th Street. All interested are cordially invited to be present.

Annual Loss Due to Tuberculosis.—The Monthly Bulletin of the New York State Department of Health is authority for the statement that tuberculosis occasions the United States an annual loss of at least $330,000,000.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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CORONARY SCLEROSIS.

It is gratifying to read in foreign medical literature such an excellent article by an American as that by Schmoll, of San Francisco, in the *Muenchener Medicinische Wochenschrift* for October 8, 1907, entitled, "Concerning Motor, Sensory and Vasomotor Symptoms Caused by Coronary Sclerosis and Other Diseases of the Left Side of the Heart."

Schmoll points out the fact that owing to the sudden and distressing symptoms of angina pectoris which the physician first of all attempts to relieve, there has in general been very little opportunity for close study of the detailed symptoms. From observations by himself and others he discusses the symptoms more in detail. He is convinced that the symptoms of angina pectoris conform with a segment lesion caused by the heart disease, and express themselves either in symptoms of irritation or of paralysis. The intensity of the anginal symptoms corresponds in general with the intensity of the heart disease. In coronary sclerosis the most intense symptoms occur.

The symptoms of angina pectoris may be divided into three groups—the motor, sensory, and vasomotor. These occur during the interval as well as during the attack.

During the attack the sensory symptoms are of two distinct kinds: the feeling of approaching death and of pain. Though the feeling of death is foremost in the mind of the patient, the pain is of greater interest to medical science. In the majority of cases the seat of the pain is located in the eighth cervical and first dorsal segments, though it has been found anywhere between the second cervical and eighth dorsal segments. Often there exist zones of pain, with zones of freedom from pain intervening. In most cases the pain is only left-sided, but in a smaller number of cases it is symmetrical, occuring also on the right side. Where there is right-sided pain the author has always been able to demonstrate disease of the right side of the heart, and he therefore concludes that right-sided pain is a symptom of disease of the right heart.

The motor symptoms during the attack, either manifest themselves by irritation or by paralysis. One irritation symptom is the sense of constric-

tion, as if the thorax were grasped by an iron hand, which is caused by a tonic spasm of the intercostal muscles. The pectoralis major is also often tonically contracted. Mackenzie has shown how these contractions correspond to the rigidity of the abdominal muscles over an inflamed place in the peritoneum. In occasional cases symptoms of paralysis are more pronounced than the sensory symptoms of irritation, and conditions of transitory weakness of the left arm may even occur as the equivalent of an anginal attack. Accompanying this condition is a feeling of anxiety which is no less in intensity than in the ordinary attack of angina.

The vasomotor symptoms in each case are very distinct. Ordinarily vasoconstriction in the segment concerned is the predominating factor. The first sign may be a deadly paleness of the left hand. In an occasional case vasodilation predominates over vasoconstriction. Nothnagel has designated as "angina vasomotoria" those cases in which the vasomotor symptoms predominate, and Curschmann has recently shown by autopsy that with these symptoms the affection is only an atypical course of coronary sclerosis.

During the interval, the patient is shown by examination to have the same variety of symptoms in diminished form. Sensory symptoms manifest themselves in the form of a hyperæsthesia of the segment concerned in the attack. This hyperæsthesia is also present in the underlying muscles. The patients often have a feeling of pressure over the precordium which is constantly present, and is exacerbated at the time of the attack. Occasionally there is paræsthesia in the segment concerned, and even anæsthesia is rarely observed.

Among motor symptoms during the interval increased tone of the muscles in the hyperæsthetic area is commonly found. These muscles are ordinarily weak and tire easily. Complete paralysis of the muscles in the segment concerned is very rare, but has been observed.

Of vasomotor symptoms, instead of vasoconstriction which is generally present during the attack, vasodilatation is generally present during the interval, giving the hand a cyanotic color. This condition however alternates in certain cases with periods when, without other symptoms of angina, the hand becomes deadly pale.

The author reports a typical case of angina pectoris, caused by fatty heart, and adds a case with anginoid symptoms caused by mitral stenosis, pointing out the differential diagnosis. The anginoid symptoms ordinarily have a certain periodicity; returning with great regularity at certain hours, and especially at the hour of retiring at night. The attack lasts hours or days, and does not have the clear dependence upon overexertion or excitement as a cause, as does angina. Anginoid symptoms commonly begin slowly, as distinguished from the sudden onset of angina. The feeling of impending death is only present in a few cases, and then not to such marked degree. Occasionally, however, the differential diagnosis is a matter of great difficulty.

GASTRIC ULCER: A MEDICAL OR SURGICAL DISEASE?

Cases of gastric ulcer are occasionally seen by the general practitioner when it is a problem for him to determine whether he is dealing with a medical or a surgical disease. The question most difficult for many to decide is when to treat medically, and when to look to surgical assistance. In distinction with the radical views of occasional writers of lesser note the valuable conclusions of John H. Musser, based upon a detailed study of a very large number of cases, are worthy of careful consideration.

Gastric ulcer without complications is a medical disease. If the ulcer is productive of perversion of secretory function alone, it remains a medical affection. Inasmuch as hyperchlorhydria is in part a neurosis, the secretory function can be balanced chiefly by medical, dietetic and hygienic measures. Even if pyloric spasm attends the hypersecretion and hyperacidity, it does not necessarily take the case beyond medical care. It is wrong to submit such patients to operation unless motor disturbances become prominent. Of 409 cases of simple uncomplicated gastric ulcer, death was the ultimate result in 17.3 per cent. The immediate result in the cases treated medically was a mortality of 12.4 per cent. In the cases of this group treated surgically the mortality was 20 per cent. These figures alone prove that simple uncomplicated ulcer is a medical disease.

Gastric ulcer with complications and sequels is sometimes a surgical disease; if perforation occurs it becomes a surgical affection at once; if hemorrhage occurs acutely it is rarely a surgical affection; if repeated and chronic it is a surgical affection. If the symptoms and physical signs of retention from obstruction, dilatation, hourglass contraction, or adhesions supervene and persist, the case is surgical. If the symptoms of gastric ulcer become continuous in spite of medical treatment and incapacitate or threaten life, and if hemorrhage recurs and secondary anemia arises, it is a surgical disease. The extraordinary frequency of chronic gastric ulcer with sequels requiring operation is due to neglect of the treatment of an ulcer in its incipiency. Statistics show that most patients are operated on between the thirtieth and fortieth year, and have an ulcer history of five or ten years' duration.

From his personal experience and a study of the recorded cases, the author advises in the medical treatment of simple uncomplicated ulcer the employment of rest which is at first absolute and later modified, a suitable diet, and the drugs indicated *for at least four months*. Hygienic and dietetic treatment must be continued over a period of years.

If attended by organic complication, such as pyloric obstruction from thickening or from adhesions, or by dilitation if extreme, or by hour-glass contraction, surgical measures are in order. If perforation exists there should be no delay in operating, for the statistics show a marked increase of mortality with each hour of delay in such an event. If hemorrhage exists operation is rarely necessary, and if acute not unless the peril of hemorrhage outweighs that of operation —a nice estimation of values. If hemorrhage is persistent and gives rise to anemia, operation is indicated. A surgeon of good technical ability and considerable experience in gastric surgery should be selected, as the operation even of gastro-enterostomy is not trivial and requires the best service at command.

A patient who has had gastric ulcer should, for all time, observe the hygienic and dietetic rules which keep digestion to an approximately normal state, which prevent anemia, and which, above all, so conserve the nervous system as to prevent neurosis.—*American Journal of the Medical Sciences,* December, 1907.

ARTERIOSCLEROSIS OF UNUSUAL CAUSES.

Comessati, in *Clinica med. Italiana,* reports a case of aortic aneurism, prominent and violently pulsating, in a sixty-two-year-old woman who had no syphilitic nor alcoholic history. The etiologic factor in her history appeared however to be a history of many years of most obstinate constipation. The author pleads for recognition of intestinal putrefaction as an important etiologic factor in arteriosclerosis and aneurism.

One of the few cases of spontaneous rupture of the aorta without aneurism is reported by Hansteen in *Norsk mag. for laegevid,* who claims to have found no similar case in literature. A twenty-three-year-old soldier after a four-hour march complained of pains in the chest, and a little later suddenly fell dead. Autopsy showed the pericardium filled with blood, and about an inch beyond the aortic valves a tear of one and a half inches in the aorta which was otherwise macroscopically and microscopically normal. Such a rupture may not have been entirely spontaneous, but may have been preceded by a violent blow on the chest or some other such an event.

Weiss records an instructive case in which there was a slow occlusion of the pulmonary arteries (*Zeitschrift für Klinische Medizin,* Vol. 62, p. 481). The case was one of puerperal sepsis, in which a slow-growing thrombus in the main branches of the pulmonary artery almost completely shut off the pulmonary circulation so far as these arteries are concerned. It was a surprising fact that during life there were no marked symptoms of dyspnœa. The author was surprised with the remarkable adaptability of the lungs. The fact has been known to pathological anatomists for a long time, however, that such occlusions of the pulmonary arteries, if they do not occur suddenly, do not necessarily lead to death. When the blood supply to the lungs is solely through the bronchial arteries, arterialization of the blood can be carried on by this means for some considerable time.—*Zentralblatt für Innere Medizin,* 1907, No. 38.

DIVISION OF WHITE BLOOD CELLS OUTSIDE OF THE BODY.

A profitable and interesting study of the action of white cells of human blood, outside of the body, is reported by Deetjen, of Berlin, who observed division of the leucocytes and movements of the lymphocytes. In order to study these processes special precautions were necessary. The finger from which the blood was drawn was first carefully cleansed with hot water and pumice stone, and then dried with a clean cloth. A slide of quartz, or Jena glass, or still better of rock crystal, was essential, as the processes do not take place on a slide of common glass. The blood was spread out in the thinnest posible layer between the slide and cover glass and maintained at body temperature. In about ten minutes division of the polynuclear leucocytes into mother and daughter cells, each with a portion of the nucleus, was observed. The daughter cells remained motile for several hours and then showed granular degeneration. Occasionally there was a budding and casting off of the smallest particles, which resembled the blood platelets. These small particles remained motile for several hours, while the true blood platelets perished, even as quickly on quartz as on glass. Below body temperature there was no division of the leucocytes.

The lymphocytes showed no cleavage processes, but moved vigorously. In glass the movement was not observed so soon, but took place after several hours, or even on the second day.—*Archiv. f. Physiologie,* 1906, p. 401.

SCLEROSIS DUE TO THE TOXINS OF TUBERCULOSIS.

At the Tuberculosis Congress at Naples in 1901, Patella first described a form of pyloric stenosis occurring in tubercular individuals, not caused by ulcers or direct tubercular lesions, but having origin in a fibrous inflammation of the pylorus and of the surrounding tissues. Several French authorities, including Hanot, Lauth, Auclair, Tessier, and Potain, have called attention to causation of sclerosis by the toxins of tuberculosis, as shown in lesions of the endocardium. Potain designated the pure mitral stenosis as a heterogenous expression of tubercular heredity and as an effect of a sclerogenous intoxication with mild tuberculosis.

To the three cases presented by Patella two more are added by Romani, who reports them in *Morgagni* for June, 1907. All these five cases were of tuberculosis which was fully and favorably healed so far as all clinical evidences were concerned. In two of the cases reported by

Patella, at the operation for gastroenterostomy the diagnosis of fibrous pyloritis and peripyloritis was substantiated, and the result of the operation in each case was favorable. A third patient refused the operation, and the case was not followed farther. The diagnosis in both of Romani's cases was affirmed by operation, which in both cases was beneficial.—*Zentralblatt für Innere Medizin*, No. 42, 1907.

SURGERY.

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UNEXPECTED RECOVERIES FROM CANCER.

Czerny reports the non-recurrence of a carcinoma of the breast for which two operations had been done. This was due to a mild infection of the wound with erysipelas. He further reports a case of carcinoma of the cervix uteri cured by curetting, cauterization and the application of chloride of zinc. A third case of non-recurrence was one of carcinoma of the intestine for which an inadequate operation was performed. Further, he reports an osteo-sarcoma of the clavicle which had recurred several times, and was finally cured by curetting and applying chloride of zinc; a sarcoma of the upper jaw which after several operations was finally curetted and treated by X-rays; the spontaneous disappearance of a recurrent glandular involvement following carcinoma of the tongue. Czerny believes that surgical intervention, when it does not destroy the cancer tissue completely, may lead to rapid involvement of neighboring tissues; in some cases, however, the human organism is able to destroy what is left.—(*Zeitschrift f. Krebsforscherung, Bd. V, p.* 23.)

METEORISM FOLLOWING CONTUSION OF THE ABDOMEN.

Heineke reports four cases to show that after abdominal contusions a marked meteorism may appear in a few hours without injury of the intestine or hemorrhage being present. This primary meteorism was only observed after slight injuries, probably because after severe injuries marked abdominal tension prevents distention of the intestine. Although this primary meteorism does not exclude the presence of severe internal injury, still he believes that this symptom being present and tenderness on pressure, vomiting, and signs of hemorrhage being absent, a waiting policy would be justifiable. The distention under discussion is due to a direct action upon the retro-peritoneal nerves, and is not a reflex effect. In some cases there is undoubtedly extravasation of blood into the retro-peritoneal connective tissue.—(*Langenbeck's Archiv.*, Bd. LXXXIII, Hft. 4.)

CLINICAL STUDIES IN STRUMECTOMY.

Monnier reports 670 cases of benign goitre, the pathological study of which bears out the already existing observations. Of this number those developing before the tenth year were unusually common. All cases came to the clinic because of difficult respiration, and all received a course of internal medication without beneficial effect. Of the entire number, 130 had repeated attacks of dyspnœa. Complicating pulmonary tuberculosis was not considered a contra-indication to the operation. Marked cardiac changes were noted in 25 per cent. of the cases, more frequently in women than in men. In the genesis of cardiac changes caused by goitre, the author agrees with the views of Minnich, and regards the thyro-pathic form of cardiac change as relatively frequent.

The shape and situation of the trachea was normal in six per cent. of the cases. The remainder showed the usual forms of change. To determine the lobe responsible for the pressure, tracheoscopy and later Röntgenoscopy of the trachea were employed. The author does not consider that paralysis of the vocal cords, found in about ten per cent. of the cases, adds to the dyspnœa. It is, however, of some diagnostic aid. The prognosis of emergency operations done for suffocation is bad, seven died and thirteen recovered. Numerous histories show the well-known findings and critical situations present in goitre operations. At Krönlein's clinic enucleation was done in cysts, in diffuse degeneration of both lobes with formation of fibrous nodules, and in cases with marked adhesion to the surrounding tissues, in all 157 enucleations. The thyroid arteries were only tied when marked bleeding occurred. In 406 cases resection of one-half of the goitre was performed. Where broad adhesion of the thyroid to the trachea were present, 107 cases, enucleation and resection were combined in such a manner as to leave, after sectioning the isthmus, a remnant of parenchyma on the trachea. All operations were performed under local anæsthesia.

The post-operative course was only in a minority of cases unaccompanied by fever. In other cases, healing aseptically, there was elevation of temperature with characteristic curves independent of the kind of ligature material employed, the number of ligatures employed, or of the character of the operation. These cases were characterized clinically by a favorable course. The etiology of the fever occurring after goitre operation (resorption, slight wound

infection, irritation of the air passages) is left open for discussion. Not including emergency operations the mortality was 1.3 per cent.; with emergency cases, 1.6 per cent. Of those that died of pneumonia none had a paralysis of the recurrent laryngeal nerve. One of the fatal cases died of tetanus following operation in a case of recurrent goitre in a pregnant woman.

Tracheotomy should be reserved for severe cases. Strumectomy is the operation of choice, even in the course of pregnancy. The later examination of 125 cases of severe goitre showed 105 in perfect health, dyspnœa on exertion in 17, and severe dyspnœa in three cases. In 24 enucleations there were 10, and in 101 resections there were 36 cases in which regrowth did not take place. In eleven operations for recurrence, resection was done six times, enucleation twice, while in three cases the character of the previous operation could not be ascertained.—(*Beiträge zur klin. Chir.,* Bd. LIV, p. 22.)

OPERATION FOR ASCITES.

Eugene R. Corson describes Narath's modification of Talma's operation for Hepatic Cirrhosis, and cites a very promising case of his own. He quotes Dr. Rolfe Floyd as to the four normal sites of anastomoses between the portal and systemic veins.—(1). Anastomosis of lower end of the œsophagus. Some of the veins in this region emptying into the phrenic, others to inferior vena cava, and finally those tributaries of the azygos veins. (2). Rectal anastomosis, the rectal veins partly emptying into the inferior mesenteric, part into internal iliac veins, and lastly through internal pudic veins into internal iliac. (3). Accessory portal veins of Sappey. Veins in suspensory ligament of liver which unite the portal system with the veins of the anterior abdominal wall and of the diaphragm. (4.) Retro-peritoneal veins of duodenum, pancreas and colon where these organs lie against the posterior abdominal parietes. The veins of Sappey uniting freely with the anterior abdominal veins are the chief site where nature is enabled to form a collateral circulation. Narath uses this set of veins because they take root in the portal vein itself, while those going to the diaphragm rise in the liver substance. The operation, as described, is simple and can be performed under local anesthesia. An incision three or four inches in length is made through the linea alba, between the ensiform and the umbilicus. The peritoneum is opened, the fluid allowed to escape and a bunch of omentum is picked up, drawn out and tucked under the skin, and stitched in place with a few catgut stitches. The wound is then closed with layer sutures, leaving sufficient room for exit of omental pedicle. This transplantation may be done either on one side or on both. The implantation may be made between muscle and peritoneum, though the subcutaneous method seems to afford a more perfect collateral circulation. According to Narath, the subcutaneous veins become prominent in a week, and the relief to the obstructed portal circulation is at once apparent.

Corson cites a case of extreme cirrhosis benefited remarkably by this operation. The mortality of the Narath operation must be little or nothing. It apparently offers the best chance for help. It certainly exposes the patient to but little risk, and if the claims that are made for it are substantiated, it will undoubtedly be of great value.—*Annals of Surgery,* December, 1907.

DIAGNOSTIC USE OF THE URETERAL CATHETER.

John A. Sampson describes the use of the renal catheter as an aid in the diagnosis of valve-like obstruction of the ureter. He shows that the renal catheter affords a means of detection of valve-like uretal kinks from any source or of any location. If the end of the catheter is inserted beyond the kink, and sterile fluid is then injected through the catheter, distending the ureter and pelvis of the kidney above, the patient will complain of pain (artificial renal colic), and on removing the rubber bulb or syringe from the end of the catheter, but leaving the catheter in place, the fluid injected into the pelvis of the kidney will escape from the catheter, and there will usually be relief from the pain or discomfort. On the other hand, if, after distending the pelvis of the kidney with the fluid, the catheter is slowly withdrawn, the fluid will escape until the eye of the catheter has passed the kink, and then the flow will cease and the patient will not be relieved. If more fluid is now injected through the catheter, the symptoms are intensified and still it will not return unless the catheter can be pushed farther up into the ureter, so that the eye is situated above the kink, when the distended renal pelvis, or renal pelvis and ureter above the kink, will be able to expel the fluid through the catheter. A spindle or olive enlargement of wax may be made just above or below the eye of the catheter, and as an olive tip bougie it may be felt to hitch over the kink and so aid in its diagnosis and localization. These bougies may also be used as dilators. He calls attention to scratch marks on the wax-tip catheter as a means of determining the presence of stone in the kidney and in the ureter.—*Annals of Surgery,* December, 1907.

TONSILLAR HEMORRHAGE.

Chevalier Jackson, discussing tonsillar hemorrhage and its surgical treatment, arrrives at the following conclusions:—Tonsillotomy is an unjustifiable operation, because it seals up the glandular tissue of the deeper portion of the tonsil under bands of cicatricial tissue, thus interfering with the throwing off of leucocytes secretions, epithelial and other débris. Rheumatism, endocarditis, tuberculosis and a host of

other ills, traced in many instances to the tonsils, are made worse or their occurrence is rendered more likely by this incomplete removal.

Tonsillectomy is less likely to be followed by hemorrhage than is tonsillotomy, for the vessels retract better in the normal tissue in the bed of the tonsil, than they do in the diseased glandular and cicatricial tissue. Oozing after tonsillectomy is exceedingly rare. It is bleeding from a vessel concealed back of the anterior pillar that is usually mistaken for oozing. The use of ice to the neck and face, or other hemostatics are unsurgical and are liable to be followed by secondary hemorrhage. A coarse sponge pushed into the cavity left by the removal of the tonsil will stop slight bleeding. Jackson claims that if there is not a sufficient cavity to permit the retention of a gauge sponge the size of a walnut, by the anterior and posterior pillars, the tonsil is not all out and the operation is incomplete. Tortion, with long, thin hemostats, is used by the author in stopping the hemorrhage where the gauze sponge fails. The vessels are plainly visible immediately after they are severed, and, if not seen, the anterior pillar should be lifted forward, when the spurting artery will usually be found. Any hemorrhage not controlled by tortion can and should be immediately stopped by ligation of the external carotid artery.—*Annals of Surgery*, Dec., 1907.

ACUTE PANCREATITIS.

Walter A. Jayne, in an article on acute pancreatitis, reports two cases of his own, both of which recovered. As to the etiology of acute pancreatitis, he quotes Mayo Robinson, who attributes acute attacks to the invasion of bacteria, infection almost always entering through the ducts. Flexner, Opie and others have shown by animal experimentation that bile, gastric juice and other substances act as irritants when thrown into the pancreatic ducts, and produce violent and fatal inflammation of the gland. As to the clinical course, one of his cases was closely in accord with the classical description—acute agonizing pain at the epigastrium, shock, nausea and vomiting, motor insufficiency of the intestines, distention and tympany, threatening peritonitis, rapid pulse and moderate temperature. After the subsidence of tympany and resistance, a circumscribed mass could be mapped out, which had previously been indistinct. He calls attention to the fact that although pancreatic disease is without pathognomonic signs, the diagnosis can usually be arrived at by a careful study of the history, mode of onset, and the combination of symptoms and signs. He quotes Fitz as saying that acute pancreatitis is to be suspected when a previously healthy person, or a sufferer from occasional attacks of indigestion, is suddenly seized with a violent pain in the epigastrium followed by nausea and collapse, and in the course of twenty-four hours by a circumscribed gastric swelling, tympanitic or resistant, with slight elevation of temperature.

Treatment:—He advises exploratory incision with drainage of the peri-pancreatic space, with possible punctures or incisions of the organ for the relief of the congestion in the early stages of an acute attack. If the symptoms increase in mass, and blood counts point almost certainly to suppuration, then surgical intervention becomes imperative.—*Annals of Surgery*, Dec., 1907.

THERAPEUTICS.

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THE NOSTRUM EVIL AND THE TEACHING OF THERAPEUTICS.

Through the efforts of both lay and medical press, the nostrum evil has been so well exposed as to stimulate suppression of the more public means of advertisement through daily and religious newspapers; while, for professional benefit, the reputable medical periodicals can be trusted to take care of their advertising pages in accordance with information now available. And withal there has arisen in the mind of the medical profession a consciousness of partnership in the propagation of the evil that will doubtless be the basis of fundamental reform in individual practice. We should blush at the fact that so many physicians have allowed the commercial houses to think for them and to dictate a usually worthless medication.

There are many of whom this is not true—many who have felt the tendency and have stood against it; and this class probably includes our teachers of therapeutics. Still it is impossible to believe that the evil practice of prescribing and recommending proprietary secret preparations could have attained its appalling proportions if these teachers had been alive to their opportunity of properly instructing, and molding the attitude of the beginners. Ask one hundred physicians whether their weakest point at the beginning of their practice was not in practical therapeutics, and be prepared for an almost unanimous affirmative. The young man is told what drug to use, but too often is left to blunder into a knowledge of the best adapted official preparation and the best form of its prescription. He is referred to works on prescription writing, but we all know that the adaption of our remedies to meet conditions is an art, as likewise is their combination for administration. Incompatibility is his constant fear. His lack of self-confidence furnishes the "psychologic moment" for the visit of the detail man from the manufacturing house, with his story of their "superior" and "elegant" preparations. By him the shortcomings of the dis-

pensing druggist are retailed, trivial disadvantages of the ordinary preparations magnified and claimed to be overcome in their ethical (always) preparations, souvenirs and useful articles are left as advertising mementoes, etc. We know the too common result. Who is to blame?

The situation shows a serious lack of preparedness in the most important branch of practical medicine; and, while the thinking man often rises above the situation, we are convinced that the average young physician falls an easy victim to the designs of commercial interests, through no fault of his own, but because insufficiently taught in this special direction.

What is the remedy? The remedy, and the responsibility as well, are with the medical school. The coming classes of graduates must know more about the commercialism of the pharmaceutical specialty business. They must learn more thoroughly the action and value of the old, reliable drugs, the combining qualities of their preparations, and the resources provided by experience, as embodied in the U. S. Pharmacopœia and National Formulary. But with all this they still need thorough drilling in actual prescribing, for clinical or hypothetical cases or conditions, under the direction of, and subject to criticism by, their therapeutic teacher. This is done in some of the schools and probably in an increasing number. In a certain one a course of twenty hours in the senior year is given exclusively to this kind of work with much satisfaction to classes. Such a course could be planned, in the variety of its work, to give the beginner just the experience of adapting and prescribing medicines, that he would otherwise gain only during the first couple of years of practice; but the advantages of it would be that he would gain this experience under friendly direction, without doing any harm, instead of blundering timidly along, with frequent counsel from the seductive commercial traveler.

Such a course will require planning and thinking on the part of the teacher and the discipline of much careful thinking on the part of the student in its pursuit. The reasoning power and judgment of the latter will be thus exercised in the right direction and, while all men cannot be expected to become independent thinkers, the teacher may have the satisfaction of knowing that his practical course has placed the right ideals before his students and started them with the proper view point. Future security will demand nothing short of this. E. H. L.

Let us then blush, in this so ample and so wonderful field of nature (where performance still exceeds what is promised), to credit other men's traditions only, and thence come uncertain problems to spin out thorny and captious questions. Nature herself must be our adviser; the path she chalks must be our walk; for so while we confer with our own enemies, and take our rise from meaner things to higher, we shall at length be received into her closet-secrets.—*Preface to Anatomical Exercitations Concerning the Generation of Living Creatures*, 1653, *William Harvey.*

ORTHOPEDIC SURGERY.

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MUSCLE AND TENDON TRANSFERENCE.

Bradford and Soutter, of Boston, have recently made an interesting contribution to this subject based upon an analysis of thirty-five cases with periosteal insertion and silk strand elongation, including one case of silk suture elongation of the hamstring to the os calcis and two cases of pectoral-trapezius anastomosis.

The writers insist on absolute skin sterilization, and although in some of the cases healing was not by first intention, yet it is very desirable to secure it if possible. They also desire to impress upon those who operate the necessity of avoidance of disturbance of tissues as far as possible. Silk strands were used after having been boiled twice. In some instances the second boiling was in a corrosive sublimate solution, in others simple boiling was employed. They found no particular advantage in boiling in the sublimate solution as was claimed by Lange, who devised the method. In one instance the sterilized silk was dipped in a solution of celluloid, but the method only added to the detail, and was of no special benefit. After the operations plaster of paris was applied only for a sufficient length of time to secure healing of skin incision and a reasonably strong tissue healing. After that apparatus treatment was begun, special pains being taken to provide apparatus that would prevent any strain upon the transferred tendon. Massage, muscle training and graded exercise were kept up for several months.

The cases are reported in detail, but it is to be regretted that more full details were not given as to the condition before operation.

The four cases represented a type not usually subjected to tendon transference, and are of particular interest and worthy of special note. In these toe-drop was corrected by the insertion of silk strands fastened above to the periosteum of the tibia and below to the periosteum on the outer and inner sides of foot, the strands passing subcutaneously under the annular ligament.

The most remakable case of the series was a tendon transference from the hamstrings to the os calcis by elongated silk strands, and was performed by Doctor Soutter in August, 1905.

The soleus, extensors and plantaris were paralyzed, the foot being held in the position of calcaneus. There was no flexor function of the toes, but there was good power in the hamstrings. A silk strand was quilted into the semimembranosus and extended downward and fastened to the os calcis. The foot is held at present, a year and a half later, in good position, and some flexion in the toes is possible. In May, 1907, plantar flexion of the foot, due to the transfer, was strong enough for use.

In conclusion, the writers state their belief that the results of the careful employment of silk

strand elongation of efficient muscles and periosteal insertion into selected and mechanically favorable points on the foot and tibia, demonstrate the superiority of the newer over the old method of simple tendon transference without periosteal attachment and tendon shortening of relaxed muscles.—*Boston Medical and Surgical Journal,* November 14, 1907.

EXPERIENCE WITH OPSONINS AND BACTERIAL VACCINES IN THE TREATMENT OF TUBERCULOUS AND NON-TUBERCULOUS ARTHRITIS.

C. F. Painter, of Boston, in a paper read before the Massachusetts Medical Society, makes a report of twenty cases of tuberculosis and non-tuberculous arthritis, treated with opsonins and bacterial vaccines.

In the tuberculous series of eleven cases, ten were of bone disease, five adults and six children. Four were not benefited at all, two apparently most extraordinarily improved, and still another case experienced an improvement which, considering the gravity of the symptoms may fairly be classed as attributable, in large measure, to his vaccines. Two died, and a third is dying. One case was made temporarily worse.

He further says that, if the outcome of vaccine treatment has not been brilliant in tuberculous lesions, it has been even less so in the case of non-tuberculous lesions. The cases treated, however, are too few in number to permit of drawing any positive conclusions, and the author concludes that longer trial is necessary before we can make definite reports on this interesting subject. —*Boston Medical and Surgical Journal,* November 7, 1907.

THE OPERATIVE TREATMENT OF SPINA BIFIDA.

As showing the gradual increase in the scope of orthopedic surgery, reference may be made to an interesting article by Lovett, of Boston, with the above title. In it a careful analysis is made of twenty-four cases operated upon by the writer of the paper. The operation consists of four stages.

1. An incision somewhat longer than the sac is made at the base of the sac as near the median line as the character of the skin covering the tumor permits, always avoiding, if possible, unhealthy skin tissue. The sac is opened freely by a long longitudinal incision at site of skin incision. Apparently no danger followed free or rapid escape of spinal fluid. A similar incision is then made on the other side of the tumor, through skin and sac, and the sac turned inside out for inspection. Any nerves that are found are carefully dissected off and returned into the spinal canal. The sac is then cut away, leaving an elliptical hole, at the bottom of which lies the neck of the sac. Resection of the cord and end-to-end suture has been performed by Murphy in central dilatation of the cord.

2. The second step consists in closure of the sac and its reduction into the spinal canal. The neck of the sac is dissected free, well down into the opening in the spinal canal. As much of the sac as is advisable is cut away and the opening closed by an over-and-over, or a purse string suture of fine silk threaded on cambric needles. It is important that no leakage of spinal fluid should occur and efficient closure of the neck of the sac is most important.

3. The third step consists in furnishing a firm layer to close the superficial opening. Without this a bulging is likely to occur in the sac, and a partial relapse follows. A quadrilateral flap with the base towards the middle line is then made through muscle and fascia, somewhat longer than the opening in the spinal canal, and of sufficient width to meet without great tension. These flaps are then inverted and sewed together by a close, continuous suture of fine silk so tightly as to prevent any leakage from the spinal canal. It is important to fasten the top and bottom of the flaps to the underlying tissues, sealing the opening firmly against spinal pressure. In the sacral region, as there is no muscle, a thin, periosteal flap is made and treated the same as if it were muscle and fascia.

4. The last step consists in the closure of the skin incision. This is done by a continuous suture of chromicized catgut reinforced by a few interrupted sutures of silkworm gut.

In the case of very large tumors, where edges of skin incision will not meet, two long longitudinal incisions are made in the flank, and skin and subcutaneous tissue dissected up as far towards the middle line as posible without opening into the sac, and then sliding in the two flaps of skin, which will then meet without tension, but leaving an elliptical raw surface to granulate in each flank. Antiseptic dressings are applied, and over these other dressings, which can be changed if necessary without the necessity of exposing the wound.

The points of greatest importance in the operation are, rapidity, careful dissection of the nerves from the sac, and tight and efficient clossure of the opening of the canal. In the series of cases operated upon nine died within three weeks of operation, giving a mortality of 37½ per cent. Many of these were really hopeless cases. Of eleven selected cases, only two died. The statistics of other operations, totaling eighty-eight cases, show a mortality of 34 per cent. These results contrast with the results of Morton, who injected a mixture of glycerine, iodine and iodide of potash, and reported 83 per cent. cured. This method is not much used to-day. If the immediate mortality is high, it must also be taken into account that there is a subsequent mortality in the years following operation from inter-current affections, and the percentage of ultimate success is probably not over 50 per cent. Without operation occasional

cures occur, but the mortality is very great, the London Clinical Society reporting 649 cases, 612 of which died in the first year. The contraindications to operation are hydrocephalus, existence of other deformities of severe grade, paralysis, or evidence of involvement of large nerves in the sac, and a very large tumor with large bony opening in the spine. The earliest case operated upon was a child five hours old, where the tumor had been ruptured at birth. This case recovered. Another one done on a child forty-eight hours old also recovered. The indication for these early operations was rupture of the sac.—*American Journal of Orthopedic Surgery,* October, 1907.

TYPHOID SPINE.

At the last meeting of the American Orthopedic Association, T. H. Myers, of New York, presented a very interesting article on Typhoid Spine, with especial reference to the deformity, and D. Silver one on Typhoid Spine, with Radiographic Evidence of Structural Change, etc. These two papers cover the ground very fully, and seem to show that at least in some cases there are bony changes in the typhoid spine. The skiagram in the first case of Myers' shows a synostosis between the second and third lumbar vertebrae, with loss of height from disappearance of the intervertebral space. The space between the first and second lumbar is also less clearly marked than those above and below. The lead tracing of the spine also showed a kyphos at this point.

In the second case there was a synostosis of the eleventh and twelfth dorsal vertebræ with diminution in height from same cause as in the first patient. This case developed an abscess, but cultures from it and other fluids from the body, failed to show typhoid bacilli.

In the case reported by Silver, the radiogram showed that the pathological process was confined to the region of the lumbar vertebræ. At the junction between the two, the spine was curved slightly to the left. The vertebral bodies seemed of normal thickness, but the space between them corresponding to the intervertebral disk, was absent, the shadow representing the body of first lumbar, passing without any line of demarcation into that representing the body of the second. Over this area the shadow was of increased density. On the right, the lateral borders of the two vertebral bodies formed an unbroken curved line; on the left there was an irregular shadow projecting outward between the transverse processes. The symptoms, prognosis, diagnosis and treatment, and bibliography are fully considered, and from the large number of cases reported with kypnosis or scoliosis, it is evident that in many other cases there was bone or periosteal involvement. This is important, as the papers of Osler in 1894-5 have been largely quoted. He believed it to be a neurosis, although he did not deny that there might occasionally be bony changes. Proper orthopedic treatment has not always been applied in these cases, owing to the acceptance by many of the neurotic theory of the cause of the disease.—*American Journal of Orthopedic Surgery,* October, 1907.

RHINOLOGY AND LARYNGOLOGY.

EDITED BY

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THE CAUSE OF NASAL POLYPI.

Eugene S. Yonge has given us a very thoughtful paper on the determining causes of the formation of Nasal Polypi. To differentiate mucous polypi, commonly termed nasal polypi, from other intra-nasal swellings he briefly defines them thus: "Mucous polypi may be described as new formations commonly arising from some portion of the mucous membrane covering the ethmoidal region of the nose and mainly composed, when fully developed, of a loose network of fibrous tissue. Essentially, however, they consist of the normal tissue of the mucous membrane, the component parts of which are present in varying proportions, more or less altered in character and associated with serous exudation and round cell infiltration, and the structures are covered by the epithelium of the parts from which they spring." He also points out that the typical mucous polypus does not present the characteristics of a true tumor, quite contrary to the theory held by the older pathologists that a polypus is a myxoma, a theory which has long since been disproved.

In discussing the various associated conditions under which polypi arise he says: "My own view is that the initial localized edema which occurs in the nasal mucous membrane, and is the first stage of the process in question, is a serous infiltration of the tissues, the results of obstruction of certain definite capillaries and veins, in other words, that the edematous infiltration is due to an obstacle in efferent circulation which is in relation to the area in which the edema occurs."

In discussing several points supporting the hypothesis regarding the particular vessels which are believed to become obstructed, the cause of this obstruction, the manner in which it would lead to an edema of the mucous membrane, together with verifying evidence, he gives the probable sequence of events as follows: First—Chronic inflammation of the mucous membrane; Second—Dilatation of the glands, either through inflammatory obstruction of the excretory ducts, as associated with accessory sinus suppuration, or through excessive filling of the glands due to hyper-stimulation such as occurs in chronic catarrhal rhinitis; Third—Edematous infiltration of the surrounding tissues resulting from the passing of serum through the capillary walls;

Fourth—The formation of folds or projections of the infiltrated mucous membrane; Fifth—Increase of edema in certain of the folds combined later with a hyperplasia of the fibrous elements, resulting in; Sixth—The formation of flat edematous projections, the basis of which gradually become constricted or stretched until they constitute a pedunculated or gelatinous polyp.

In support of his belief that the glandular changes in question are secondary to the edema of the mucous membrane, rather than the direct cause of it, he points out the extremely varied circumstances under which they appear and says, on the other hand, bi-lateral polypi, occurring without any manifest local cause, must be due either to a particular irritant, such as septic discharges from the accessory sinuses, or inflammatory occlusion of the gland ducts, or to a common irritant. The latter he ascribes in many cases to a constitutional peculiarity and to an irritability of the vaso-secretory mechanism of the nose, which leads among other effects to periodic hypersecretion and overloading of the gland, and which frequently declares itself plainly as one or other of the reflex nasal neuroses. He furthermore cites the remarkable frequency with which nasal polypi have been found in bodies examined post-mortem by several well-known observers who had investigated this point, and the relative infrequency with which these growths are detected on clinical examination of the living, indicating that polypoid changes, commonly of minor degree, are extremely common, although in a large number of cases so slight as to cause no marked symptoms not readily attributed by the patient to a chronic nasal catarrh. —*British Med. Jour.*, October 12, 1907.

NASAL REFLEXES.

In connection with the foregoing article, one by Küttner, giving the physiology of the reflexes, is of interest. (*Die Nasalen Reflexneurosen*).

Nasal reflexes, he says, are to be divided into two main classes, normal and pathological. The normal physiological reflex is the response manifested in one part to the stimulation of another part with which it has a nerve connection. Thus, a stimulant applied to one part is communicated to the central organ by the centripetal or afferent nerves which in turn is sent out through the centrifugal or efferent nerves to the part and organ with which they are connected. This process goes on without conscious control by the individual, although governed by certain laws. At first the reflex stimulation remains limited to the efferent nerves given off at the same level that the stimulated afferent nerves enter; and these two sets of nerves are so balanced that normally the reflex manifested by the one is directly related in character and amount to stimulation of the other. The central organ, however, exerts an inhibitory control or resistance to the distribution of the reflex activity resulting in a progressive diminution of the stimulatory force. The brain itself is also in more or less direct control over this reflex process, because the stimulation of certain portions, the optic lobe for instance, will immediately interrupt a number of reflex processes. This area of the brain is also in connection with all the other organs of the central apparatus through its inhibitory fibres and, as Setschenow claims, is in a constant state of stimulation and able to control a large number of reflex processes. Those reflexes that are under the control of the will, are those that the will is able partially to produce, and which can be suppressed. Many of these reflexes also can be suppressed by the simultaneous stimulation of other sensory nerves, and by the nerves of special sense.

The nasal reflexes present a variety of normal physiological phenomena caused by the stimulation of the olfactory nerve and of the trigeminal branches supplying the nose. A motor reflex is manifested in the act of sneezing; a secretory reflex in lacrimation; and a vaso-motor reflex in the engorgement or evacuation of the cavernous bodies of the nose; while the action of the so-called inhibitory nerves is manifested in the changes of the respiratory and circulatory rhythm. When the centers are so disturbed that they distribute these phenomena abnormally, there being a disproportion between the cause and effect, we have what the author terms, "Diffuse Abnormal Reflexes," or "Reflex Spasm."

While these reflexes remain limited to the normal reflex tracts, we have such phenomena as are represented in the nose by the various forms of nervous coryza, but when the reflex has passed beyond this limit, so that it is distributed to other ganglia and to wider surrounding areas, it becomes a pathological disturbance represented by such phenomena as reflex asthma and epilepsy, the central organ at the same time manifesting increased and abnormal irritability.

Not only is this irritability of the central organ markedly increased, but its resistance is so diminished that every stimulation is distributed far beyond the various normal areas. If this pathological condition persists for a length of time a peculiar relation develops in the central organ causing the originally non-physiological association of the centripetal and centrifugal conducting paths to become more or less permanent; but if the cause of the disturbance is removed before this takes place, the central organs return to their normal condition. In the case of epilepsy if it be due to the irritation from a foreign body, scar tissue contraction, or similar causes, the attacks will completely subside if the cause is removed at the onset of the disease. If, however, it has existed for a sufficient length of time for the pathological reflex path to become so easily passable that any sort of stimulus, physical or sensory, is capable of causing the pathological reflex, the removal of the original causative factor will then rarely have a curative influence upon the disease.

Diminished reflex irritability of the central

organs is a condition that is commonly overlooked and but little discussed in text books and in articles, for the reason that this diminution of the normal nasal reflex is a pathological condition rarely associated with disturbing symptoms, and therefore requires but little attention from rhinologists. This condition is met with in certain diseases of the nervous system mainly in hysteria and in drug intoxications.

In cases of abnormally increased reflex nasal irritability there is a disease of the nervous system which may represent one of two fundamentally different types of pathological reflexes, the organic and the functional. The organic may be due to such conditions as tabes, sclerosis and the like; while under functional disturbances are included all those phenomena in which no anatomical cause is demonstrable at the present state of our knowledge. All deviations from normal reflex activity and normally associated sensations are therefore comprised under what is designated as "reflex neuroses," a large number of which are represented in and caused by diseases of the nose.

VOCAL NODULES IN CHILDREN.

A. Coolidge, Jr., reports the case of a girl, ten years of age, who had more or less hoarseness for five years, which varied much on different days and even at different times of the same day, but the voice was at its best a slightly harsh sound. On examination nothing essentially pathological was found except two pearly white nodules, one on the border of each vocal cord between the anterior and the middle third, a typical picture of so-called singers nodes or vocal nodules. This condition was attributed to a habit of speaking in a loud voice on account of the deafness of a companion.

The author points out that while vocal nodules in children are often not mentioned in text books and papers, they are nevertheless regarded by a number of careful observers as a very frequent occurrence. This condition, he observes, is due to the faulty use of the voice and the abuse to which the larynx in children is subjected by their constant shouting and loud talking while at play. In the treatment of this condition the author regards rest and the proper use of the voice the essential conditions to be observed.—*Boston Med. and Surg. Jour.*, May 30, 1907.

DIFFERENTIAL DIAGNOSIS OF TUBERCULOSIS, SYPHILIS AND MALIGNANT DISEASES OF THE LARYNX.

A most important discussion on the above subject took place in the section of Laryngology, Otology and Rhinology at the last meeting of the British Medical Association, the opening papers being presented by Sir Felix Semon and Mr. Jobson Horne. This discussion was particularly important as confirming our own experience, as pointed out by Sir Felix Semon in his opening paper, that the merest tyro in the field of laryngoscopy will readily diagnosticate the typical cases, and that the differential diagnosis usually is easy, although sometimes difficult, and in exceptional cases for a time almost impossible.

In consideration of the last variety, for which the discussion was especially designed, Sir Felix Semon made as the subject of his remarks the following points: First—Congestion of the vocal cords as an initial sign of tuberculosis, syphilis and malignant diseases (A) Bi-lateral (B) Unilateral; Second—The difficulties of diagnosis between tuberculosis, syphilitic and malignant and laryngeal tumors; Third—Laryngeal tuberculosis as a source of error in middle-aged and old people, in the differential diagnosis between tuberculosis, malignant disease and syphilis of the larynx; Fourth—Difficulties of differential diagnosis between all three diseases, when appearing in the form of infiltration; Fifth—Combination of two of the diseases under consideration and the consequent diagnostic difficulty.

I. The bi-lateral congestion of the vocal cords in the majority of the cases is due to catarrhal conditions, or excessive use of the larynx, and not infrequently is a sign of secondary syphilis or incipient tuberculosis of the larynx. Unless mucous patches are present in the larynx, the laryngoscopic image in such cases is rarely characteristic, and often it is only the obstinacy of the congestion and resistance to treatment that after a time leads one to suspect that he has to do with something else than ordinary laryngeal catarrh. One also should not forget the possibility of a simultaneous existence of both of these diseases in the same individual, manifested in either uni-lateral or bi-lateral congestion. In malignant diseases, however, bi-lateral congestion of the vocal cords is rare, although the possibility of such an occurrence is clearly illustrated in an interesting case which the author cites. Unilateral laryngeal congestion therefore, unless traumatic, should be looked upon as a danger signal.

II. When appearing in tumor form the differential diagnosis is often still more difficult: First, for the reason that tuberculous growths often bear a close resemblance to sessile fibromata, commencing laryngeal growths, and to gummata in the pre-ulcerated state, while at the same time there may be no demonstrable pulmonary lesion, no cough, and no examination for bacilli can be made; Secondly, because the form of the tuberculous tumor is, as a rule, so rounded, and its surface so smooth that it is often impossible to remove a fragment for the purpose of microscopic and bacteriological examination.*

The difficulties of diagnosis are particularly

*The microscopic examination of these growths, however, is not conclusive, as illustrated by an interesting case of laryngeal growth of suspicious character that the Editor had not long ago. In this case it was possible to remove a considerable part of the projecting portion. This was divided into three parts and a piece sent to each of three well-known pathologists in different cities. One pronounced it papilloma, another epithelioma, while the third pronounced it tuberculosis, which proved to be correct, as the patient later on developed, and died from, a general tuberculosis. Papilloma occurring in the posterior laryngeal commissure associated with the characteristic general pallor is especially indicative of tuberculosis.

great if tuberculous tumors arise in elderly people, and in the situation where fibromata are not unliable to occur, or if it be a gumma that has appeared later in life when the primary infection had long been forgotten. In all those cases in which doubt exists as to the nature of the growth, the administration of iodide of potassium will soon enough clear up the diagnosis.

III. In young people cancer of the larynx is rarely mistaken for laryngeal tuberculosis, but in middle-aged or old people this very often occurs. In substantiation of this the author points out that Grunwald found that out of ninety-three cases of radical operations undertaken for supposed laryngeal cancer, in no less than seventeen the diagnosis turned out to have been tuberculosis.

IV. and V. In case of diffuse infiltration of the larynx unattended by local or constitutional disturbances, or when there is a combination of two or more of the diseases in the same person, great difficulties of diagnosis are presented. It was formerly believed that tuberculosis and malignant disease were mutually exclusive and never occurred simultaneously in one and the same person, but the record of many cases have long since shown this to be a fallacy. Under such circumstances the characteristic phenomena of each of them may, and do, become blurred, as it is only by the employment of every kind of additional information and also the liberal use of iodide of potash, that a correct diagnosis can be arrived at.—*Jour. of Laryngology,* November, 1907.

Jobson Horne said: "In my experience if an expert makes an error in diagnosis, it is usually on the side of regarding an innocent growth as malignant, and not that of overlooking malignant disease." This opinion he arrived at from his large experience in the dead-house, in which he found many cases where the disease of the larynx had been pronounced malignant, but which were demonstrated to be tuberculosis. He, therefore, pointed out that the elimination of tuberculosis is the most practical way of arriving at a diagnosis of cancer.

Before proceeding to the objective aspect of the matter, he considered the four subjective factors: First—Pain. Is it constant or intermittent? Second—Vocal function. Has it been impaired previously, and if so, after what interval of immunity was there a recurrence? Third—Is there any evidence of fibroid degeneration? What is the character of the urine? Has the larynx recently undergone any local treatment?

Pain is much earlier and more continuous in malignant disease, whereas in tuberculosis, and still more so in syphilis, pain is usually absent when the larynx is at rest. The author points out the characteristics of the voice in the different diseases, and the interference of previous local treatment in making the diagnosis by the laryngoscopic appearance.

For the laryngoscopic examination he placed the cases in four groups, as follows: First—Those cases in which there is only congestion of the laryngeal mucosa, and perhaps an impaired mobility of the vocal cords. The congestion may be patchy and limited to only one part, or it may be diffuse and involving both sides. Second—Those cases in which there is perhaps, in addition to congestion and apparent mobility, some tumefaction if not a definite or an excrescence. Third—Those cases in which, in addition to congestion, apparent mobility and tumefaction, there is ulceration. Fourth—Those cases in which there is external evidence of disease such as glandular enlargement.

In discussing the pathology connected with the manifestations of these diseases of the larynx, he pointed out that the part of the laryngeal mucosa which is covered with the columnar epithelium and richest in glandular structure is most vulnerable to tubercular infection, and those parts clad with squamous epithelium and relatively free from glands are immune against tuberculous infection, but are the more frequent site of epithelioma.

The writer also calls attention to the use of cocaine and adrenalin as an important aid in diagnosis between tubercular and malignant disease when the congestion is so diffuse as to involve one or both sides of the larynx. He uses it by means of a drop syringe as employed by Dr. Sinclair-Thompson in the diagnosis of lupus of the nose. The mobility of the larynx should be noted as it is less marked and less persistent in tuberculosis than it is in cancer, while at the same time the author had seen laryngeal tuberculosis with double abductor paralysis. He regards, however, that impaired mobility of a vocal cord is of marked value as evidence of malignancy in those cases in which the disease presents a well-defined tumor or excrescence, and especially if the growth is so deep seated that fixation of the cord is the only clinical feature observable in the larynx above the level of the epiglottis. In the case of *pachyderma laryngis,* he regards it more as an evidence of disease than as a disease itself, and it may be indicative of any one of the diseases under consideration. It will be remembered that this was the condition that Virchow found and which was the forerunner of the cancer which developed in the larynx of the late Emperor of Germany.

In the removal of portions of the laryngeal growth for microscopical examination, the author calls attention to the importance of using the punch cutting variety of forceps, in which the knife is set at an angle to the shaft of the instrument, so as to enable the operator to reach the deeper part. But unless the patient is prepared to submit to an operation for the removal of the disease in the event of the microscopic examination being positive, he would not advise the patient to undergo the little exploratory operation.

In the case of ulceration of the larynx which sometimes presents an ambiguous appearance, if tuberculosis is not confirmed by the temperature nor by the examination of the sputum or the lungs, the roentgengraph may often disclose a hidden disease associated in the lung.

Glandular enlargement, which is regarded as presumptive evidence of the disease being malignant, is by no means conclusive, as the lymphatics become enlarged in tuberculosis and syphilis. The author also calls attention to the importance of the administration of iodide of potassium in doubtful cases of a possible syphilitic nature. Transillumination is also regarded as a valuable aid for the reason that in tuberculosis and syphilis of the larynx the parts above the cords are those mainly affected, whereas in malignant disease the infiltration is mainly sub-glottic. He refers to the opsonic index which he regards of little value in the diagnosis of malignant disease of the larynx. He also calls attention to the great importance of an early diagnosis in these most dreaded diseases of the larynx. All three are amenable to arrest if not cure; all three are so insidious in their onset that they would seem to have no beginning; and all three so progressive in their character that an early diagnosis is the only hope of saving the larynx from becoming a "most veritable citadel of misery."—*Jour. of Laryngology,* November, 1907.

GENITOURINARY DISEASES.

EDITED BY

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CYTOLOGY OF GONORRHEAL DISCHARGES.

The impulse of rapid advances in the science of bacteriology, springing from the perfection of the microscope and from the development of cultural and staining methods, soon made itself felt in other branches of medicine, notably in the examination of the blood and in cytology, a comparatively new science, which came into existence a dozen or more years ago. The next step was to study the cytology of all diseases, necessarily at first the systemic diseases of which malaria and appendicitis are the types. Next in order follows the study of the cytology of particular diseases, and among them gonorrhea.

Robert W. Taylor (*Jour. A. M. A.,* November 30, 1907) brings together the results of this work in gonorrhea during the past five or six years. Unfortunately, however, from a therapeutic and a prognostic standpoint, this work has not yet produced practical results. This is at the present point of our progress true, but no one may say whether or not in the future we may gain a great deal of knowledge from the study of the cytologic elements in the pus in gonorrhea because, as time advances, doubtless the significance of these same elements in other diseases will be better understood, and from this advanced knowledge deductions may be made as to their meaning in gonorrhea.

Taylor wisely makes his observation not only from twenty-eight cases of ordinary gonorrhea, but also from five cases of vulvovaginitis in children, and two of ophthalmia. The cells which Taylor finds, in corroboration of those described by other writers, are predominately as follows:

I. The neutrophilic polymorphonuclear leucocyte or pus cell in which the gonococci are most frequently found.

II. Desquamated epithelium, especially early in the disease.

III. The eosinophilic leucocyte occasionally, which never contains the gonococcus. C. and H. L. Posner, quoted by Taylor, state that the eosinophiles occur up to the fourth or sixth week, and then gradually decrease. Joseph and Polano, also quoted by Taylor, concur in this, and regard their disappearance as sign of the fact that the gonorrhea is culminating. On the other hand, Bettman also referred to by our author, found them late in the disease. Taylor states that he himself has found them as frequently absent as present in the first four weeks of the disease, and believes that there is no definite period concerning them. In this statement Pellagatti concurs. Joseph and Polano think that the inverse proportion of eosinophiles to gonococci is of prognostic significance. Our criticism would be the same as Taylor's, that time and long experience alone will establish these facts.

IV. Mast-cells are frequently seen—only once in ophthalmia by Taylor, but in 30 cases out of 200 of gonorrhea by Joseph and Polano. A cell so irregularly found can have little import in the light of our present knowledge of the particular function of the blood elements in general.

V. Mononuclear basophilic cells are next, comprising the small and the large lymphocytes. In Taylor's experience the former are more frequent, and he quotes Papenheim in saying that they indicate the healing period. Unfortunately, however, this conjecture is very doubtful because Neuberger has found them in both the acute and subacute stages.

VI. Degenerative changes in several cells occur such as buddings, vacuoles and the like. Taylor refers to H. Posner in stating that these vacuoles indicate phagocytosis, but doubts this interpretation.

VII. Segementation of lobes of the leucocytes, together with the inclusion of nuclear material is interesting, and apparently not before described in connection with this disease and therefore as yet not understood or explained by Taylor.

VIII. The ball-neucleated leucocytes are the

next cells unfortunately without explanation. They occur alike in non-specific and gonorrheal urethritis. Neuberger observed them particularly in the morning drop.

IX. Phagocytosis does not appear to offer very much help in the prognosis in gonorrhea according to Taylor. Neuberger has elaborated a rather confusing series of pictures of this phenonema.

X. The macrophage of Metchnikoff is occasionally seen, while Sprechner's paper on the phagocytosis of red cells in gonorrheal exudate is quoted only to suggest that the red cells may be adherent to the surface of the phagocytes rather than within their body, since Sprechner shows both the microphagi and macrophagi in apparently the same function. One element omitted in the paper is the occurrence of red cells, which of course, varies with the severity of the disease. Hemorrhagic gonorrhea is a well-known form and always severe. Another element omitted by the paper is that in which the pus cells are badly destroyed, so that the nuclei are not well made out: here the disease is practically always severe and not unusually of long duration. This seems to be as far as the matter has up to the present time been taken, which, in a word, is not far enough to be of very great practical value.

HYPERTROPHY OF THE PROSTATE GLAND.

The prostate has received more attention within late years than any other organ of the genito-urinary system excepting perhaps the kidney. In a paper on the diagnosis and symptomatology of enlargement of the prostate gland, C. M. Harpster (*Am. Med. Compend,* October, 1907) raises the following points as to the examination of the prostate:

I. Rectal palpation is important and should be made while the bladder is moderately full. The position recommended as best is to have the patient face a table or desk with the left knee on a chair and the body leaning well over a table. The dorsal position is often used, but the author does not add that the lower extremities should be slightly flexed upon the abdomen and the trunk itself flexed so as to relax the muscles of the abdomen as much as possible. This position permits what the writer does not describe, namely, bimanual examination of the prostate, which should be done with an empty bladder, but is available only when the prostate is very large. Another position omitted by the writer, and perhaps better than either of the foregoing, is to have the patient leaning over a table with the feet far apart and rotated strongly inward, thus relaxing the glutei muscles and the perineum and facilitating exploration with the finger. The elbow of the exploring hand should rest upon the hip of the observer, which furnishes the pushing force upward for a long reach, while the fingers themselves remain flaccid and under control. This method is admirably described by Prof. Howard Kelly for gynecological examinations. Commonly one finger, occasionally two fingers, may be used in the rectum.

II. Length of the urethra is the next point of the paper, which means the distance the eye of the catheter must travel before urine begins to flow. The author omits to state that this distance must not be measured until after the penis has been released from the hand of the observer and allowed to resume its normal position. In the healthy subject this length varies from 7½ to 8½ inches; any increase usually means enlargement of the prostate, and a great increase indicates enlargement of the middle lobe in particular. The author totally omits, however, cautions as to the kind of catheter to be used. Preference is first given to the soft rubber catheter. If this fails to enter, we next try a round-nosed soft silk catheter, then the coudé or elbow catheter or the bicoudé or double elbow catheter. Some observers prefer the coudé catheter with the olivary point. Special emphasis should be put upon avoiding metal instruments in prostatic cases as a rule, except as a last resort, especially if there is cyctitis present. Unless the physician has a full assortment of these catheters at hand, he should not conscientiously undertake an examination of the organ. All these cautions have been overlooked by the writer.

III. The catheter once in place draws off the residual urine, an element in the objective examination which should never be omitted. In the foregoing heading, however, of his paper, Harpster makes no mention of it.

IV. The stone searcher is the next instrument to be introduced, and by preference the old style cylindrical searchers are easier to pass in these cases than the new style flat-beaked instrument. Harpster says that the instrument is introduced into the bladder and held tightly up against the neck of the organ permitting the prostate to be mapped out between the instrument and the finger in the rectum. It is better to turn the beak of the instrument downward, thereby estimating the depth of the retroprostatic pouch, and also the size and features of the lateral lobe involvement. By all means stone must be searched for which Harpster does not mention, because calculus is a very common complication of enlarged prostate, and has been overlooked repeatedly even by experts. Since the searcher is a rigid instrument its use had best be postponed until after the patient is under an anesthetic and prepared for the operation or until after irrigation treatment of the bladder and internal medication have relieved the cystitis as much as possible.

V. Cystoscopy and endoscopy are dismissed by the mere use of these words, whereas the caution should be added that cystoscopy in the presence of enlarged prostate and pus is as dangerous as the operation of prostatectomy itself in many

cases, and should be undertaken only after a course of treatment directed against the cystitis or as part of the final operation upon the prostate.

VI. Endoscopy, by which is meant urethroscopy, is in these conditions of little value because the instrument is straight and cannot be introduced into the prostatic urethra, except with great danger and pain. In no other disease is objective diagnosis by mild and gentle means of more importance than in hypertrophy of the prostate. The muscular tone of the bladder is also omitted by Harpster. With the catheter in place the tone of the bladder wall is noted, by which is meant the power with which the urine is driven out of the catheter. If the bladder is rather healthy and tonic, the urine will have quite a jet. If the bladder is unhealthy and atonic, the stream will simply dribble from the end of the catheter. Similarly the doctor should always see the patient urinate, if he can, from which he judges the tone of the bladder and the degree of obstruction. All these details are important in estimating the outlook of cure by operation or otherwise.

The foregoing criticism of Harpster's paper covers the main points recognized by specialists. Too great care cannot be exercised in this matter, and the general practitioner had best confine his efforts at examination to the use of rectal palpation, bimanual palpation, the measurement of the urethral length and the measurement of the residual urine. Above all other things he must remember that in prostatics the calibre of the urethra is much decreased and that, therefore, the catheters which he may ordinarily expect to pass are size 20 F. or smaller rather than larger. A great deal of injury and congestion of the prostatic urethra may easily be induced by endeavoring to pass even soft catheters of too large diameter.

OPHTHALMOLOGY.

EDITED BY

ALVIN A. HUBBELL, M.D., Ph.D.,

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THE OPHTHALMO-REACTION OF CALMETTE IN THE DIAGNOSIS OF TUBERCULOSIS.

Dr. A. Calmette, of Lille, France, has brought the attention of the medical profession to a more simple application of the tuberculine test in a diagnosis of tuberculosis. His first article was published in *La Presse Médicale*, June 19, 1907, followed by others in the *Gazette des Hôpitaux* of June 25, 1907, and of August 8 and 31, 1907. This test promises to be so useful that full credit should be given the author. These glycerized preparations of tuberculine are not used by Calmette because of the irritating effects of the glycerine on the conjunctiva. He uses a solution of dry turberculine, precipitated by alcohol at 95 degrees, in distilled and sterilized water. The liquid, which must be fresh, has a strength of 1 per cent. When this solution is dropped into the eye of a healthy subject, no reaction follows. Those who suffer from tuberculosis, however, present a very definite local reaction. Thus, three to five hours after the liquid has been placed in the eye, there is obvious congestion of the palpebral conjunctiva, which becomes of a lively red color and the seat of more or less intense œdema. It is accompanied by lacrymation. At the end of six hours, filaments of fibrinous secretion may be seen in the conjunctival cul-de-sac. The reaction attains its maximum in from six to seven hours.

He claims that the ophthalmo-reaction establishes with precision the diagnosis of tuberculosis in doubtful cases. Since the publication of his first note the test has been employed on a large scale, both by himself, his pupils, and physicians in different parts of the world, and his original conclusions have in the main been sustained. Should this test in the future prove as efficient as has been demonstrated so far, it will render great clinical service in the recognition of the varied forms of tuberculosis, and should be looked upon as simple, trustworthy and harmless. It should be pointed out, however, that in the presence of any inflammation of the external parts of the eye the reaction produced may be greatly masked. It has further been suggested that the injection of tuberculine and the ophthalmo-reaction supplement and complement each other.

THE ETIOLOGY OF STRABISMUS.

Lagrange and Moreau, with a view of determining the relative importance of the various causes of strabismus, have made careful examinations of 562 cases in the Children's Hospital of Bordeaux.

In 81 per cent. of the cases a vice of refraction was the chief, and in 38 per cent. it was the sole cause of strabismus. In 43 per cent, the refractive error existed in connection with various complications, but in a certain number even in these cases a rapid cure was effected by optical treatment.

They found that alcoholism, nervous diseases, insanity and syphilis in the parents have relatively little importance as causes. In only 19 per cent. there was no error of refraction, and the strabismus must be referred entirely to diathesis and various constitutional defects. In this group many of the patients had an inheritance of pathologic conditions capable of effecting the nervous centers and consequent degeneration of the fusion center. In these subjects strabismus is induced by some slight cause, such as the use of a bandage on one eye or a slight opacity of the cornea.

In 1.59 per cent. the cause was muscular; a muscle was either congenitally shortened or atrophied.

In hereditary strabismus, the strabismus of the parents was due, in a large proportion of cases, to defective refraction, and it was this that was transmitted.—*Archives d'Ophthalmologie,* April, 1907, and *Ophthalmology,* vol. 4, October, 1907.

THE TREATMENT OF STRABISMUS IN YOUNG CHILDREN.

A. R. Baker, of Cleveland, lays stress on the early correction of refractive error. Contrary to the geneal belief of the parents and of some physicians, squint generally comes on slowly, being intermittent at first, then alternant, and finally persistent, with deterioration of sight, in the deviating eye. Spontaneous cure occasionally occurs, and sight may be greatly improved by use. Nearly 75 per cent. of squint develops before the fourth year. Spectacles may be fitted as early as the end of the first year, as any child old enough to squint is old enough to wear glasses. In the earliest stage, atropinization of both eyes and disuse of accommodation may abolish squint. In persistent strabismus it may be necessary to use atropin for some time, train the fusion faculty, improve sight by bar reading, the stereoscope, and the amblyscope. Full correction is important and it is rarely necessary to operate before the age of 10. Occlusion bandage may be of use. Operation is not required in squint which disappears under glasses and recurs when they are left off. Retinoscopy is the only accurate method. It is a great saver of time and patience and renders us independent of the little patient. Ophthalmometry is rather difficult in children.—*Journal of the Am. Med. Assn.,* July 13, 1907, and *Ophthalmology,* vol. 4, October, 1907.

New Books.

THE LIFE OF NATHAN SMITH DAVIS. By I. N. Danforth, A.M., M.D., Chicago. Cleveland Press. 1907.

Dr. Danforth has performed a service for American medicine in writing this biography. Dr. Davis was one of the strong and influential characters of our profession, and one whose strength and influence were exerted fortunately upon a wide circle of medical men. He lived at a time when medicine in this country was making its way to a position in the world's esteem, and his services were inestimable. He was an ornament to both New York and Illinois, but it was Chicago that enjoyed to the greatest degree the benefits of his life. While he is known as the "father of the American Medical Association," it was not for this organization that he gave his most valued services, but it was rather for the betterment of medical education in America that he labored and is deserving of the highest credit. He was a great teacher with high ideals. His life was not unlike that of many of the pioneers of his time. This biography by Dr. Danforth is written in fascinating style. To take it up and begin it is to finish it. It gives an immense sense of satisfaction to feel that our profession had and has such men as he. J. P. W.

CATHOLIC CHURCHMEN IN SCIENCE: Sketches of the lives of Catholic Ecclesiastics who were among the Great Founders in Science. By James J. Walsh, M.D., Ph.D., LL.D. Philadelphia, American Ecclesiastical Review. The Dolphin Press, 1906.

The motive of these sketches of eminent men of science, is to dissipate the idea that religion or rather ecclesiastical authority has always stood in the way of scientific thought or scientific progress. Whatever may be the attitude of the Catholic Church at the present day towards "Modernity," Dr. Walsh has shown that in the past the church was far from being a hindrance to original investigation in any line of thought, but on the contrary, was really free from any opposition to advanced thought, especially in matters relating to physical science. That persecution did exist at times is admitted, but explained. Nor must it be forgotten that opposition to advances in science is likely to be met with from other sources than the church, and that this has been so in medicine to as great an extent as anywhere else.

In the case of two of the scientists mentioned by Dr. Walsh, the Church, far from opposing their work, so encouraged and supported them that one, Linacre, the Founder of The College of Physicians in London, gave up a most lucrative practice to become a priest; the other, Stenson, the anatomist and geologist, friend of Spinoza and Leibnitz, left the Lutheran church to become a Catholic, and later became Bishop of Copenhagen.

All this must be of interest to the liberal Catholics of the present day, and they may even find some consolation in these facts, and some hope for the future. Dr. Walsh does not wish his book to be taken in any sense controversial, but reading this book serves only to accentuate the cry of the liberal Catholics as represented by Spectator Catholicus, in the *Independent,* October 10. If Dr. Walsh has shown that in the fifteenth and sixteenth centuries, the Church was in entire sympathy with the great men in science, and if it is only an "unfortunate tradition" that the Church was opposed to original investigation in any line of thought, we may ask, How is it to-day? According to Spectator Catholicus, "Intellectual freedom is not allowed by the Italian Curia. The rules of the Index would, if observed, reduce the Catholic student to intellectual decay. Catholic scholarship is now in its iron age, and we hold a shameful position in research and criticism. We are despised by the leaders of thought." As a starving man would be little satisfied by being told that his grand parents were well fed, so the cry for intellectual freedom of the liberal Catholics can hardly be answered by saying that Copernicus was a true son of the church; that Linacre, the scholar and physician, gave up a lucrative practice to become a priest; or that Basil Valentine the chemist, and Stenson the anatomist and geologist, did their work with the sanction and support of ecclesiastical authority.

One can read to-day in the periodicals the entire text of the Pope's late encyclical, with its drastic provisions to control the teachings of Modernism. Read that in connection with Dr. Walsh's book, and one must conclude that in the centuries mentioned above, the Church was far more liberal, and far more in sympathy with scientific and intellectual progress at that time, than it is at present. PETER SCOTT.

MAKERS OF MODERN MEDICINE. By JAMES J. WALSH, M.D., Ph.D., LL.D. New York, Fordham University Press, 1907.

Those of us who can look back thirty years to our college days can remember that in those days there was time in the lecture room for something more than the great mass of practical details relating to the subject under discussion. If that subject was percussion and auscultation, one whole hour might be spent on the history of it, and the student introduced to Auenbrugger and Lænnec, while the doctor stood before his class fondly caressing his own copy of "De l'auscultation médiate." In the same way, if disease of the kidney was the subject for the day, Bright's large folio must

be brought before the class, and something said of the man and his work by way of introduction to the different forms of nephritis. In this way the student became familiar with the names of Cullen and Morgagni, Graves and Stokes, and many others. So, too, in the text-books; that little old book by Dr. Gee on Auscultation and Percussion (1870) contains two short chapters on history. Now-a-days there are so many practical details to attend to, that everything like sentiment is pushed to one side. The latest book on Physical Diagnosis offered to the student (Cabot's) contains not even the names of Auenbrugger or Lænnec. It finds room (half a page) for a cut of a Bowles' stethoscope for six students, and another half page for a cut of a Bowles' stethoscope for twelve students, and still another for a photograph of twelve students, listening all at the same time to one patient. But information concerning the introduction of the stethoscope, and its wonderful results in the practice of medicine, the student must acquire elsewhere.

Perhaps after all this modern method is the better one; the writer of a book on physical diagnosis may not be the best man to write on the history of medicine, and a division of labor may bring about the best results.

As far as we can learn, at present there are only two schools of medicine in the United States that give a course of lectures on the history of medicine, one being Johns Hopkins, the other the Buffalo Medical College. At Fordham University Medical School the dean is also professor of the History of Medicine, but as yet there is no regular course of lectures on that subject. Dr. J. J. Walsh, although having to deliver no regular course of lectures on the History of Medicine, has evidently not been idle, and in "The Makers of Medicine" has given us such a book as one might advise a student of medicine to read. As Carlyle says, "History is the essence of innumerable biographies," and Dr. Walsh has chosen this method to introduce the student to some of the great men in medicine, and their work. The book is written in an easy, sympathetic style, keeping well in view certain important points in the life of each subject. It was Dr. Osler who lately made the assertion that a man's best work was accomplished before he was forty. Dr. Walsh has proved the truth of this assertion in the majority of the lives discussed by him in this book. Another point brought out by the author is the difficulties with which most of them had to contend and yet accomplish so much, as in the case of Dr. Corrigan, who, as physician to an hospital containing only six beds for medical cases, was yet able to make a name for himself and leave an enduring mark on medical nomenclature. The author has taken special pains to say something about the more intimate life of each of his subjects. He shows the high degree of citizenship attained by them, their views concerning their relations to their fellow men, their families and their religion. .

It seems a pity to raise on this last point any captious or frivolous objections to a book that was written as an incentive to earnest work and a religious life, and which, if read in the proper spirit, will have that effect on the reader. We have here short biographies of ten Catholics and three Episcopalians. Was it mere chance that led Dr. Walsh to select members of his own faith in this ratio? It is not that there is anything either offensive or objectionable in this; indeed the picture of the dying Pasteur would be an admirable answer to those who are afraid that in the supposed conflict between science and religion the victory is always to the former. But we must remember that the medical students of to-day are not all Catholics, nor even all Christians. If the non-Catholic or Hebrew student is to be tempted to read medical history, it will not be in a book too obviously written by a Catholic for Catholics. Therefore, while the words offensive or objectionable may be too strong to describe this feature of the book, we might, even at the risk of being considered too meticulous, say that it somewhat impairs the value of the book for a certain class of readers. It may be that the young Hebrew practitioner is not our brother in Christian faith, but he is our brother in medicine; and there is a certain place in Scripture which says "Give none offence, neither to the Jews, nor to the Gentiles, nor to the Church of God; even as I please all men in all things, not seeking mine own profit, but the profit of many, that they may be saved." The history of medicine belongs to no one country, nor to one faith, nor even to one race of men; it is universal.

This book is dedicated to Dr. William Osler. Whoever reads it should then turn to Dr. Osler's "Aequanimitas" and there read the chapter on Chauvinism in Medicine, and read especially the extract from Sir Thomas Browne's "Religio Medici" that Dr. Osler has placed at the opening of that chapter. Some day a genius will appear, a man of erudition, who will devote a lifetime collecting material for a history of medicine, as the late Lord Acton collected material for a great work on general history; or, if less ambitious, will give us a book on broad lines like Brandes' "Main Currents of European Literature." The following up of the currents of medical history can be compared to nothing better than tracing the origin of the river Arethusa, that disappeared underground, passed beneath the sea, to reappear in another country. The difficulties are very great, the interest attached to such an enquiry intense, and the value to the medical student incomparable. Meantime we should be thankful for such a work as "The Makers of Medicine." It should be put into the list of books for home study for the junior year of every medical student, and the task of reading it would be a pleasant relief from the hard scientific work of the year. PETER SCOTT.

A MANUAL OF OBSTETRICS. By A. F. A. KING, A.M., M.D., LL.D. *Tenth Edition, Revised and Enlarged.* Philadelphia and New York, Lea Brothers & Co., 1907. XX, 688 pp., 1 pl., 2 col. pl. 8vo. Price: Cloth, $2.75.

That this well-known manual has reached its tenth edition speaks well for the esteem in which its eminent author is held as an authority and teacher. Its aim is to smooth the path of knowledge for the beginner, and in this endeavor the work is a signal success. With each successive edition the book has steadily grown in the extent and excellence of its teachings, and the present volume represents in the main the latest views and methods in the science and the art of obstetrics.

The illustrations are good, and to say that the mechanical make-up of the volume is in keeping with the reputation of its publishers is praise enough for any book. C. J.

OBSTETRICS FOR NURSES. By JOSEPH B. DE LEE, A.M., M.D. *Second Edition, Thoroughly Revised and Enlarged.* Philadelphia and London, W. B. Saunders Co., 1906. Front., 510 pp., 1 ch., 8vo. Price: Cloth, $2.50 net.

This is a handsome volume of about 500 pages, replete with useful information for nurses. The matter is well chosen and is presented in a pleasing style by a master in his line. Much of its teaching would afford interesting reading for doctors and obstetric patients. It should be in the hands of every obstetric nurse.

C. J.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M.D. *Fifth Edition, Revised and Enlarged.* Philadelphia and London, W. B. Saunders Co., 1906. 915 pp., 5 pl., 11 col. pl., 8vo. Price: Cloth, $5.00 net. Half Morocco, $6.00 net.

Hirst's excellent text-book is too well known by readers of the *Journal* to need extended notice. In this, the fifth edition, numerous revisions have been made in conformity with recent advances in obstetrics. This applies especially to puerperal infection and the

toxemia of pregnancy. In both these subjects the author has been conservative, accepting only what has been clearly established by his own experience and the observation of others.

The aim of the work "to meet the needs of the student body and the practitioner" has been amply fulfilled.

The typography and the illustrations are of a high order of excellence. C. J.

A Manual of Normal Histology and Organography. By Charles Hill, Ph.D., M.D. Phil.: Lond., W. B. Saunders Co., 1906.

This Manual of Histology and Organography, as the preface states, is simply to bring the fundamentals of histology before the student and to leave much detail to be supplemented by the teacher in charge. The subject is touched upon from every standpoint and forms a fairly good outline for teaching elementary students. The author commences with a chapter on "Preparation of Material," which is simple, complete and comprehensive. The original drawings throughout are, however, lacking in detail, but there are many excellent illustrations taken from Bohm and Davidoff. The text is very clear and the type is large enough to make easy reading. The last chapter is devoted entirely to laboratory directions as to how to obtain the various tissues mentioned throughout the book and is a great aid to one not familiar with histologic technic. R. C.

Pulmonary Tuberculosis: Its Modern and Specialized Treatment. By Albert Philip Francine. *Second Edition.* Phil.: Lond., J. B. Lippincott Co. [c. 1906, 1907].

This is a very interesting and instructive work, and one which should prove of value, not only to the practitioner on whom rests the responsibility of properly directing the management of a case of tuberculosis, but also to an intelligent layman who is afflicted with the disease or has the care of one so afflicted.

The author is evidently one of those who thoroughly believe that we can do much to influence the course of the disease, even though we have no specific for the same. And while recognizing the value and necessity for suitable diet and proper hygienic measures, he insists on the value and necessity of appropriate medication. The method and value of tuberculin and serum treatment is intelligently discussed and the results of experimentation given in a manner to be of use to the enquirer for information on the topic.

Symptomatology is discussed only in so far as symptoms demand relief or give occasion for treatment. Not all drugs appropriate, nor even all drugs commonly used in treatment are mentioned. But the indications for treatment are clearly set forth, and suitable drugs to meet the indications mentioned. Other drugs which may fulfil the same indications will suggest themselves to the general practitioner.

The statements that a complete examination cannot be made in less than an hour and a half, and that tuberculous patients should be seen from once to three times a week at least, are certainly true, but too seldom regarded. Many patients who are able and willing to pay for suitable treatment, fall victims to the scourge because the doctor is too careless or too busy to give the same detailed attention to them that he would give to a typhoid fever patient. And yet in many cases, this is indispensable to secure a happy result.

The writer having tried both creosote and creosote carbonate personally, would take issue with the author as to their relative digestibility, and hence, value; but that is a matter of personal opinion.

One frequently repeated error occurs—the use of Oleum instead of Olei in several prescriptions. The typography is excellent, and a good index completes the volume.

The author and publishers are to be commended for their joint production. J. E. B.

Medical Society of the State of New York.

The Committee on Scientific Work has arranged the following program for the One Hundred and Second Annual Meeting of the Medical Society of the State of New York, to be held in Albany, January 28, 29 and 30, 1908.

PROGRAM.

Tuesday Morning, January 28, 11.30 o'clock.

Common Council Chamber, City Hall.

Calling the Society to order.

Reading Minutes of the last meeting.

President's Address—Frederic C. Curtis, Albany.

Address—"Nihilism and Drugs." Abraham Jacobi, New York.

Scientific Meeting.

Common Council Chamber, City Hall, 2 *o'clock P. M.*

Bacterial Vaccines—Report of Four Cases treated by Vaccines. Algernon T. Bristow, Brooklyn.

Clinical Observations on Vaccines—Joshua M. Van Cott, Brooklyn.

Description of Methods of Sir A. E. Wright. William H. Woglom, Brooklyn.

The Value of the Opsonic Index in Controlling the Use of Vaccines. William H. Park, New York.

Fracture of the Neck and Shaft of the Femur. Albert L. Beahan, Canandaigua.

The Treatment and Prognosis of Suppurative Cystitis. Victor C. Pedersen, New York.

The Consequence of Pathologic Changes in Appendiceal Peritonitis. Edwin M. Stanton, Schenectady.

Diffuse Peritonitis in Women. Ellice McDonald, New York.

Exhibition of Bier's Congestive Hyperemia Apparatus. James N. Vander Veer, Albany.

Tuesday, January 28th, 8 *P. M.*

Common Council Chamber, City Hall.

Section on Cutaneous Diseases.

Hereditary Syphilis. Grover W. Wende, Buffalo.

Clinical and Historical Features of Acquired Syphilis. John A. Fordyce, New York.

Technique of an Efficient Operative Procedure in Malignant Disease of the Skin. Samuel Sherwell, Brooklyn.

A Study of 400 Cases of Epithelioma in Private Practice. L. Duncan Bulkley, New York; Henry H. Janeway, New York.

These papers will be illustrated by lantern slides.

Tuesday, January 28th, 8 *P. M.*

Court Room, City Hall.

Section on Public Health.

Arranged by Henry L. K. Shaw, Albany.

Tuberculosis in Children. Charles G. Kerley, New York.

What the Rigid Inspection of Milk has done in New York. Russell Raynor, Chief of Bureau of Milk Inspection, New York City.

Can Tuberculosis be Eliminated from Cattle? Veranus A. Moore, Ithaca.

A Study of Children Fed on Milk of Tuberculous Cows. William L. Stowell, New York.

Milk Production, Old and New. L. Emmett Holt, New York. These papers will be illustrated by lantern slides.

Wednesday Morning, January 29th, 9.30 o'clock.

Common Council Chamber, City Hall.

SYMPOSIUM ON THE UPPER DIGESTIVE TRACT.

Arranged by Edgar A. Vander Veer, Albany.

Surgery of the Pancreas. William J. Mayo, Rochester, Minn.

Duodenal and Gastric Ulcers. Albert J. Ochsner, Chicago.

Surgery of the Liver and Gall Bladder. John C. Munro, Boston.

Non-Parasitic Cysts of the Liver and Congenital Cystic Liver. Willis G. MacDonald, Albany.

The Gastric Neuroses. Dudley D. Roberts, Brooklyn.

Cancer of the Stomach. Delancey Rochester, Buffalo.

Modern Conception Regarding Chemical Regulation of Function. Graham Lusk, New York.

The Effect of Alcohol on the Secretions. H. C. Jackson, Albany.

Discussion opened by Charles G. Stockton, Buffalo.

Wednesday, January 29th, 2 P. M.

Common Council Chamber, City Hall.

The Mosquito: Its relation to Disease and its Extermination. Alvah H. Doty, Health Officer of the Port of New York.

Oxygen in Surgery. William Seaman Bainbridge, New York.

Significance of Uterine Bleeding. John Sampson, Albany.

Acute Flexures—Angulations of the Sigmoid and Colon. James P. Tuttle, New York.

Aërotherapy in Certain Toxemias of Childhood. Frederic W. Loughran, New York.

Vascular Crises. Henry L. Elsner, Syracuse.

The Diagnosis of Pulmonary Tuberculosis by Tuberculin and Other Methods. Lawrason Brown, Saranac Lake.

Importance of Examination of those who have been Exposed to Tuberculosis. John H. Pryor, Buffalo.

Esophagoscopy and Bronchoscopy. Thomas H. Halsted, Syracuse.

A Synopsis of 300 Cases of Acute Anterior Poliomyelitis. Joseph Collins, New York, and Theodore H. Romeiser, New York.

A Case of Splenic Anemia-Splenectomy. I. Harris Levy, Syracuse.

The Causes and Treatment of High Arterial Tension. Louis Faugeres Bishop, New York.

Thursday, January 30th, 9.30 A. M.

Common Council Chamber, City Hall.

The Emmanuel Church Movement of Boston and the Treatment of Psycho-Neuroses. William C. Krauss, Buffalo.

County Laboratories and their Uses. Orlando J. Hallenbeck, Canandaigua.

The Clinician and Pathologist—One and Inseparable. Bond Stow, New York.

What New York State is Doing for its Crippled Children. Newton M. Shaffer, New York.

The Radical Treatment of Adenoids. John O. Roe, Rochester.

The Intracranial Complications of Middle Ear Suppuration. Samuel J. Kopetzky, New York.

Chronic Middle Ear Deafness. William Sohier Bryant, New York.

Medical Libraries for the Smaller Centres. Smith Baker, Utica.

Instruction in Physiology and Hygiene in the Public Schools. George W. Miles, Oneida.

The Nature and Cause of Colic. George Franklin Shiels, New York.

The Annual Meeting of the House of Delegates will be held in the City Hall, Supervisors' Room, Albany, Monday, January 27, at 8.30 P. M.

The Tuberculosis Exhibit of the Department of Health of the State of New York will be displayed at the City Hall during the meeting.

A public meeting to discuss Tuberculosis will be held at the Harmanus Bleecker Hall, Albany, on Monday, January 27, at 8.30 P. M. The Hon. Joseph H. Choate will preside. Addresses will be made by Governor Hughes, Dr. William H. Welch, of Baltimore, and others.

The Annual Banquet of the State Society will be held at the Hotel Ten Eyck, on Wednesday evening, January 29, at 7.30 o'clock.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF CHAUTAUQUA.

The annual meeting of the Medical Society, County of Chautauqua, was held at Dunkirk, N. Y., December 10, 1907.

Scientific Program.

"The Treatment of Retrodisplacement of the Uterus," by Dr. C. H. Richards, Dunkirk.

"A case of Fracture of the Hip," by Dr. Morris M. Bemus, Jamestown.

"Cholelithiases," by Dr. Fred C. Rice, Ripley.

"Heredity in Disease," by Dr. C. W. Southworth, Forestville.

"Prognosis and Treatment of Chronic Valvular Disease of the Left Heart," by Dr. De Lancey Rochester, Buffalo, President of the Eighth District Branch.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, DECEMBER 17, 1907.

Scientific Program.

1. "Masked Appendicitis," by Algernon T. Bristow, M.D.

Discussion by H. Beeckman Delatour, and Walter C. Wood.

2. "Certain Evil Tendencies in Medicine and Surgery," by Maurice H. Richardson, M.D., Professor of Clinical Surgery in the Harvard Medical School, of Boston.

SECTION ON GENERAL MEDICINE.

"The Physician, William Nathan Belcher, as We Knew Him Among Ourselves," Dr. Frank E. West.

"The Physician as a Teacher, Not Only in the Medical Schools, But in Daily Life," Dr. John A. McCorkle.

"The Charity that is Credited to the Practising Physician," Dr. John Harrigan.

SECTION ON PEDIATRICS.

Scientific Program.

1. Reports of Cases: 1. Intussusception—Operation and Recovery, LeGrand Kerr, M.D. 2. Compound Fracture of Finger. Bier Treatment. Résumé of Bier Treatment, J. Eddy Blake, M.D.

2. Scientific Paper: "Appendicitis in Children," John E. Jennings, M.D.

MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY.

The one-hundred-and-first annual meeting of the Society was held at Amsterdam, N. Y., on December 11, 1907.

President Horace M. Hicks delivered an historic medical address, which presented a glimpse over the past century, dwelt upon the difficulties of the old-time medical students and practitioners, and offered a felicitous presage of the future.

The celebration was closed by a banquet, at which Dr. Charles Stover presided. Speeches were made by Drs. F. C. Curtis, of Albany; D. C. Moriarta, of Saratoga Springs; C. B. Mosher, of Johnstown; W. G. Macdonald, of Albany; G. G. Lempe, of Albany; A. MacFarlane, of Albany; C. G. McMullin, of Schenectady; G. W. Bates, of Schenectady; H. M. Hicks, of Amsterdam; E. E. Rulison, of Amsterdam, and others.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING DECEMBER 23, 1907.

Program.

Memorial Address, Seneca D. Powell, M.D. By Edward D. Fisher, M.D.

Scientific Program.

Papers, "The Treatment of Stuttering and Stammering by the General Practitioner," by Edward W. Scripture, M.D.

Discussion by Charles L. Dana, M.D., L. Pierce Clark, M.D., and Linnæus E. La Fetra, M.D.

"The Treatment of Trifacial Neuralgia": (a) General Medical Treatment, by Charles L. Dana, M.D. (b) Schlötter's Injection Method, by Otto G. T. Kiliani, M.D. (c) Electro-Anesthesia: Introduction to the Subject and its Surgical Possibilities, by James E. King, M.D. (by invitation). (d) Demonstration of Le duc's Apparatus, by Prof. F. L. Tufts, Columbia University (by invitation). (e) Value of the Le duc Current in Neuralgia, by L. Pierce Clark, M.D.

Discussion by George W. Jacoby, M.D., Graeme M. Hammond, M.D., Geo. E. Brewer, M.D. (by invitation), Prof. William Hallock (by invitation), and F. Peterson, M.D.

ONEIDA COUNTY MEDICAL SOCIETY.

Meeting held Friday, November 29, 1907, at Utica, N. Y., for the purpose of promoting the campaign against Tuberculosis now being carried on by the State Charities Aid Association.

Program.

"Laboratory Assistance in Early Diagnosis," by Dr. H. D. Pease, Albany.

"Early Diagnosis and Home Treatment," by Dr. B. H. Waters, N. Y. City Health Department.

"Early Diagnosis and the Results of Sanitarium Treatment," by Dr. Garvin, Raybrook Sanitarium.

Dr. Herbert Maxon King, Loomis Sanitarium.

Discussion by Dr. W. S. Nelson and Dr. W. M. Gibson, of Utica.

ONONDAGA MEDICAL SOCIETY.

ANNUAL MEETING HELD DECEMBER 10, 1907.

Program.

1. A Report of Cases, by R. C. McLennan, M.D. With Pathological Report by H. S. Steenland, M.D.
2. "Tuberculosis: A Disease of Degeneration," by Ely VandeWarker, M.D.
3. "Absence or Evanescence of Physical Signs with Serious Heart Lesions," by Henry L. Elsner, M.D.
4. "Indications for Operation in Cases of Goitre," by John Van Duyn, M.D.
5. President's Address, by I. M. Slingerland, M.D.

QUEENS-NASSAU MEDICAL SOCIETY.

SEMI-ANNUAL MEETING, HELD AT LONG ISLAND CITY DECEMBER 14, 1907.

Program.

Reading of Memorials: Dr. B. G. Strong, by Dr. R. F. Macfarlane; Dr. J. B. Welwood, by Dr. J. H. Bogart.

The Second District Branch, by Dr. W. H. Ross, President.

Paper, "Intestinal Putrefaction as a Factor in the Etiology of Nephritis," by Harris A. Houghton, M.D., Bayside.

Paper, "The Blood Count in Abdominal Surgery," by John Douglas, M.D., New York.

Discussion of papers, President's address, interesting cases.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

The annual meeting of the Medical Society of the County of Rennselaer was held at Troy on December 10th and 11th. The meeting on December 10th was devoted to the election of officers for 1908 and the transaction of routine business.

The following officers were elected: President, Dr. D. W. Houston; Vice-President, Dr. Emmott Howd; Secretary, Dr. J. H. F. Coughlin; Treasurer, Dr. O. F. Kinloch; delegates to the State Society, Dr. C. Howard Travell, Dr. J. B. Harvie; delegate to the Third District Branch, Dr. Hiram Elliot; censors, Dr. C. B. Sprague and Dr. J. A. Barnes.

On December 11th the program was devoted to Pulmonary Tuberculosis, and was open to the public. About 350 people were present. The following addresses were made:

"The Early Diagnosis of Pulmonary Tuberculosis," by Lawrason Brown, Adirondack Cottage Sanitarium, Saranac Lake, N. Y.

"The Treatment of Pulmonary Tuberculosis," by Dr. A. H. Garvin, New York State Hospital for Incipient Tuberculosis, Raybrook, N. Y.

"What Municipalities Are Doing and What They May Do in the Combat of Pulmonary Tuberculosis," by Dr. S. A. Knopf, New York City.

MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

ANNUAL MEETING HELD AT KINGSTON, N. Y., DECEMBER 3, 1907.

Annual address, A. A. Stern, M. D.

"Early Diagnosis of Pulmonary Tuberculosis," by Herbert Mason King, M.D., Physician-in-Chief Loomis Sanitarium, Liberty, N. Y.

"Tubercular Conditions Benefited by Surgical Treatment," by Mark O'Meara, M.D., Kingston, N. Y.

DEATHS.

EDMOND SAMUEL FOSTER ARNOLD, M.D., M.R.C.S., one time health officer of Yonkers, N. Y., died at Jacksonville, Fla., November 22, 1907, aged 87 years.

AARON D. DAVIDOW, M.D., died at his home in Brooklyn, New York, November 18, 1907, aged 40 years.

THOMAS H. HOLGATE, M.D., died at his home in New York City, November 14, 1907, aged 76 years.

ABEL HUNTINGTON, M.D., died at his home in Islip, N. Y., November 6, 1907, aged 67 years.

JOHN M. JULIAN, M.D., died at his home in Pleasant Valley, N. Y., November 24, 1907, aged 53.

I. PIERCE OBERDORFER, M.D., of New York, died December 1, 1907, aged 55 years.

HIRAM A. POOLER, M.D., of New York, died at the residence of his son, in Tuxedo, N. Y., December 12, 1907, aged 70.

JOHN ADAM SCHMITT, M.D., gynecologist, of New York, died suddenly while making a professional call, November 26, 1907, aged 65 years.

GEORGE F. SHRADY, M.D., editor and surgeon, of New York, died November 30, 1907, aged 70 years. He was one of the most successful and eminent medical journalists of his time.

HERMAN O. STEINKE, M.D., born in Anklam, Germany, died in Brooklyn, New York, December, 1907, aged 64 years.

ARTHUR P. SUMMERS, M.D., died at the Binghamton State Hospital, December 10, 1907, aged 39 years.

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Original Articles.

QUESTIONS OF BROAD CONSIDERATION OUTSIDE OF TECHNIQUE THAT CONCERN THE ORGANIZED MEDICAL PROFESSION.

ADDRESS TO THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.*

By FREDERIC C. CURTIS, M.D.,
President of the Society.

AN annual meeting of a large and important medical society will always be an event of significance. This may not at the time be apparent, but beyond a question each adds its quota and knits its part into the pattern that comes to be formed. It should not be otherwise, because it must be a summation of much work done during a year, and to some extent a mirror of the year's attainments. It will also reflect the constantly forming modifications of thought and the estimates of values in the varied phases of professional life.

The Wise Years—Lowell calls them. How they settle questions and determine policies; how, along with their freightage of new matter with which every day almost is pregnant, they mold our minds and shape our convictions. Constantly we are compelled to readjust ourselves to the logic of unconsciously assimilated change, to the mental metabolism that is always operating. Each year, with added knowledge, we find ourselves with faces a little differently turned, our estimates differently measured, toward methods of work, questions of ethics, questions of policy, and questions of responsibility. This is the product of growth, and growth is the only qualified voucher of life; and it is by the opinion of others printed in books and journals, but more by the attrition and interchange of personal contact and association, largely afforded by these society gatherings, that this is effected.

Every page in history teaches the value of organization. To be sure great work is done in seclusion, by the initiated and trained, working alone in the laboratory or the academic study unjostled by the crowd; but it is valueless until it is turned into the current of common life and is passed along and becomes thereby a stream of influence helpful to humanity. This is what gives significance to what we set in motion to-day.

This Society, for a brief period flowing in two nearly parallel streams now happily reunited, had one very definite purpose for its organization and which made its first meeting a century ago significant—to associate all the reputable physicians of the commonwealth, and to ostracise the unworthy. The motive was certainly not altogether a selfish one on the part of the men who organized the society. A profession which has always held that there shall be a community of possession in the knowledge and the invention of the individual, has little use for trades unionism. It was in good degree an altruistic spirit that prompted John Stearns and William McClellan and Nicholas Romayne to fight through the Legislature in 1806 the bill which established our system of County and State organization. "The history of all the learned professions," they declared prefatorially, "imperiously proves this fact, that no one of these professions has ever become respectable or *extensively useful to mankind* that was not under the restraint of the great body of its members." And they enumerate as matters to be sought for by this organization, the promotion of medical education, the encouragement to physical inquiries and observation, and the diminished influence of pretenders to the healing art. Self respect, mutual improvement, and obligation to mankind, were their actuating motives, and should continue to be now the animating purpose of the Society, as indeed I think, in the main, they have been from the first.

What would be the condition of the medical profession but for the work of this Society. The history of what it has striven for all along is full of the record of things accomplished for professional betterment, establishing for it a position of respectability in the community and promoting the individual interests of its members. This year, by its almost unaided efforts, there has been placed on the Statute Book a Medical Practice Law which is the culmination of what it has endeavored to effect for more than twenty-five years. Practically all movements for reform of this sort have been carried out by this organized association; sometimes only after long years of effort; we seldom find the millennium around the next turn in the road.

Its democracy has been a chief asset of this organization. There is a multitude of associations among medical men, with various purposes

*Delivered at the 102d Annual Meeting at Albany, January 28, 1908.

and variously exclusive. I see no reason why any of them, even those of the specialists, should refuse admission to any; if one is interested why keep him out. As for associations based on any assumed superiority, collegiate or otherwise, I see no place; "Murray Hill and Belgravia may be necessary to our civilization," says Hopkinson Smith, " but neither of them interests the man with any purpose in life." I have always wished, having been always an earnest advocate of the County Medical Society, which is the foundation of our associated system, that it might be the center of all local professional life, and that associations for special work, if there be such, be made branches of it. Our organization is wide open to every worthy man; to this I would put no limit. Scientific men generally dislike to be classed with schools of thought and their implied limitations; but there are worthy men whose work and purposes we respect, who by circumstance or from conviction are not beyond this, and I see no reason for magnifying this into a ground for exclusion from our membership. I would bring every reputable practitioner in, simply drawing the line against those who for a very definite reason are unworthy, and so fulfill the purposes of the fathers. In the midst of the gigantic energies of the Twentieth Century no institution is going to find adequate expression and accomplish large purposes, that is not in the widest sense democratic. Our organization should take in all, give all a chance for expression, make its floor an open forum and its executive body as free as a New England town meeting; such an association of united men in County and State will always win good men to its membership and have its way, so long as its purposes are high and animated by the soul of humanity.

My purpose in the word I would bring to you is chiefly to indicate how admirably this Society is fitted for work by its ideal organization and composition, and that by reason of this and because of its ability, there devolves upon it the obligation of service. Obligation is the inevitable offspring of capacity. There are questions of large consideration outside of technique which ought to concern the organized medical profession; questions of the highest concern to mankind, which none is so well fitted as the medical body to solve and whose execution none can so well accomplish. Its obligation to serve the community is for that reason imperative.

The matter of *Public Health,* much consideration of which gathers about this meeting, stands first. The public has always been and always must be dependent on us for practically all it gets in this direction. I think the medical practitioner, concerned naturally first for the individual, is rather inclined to forget his obligation to the public. The public are indifferent to sanitation; indeed it seems to come into the category of moral issues generally, which need a prophet and a preacher to lead the way. The people are more apt to obstruct work for their salvation than to help it, and it is very seldom that a community has any conception of the value of sanitary protection. The same failure to estimate the prime importance of safeguarding health is found with legislators and public custodians of affairs of State. The Health Department is pushed aside for others that protect wealth or bring money into the treasury, or even concern the well-being of domestic animals, unmindful that Sanitation, not counting the human distress relieved by it, is the greatest conservator of material values in the world to-day. For instance, unless Koch or some one else finds a remedy for the sleeping sickness, wide areas of value in Africa will become a desert. Unless Gorgas had done his work Panama would have been impossible. When we have brought into practical action what we have learned about consumption, how many in the full tide of life will be restored to the work and happiness of the world. From the time that Hippocrates was summoned to Abydos, and redeemed the place from the annual ravages of malarial fever by draining the marshes, down to the Japanese War, history bears witness to the material worth of Sanitation. No subject comes nearer to me personally, for I have been in some capacity attached to the work of the State Department of Health almost from its beginning. In that period how much has been accomplished can be realized by the contrast between knowledge and attainment twenty-five years ago and now. The chance for life of children under five years has been nearly doubled; diphtheria has been reduced one-half in its mortality; diarrhœal and summer mortality one-third; the whole subject of micro-organism and the antitoxins, down to Flexner's contribution for cerebro spinal-meningitis, has been written; consumption infectiousness recognized; the relation of water and milk to disease discovered through laboratory research and experience in executive work. All this has been the work largely, both in discovery and execution, of our profession. And it has been a labor of love, for no department is generally so grudgingly compensated for its work as the health department and officer. While this is true, I think that the average practitioner not connected directly with the work is apt to fail often in giving the support to the work in his community that he should; his help is invaluable. What this body of physicians can do, aside from what many of its number are doing so well in research and executive work, is likewise very considerable. It can direct popular thought aright, create the public sentiment necessary to make any law effective, co-operate with the sanitary officers, help to remedy the law wherein it has grown archaic, help in effecting extension of the Department work in that direction seem desirable, such as the establishing of County Health Officers Associations and County Laboratories, make meetings of County and State Soci-

eties effective in informing the profession, work for more teaching of sanitation in the Medical Schools so that physicians may be made better sanitarians. For this will always be true, that the work of carrying forward this great enterprise, in all these various ways, must be with the medical men.

Another subject that appears to me to be peculiarly one for the medical profession as an organized body to solve is the *alcohol question*. The misuse of alcohol is one of the most tremendous evils that touch the bodies and souls of mankind. Hospitals, asylums, epileptic colonies, as well as alms houses, reformatories, and prisons tell of its destructiveness. Its therapeutic use is being scrutinized with care by practitioners and hospitals, and the profession is concerned in this regard; but something larger than this is to be asked of it. When many States are peremptorily excluding it, prominent magazines which are makers of thought are espousing the cause against it, and there seems to be a fresh crusade in progress, this Society ought to find some definite way to leadership in the work of control. Largely a moral malady, yet who knows its nature, etiology, and prevention better, or comes nearer to its unfortunate victims, than these guardians of the mind and body of the race; who will be more sane in the midst of much hysteria.

Of other questions not a few, which will occur to us all as those upon which this body should exert its influence because it is qualified, I offer only the suggestion of mention.

The educational life period of growing children is one of these. We are as individuals meeting all the time illustrations of the need of intelligent control of it.

Ophthalmia neonatorum has been brought to our notice as a matter of personal responsibility in the technique of its care; but so long as statistics show that it still continues, with no apparent abatement, to be a leading cause of unnecessary blindness, it brings an obligation on the Society to speak to us at least as individuals, that this dire evil may be lessened.

The evils of the present system of Medico Legal Expert Testimony, so fully and ably presented in his President's Address by Dr. Bristow, in 1903, is another subject on which this body should join hands with the State Bar Association to see if a remedy cannot be found.

Gentlemen, these are only suggestions of what might be enumerated and detailed, to show how this Society may find its place, and how well it is fitted to be effective. And because it is fitted to be effective, I believe you will agree with me that the obligation upon it will lie; for as with individuals so with institutions, life depends on faithfulness to personal duty in the place where one is put.

At a fortieth anniversary of college graduation recently in which I was concerned, one of high place in the scientific world made the startling statement that since that time the sum total of human knowledge had been more than doubled. Could it be that within that moderate period of forty years the world had learned more than it had learned in all the centuries that went before? If so, in what proportion has knowledge increased in matters that lie under your direct handling? What students must we be to keep pace; each year must bring its large contribution. For some of it this meeting is a clearing house.

But let us as a body of a learned profession never be unmindful of the fine old French motto, "Rank Imposes Obligation."

NIHILISM AND DRUGS.*

By A. JACOBI, M.D., LL.D.,
NEW YORK.

THE mutations of therapeutical principles, or theories, or notions which have taken place in the course of consecutive centuries, mostly in their connections with mere empiricism, or gradually developing chemistry or philosophical systems, are so numerous as to preclude their consideration, except in a voluminous historical study. To-day, however, it is my object to claim your attention—important to men both scientific and practical—to the question of the value or uselessness of drugs in the treatment of the sick.

In our own time it has been answered in contradictory ways, both by flippant arrogance and by men of honorable ambitions and great genius. The practitioner, relying on the conscientiousness of his purposes and guided by the necessities of his patient as well as by the confidence he places in the judgment of those in positions to experiment and to discriminate, and to teach, should not be blamed when now and then he wavers in his convictions and mistrusts his own observations.

On the foundation of the French school of pathological anatomy, the Vienna school of medicine was established about seventy years ago. Its main creators were Rokitansky, who claimed that pathological anatomy was the essence and sum total of medicine, and Joseph Skoda, who cared for the physical diagnosis of an organic anomaly but not for the patient. It was all care—such as it was—but no cure was seriously tried. Thus, in Vienna, the ideal patient was he who was satisfied with being auscultated and percussed by Skoda and autopsied by Rokitansky.

The callously scientific atmosphere of Vienna spread far and wide. In Cracow, Dietl, the professor of medicine, proclaimed as late as 1851, his and many leading men's convictions in the following words:

"Our practical work does not compare with the amount of our knowledge. Our ancestors laid much stress upon their success in the treat-

*Address delivered before the Medical Society of the State of New York, January 28, 1908.

ment of the sick; we, however, on the results of our investigations. Our tendency is purely scientific. The physician should be judged by the extent of his knowledge and not by the extent of his cures. It is the investigator, not the healer, that is to be appreciated in the physician. As long as medicine is art it will not be science. As long as there are successful physicians, so long are there no scientific physicians. Our power is in knowledge, not in deeds."

In the first years of his glorious and honorable career even Wunderlich shared these opinions, but in the first years only; while about the same time Oppolzer, as modest as he was—and is—famous, and as humane as learned, judged the doctor according to the good he would do the sick through his knowledge and endeavors.

Under the influence of the icy atmosphere of Vienna science, Oliver Wendell Holmes said (1860), in his *Currents and Counter-currents:* "Throw out opium and a few specifics which our art did not discover and is hardly needed to apply, throw out wine which is a food, and the vapors which produce the miracle of anesthesia, and I firmly believe that if the whole materia medica, *as now used,* could be sunk in the bottom of the sea, it would be better for mankind and all the worse for the fishes." This facetious outbreak of the great humorist, who was a popular teacher of anatomy and a studious observer of the contagiousness of puerperal fever as early as 1843—before Semmelweis laid the foundation of his immortality—but was no pharmacologist and no practitioner of medicine, has been quoted numberless times by men who thus believed they ranked with Holmes while imitating or adopting the grave mistakes of his scurrilous and sarcastic mood, and with Astley Cooper, who is quoted by Holmes on account of his remark that more harm than good is done by medication. If he be correct—let us assume it for the sake of argument—the only and simple thing to be done by him and by me, and by you, is to omit the harm and do all the good we can, and are expected to do, both by medication and otherwise.

After all, however, we meet with succour from our friend the adversary. With all the inconsistency of a poet's flights of imagination and instability of impressions, Holmes expresses himself as follows:

"It is not of the slightest interest to the patient to know whether three or three and a quarter cubic inches of his lungs are hepatized. His mind is not occupied with thinking of the curious problems which are to be solved by his own autopsy—whether this or that strand of the spinal marrow is the seat of this or that form of degeneration. He wants something to relieve his pain, to mitigate his anguish or dyspnea, to bring back motion and sensibility to the dead limb." You notice the poet takes wings and descends from his Olympian clouds to the earth inhabited by men and women and children, oppressed by human sufferings and looking for humane relief.

Dietl spoke in 1851, Holmes in 1860. The year 1907 brought us disquieting tidings from one of our brilliant, erudite, honorable and—alas—poetical clinicians, whom we shall always be proud of claiming as one of us, as an American. William Osler is charged by the telegraph and by the magazines with having said in an official address to London students:

"Be sceptical of the pharmacopeia."

"He is the best doctor who knows the worthlessness of most medicines."

"Study your fellow men and fellow-women, and learn to manage them."

Within a day that message flew along the wires of the globe. Millions of practitioners were pained; people were startled.

The *Evening Post,* a lay journal, said of this array of categoric imperatives as follows: "Here we have three trump cards placed squarely in the hands of the Barefoot, Sunshine, Barley-water, and other curists, the New-Thought health-givers, and the sufferers from various forms of religious mania." Dr. Osler probably used "sceptical" in its original sense of "examine and test," but we are pretty certain to have the dictum popularly translated—"the pharmacopeia is a fake"; the "worthlessness of most medicines," will become "medicine is worthless"; and "learn to manage men and women" will become the motto of the Pepper-Vanderbilt school. Besides, the Evening Post says: "Doctor Osler seems bent upon becoming the terrible infant of the profession."

We owe much knowledge and inspiration to his writings. Both by merit and accident he has reached a platform of his own where every word of his is greedily caught up by hosts of reporters and repeated by legions of pupils. Such a man should beware of any incautious expression which, having once passed over his lips, he may wish to recall but cannot. Nevertheless, however, he—unconscious of the intellectual havoc he has caused—turns to other audiences talking both fun and wisdom, and distributing earnest words and kindly smiles without being aware of having given recognition and food to the lazy and hypocritical. Imitators and followers he has in all classes—deservedly so. That is why I wish to clear him of a blame he merits as little as the obloquy he was exposed to a few years ago at the hands of a sensational reporter and a credulous public. Those who read his book are aware of the extent—large or otherwise—of his therapeutics.

We have always been anxious to secure to every individual practitioner the right to treat his patient according to his knowledge and conscience. That is appropriate in the case of the lowest of us, and must be conceded to those who walk on the summits, even though they reach the clouds.

What I read in his crisp sentences is this:

1. Be critical of the Pharmacopeia as of everything else.

2. He is the best doctor who knows the worth and the worthlessness of medicines.

3. Study your fellow-men and fellow-women, and learn to serve them. "Therapy" means service.

I wish he had said that.

It has become popular to traduce the administration of drugs by calling it polypharmacy. Webster and Dorland define this word as "the administration of too many drugs together," or, of too much medicine." The adverb "too" begs the question, so that the man who uses it against you should have no standing in court.

Even a very erudite and at the same time practical man—I mean one of us, Dr. Gilman Thompson—makes the mistake of emphasizing self-evident things, and charging us with methods nobody must plead guilty of. In a late paper on "The Treatment of Pneumonia," he summarizes as follows: 1. "Good nursing and the exercise of constant watchfulness should outweigh polypharmacy and specifics." (2) "Do not crowd an overloaded heart with *too much* stimulation, and base the selection of the proper variety of cardiac stimulant on the existing balance between the conditions of vascular tone and the effort the heart is already making." (3) Expectorants are useless, *as a rule*." (4) Prescribe proper intervals of rest in which the patient is free from incessant efforts at medication."

This means, what? Do not wake a patient from a healthy sleep; do not insist upon too frequent examinations; do not be guided by the clock, but by your brains; do not be seduced by the excesses of a dosimetric quarter-hour medication theory, simply because it is absurd, and do not exhaust your patient. You always knew that unless you give him the temporary rest required for restoration, you prepare him for the eternal rest. No rule will teach common sense to a doctor who has not learned enough to know he is no doctor and who should have become an undertaker. The word polypharmacy contains a reproach to which nobody will submit.

Even good journals like the *Boston Medical and Surgical* (vol. 155, p. 101) produce such commonplaces as these: "a healthy scepticism should take the place of excessive faith;" "medical practice is not confined to the administration of drugs;" "compound prescriptions are rarely desirable." The unsophisticated are easily impressed by such dicta, which are either unmeaning or self-evident. The inexperienced and lazy should rather be admonished to learn how to find indications and how to write a compound prescription when it is demanded, after his college has, like some others, neglected its duty to teach him. He should know the indications for the selection of drugs, as he is expected to know the rules for ordering diet, water, electricity, heat. cold, and massage—aye, even the placebos of consolation and hope. Surely I prefer them to the prediction of an imminent fatal termination, according to the dictates of our aggressively brilliant Richard (Cabot) the Lion-hearted, of a neighboring state. Unless the practitioner knows and does all that, he drives his patients to the manufacturers, the proprietary medicine vendor, the Christian scientist, and the rest of the quacks.

By the purists amongst us, who are seldom practitioners, mostly philosophising platform reformers, polypharmacy is called even the prescribing of more than one medicine at the same time. It is claimed by many as a principle that there must be only one drug in a prescription. One of the alleged reasons is that if there be two or three there may be incompatibility. I beg to suggest that drugs, when incompatible, should not be mixed; chemical decomposition must be avoided, and the practitioner should know—and mostly does know—how to take care of that patient of his. In most cases it is easy enough; in some it is not even necessary to be absolutely strict, for you know that, in spite of your schoolbook chemistry, morphine and lead, and morphine and gallic acid when mixed are still active. There is no ground for the pedantic demand that two medicines with similar action should not be prescribed together. Even though all your pharmacists were of perfect knowledge and accuracy on the shelves of the very best of them drugs are liable to lose their efficacy. There is no digitalis, which though gathered in July and in England, and kept in an airtight vessel, will not deteriorate from month to month. That is why I recommend and frequently practice the combination of such drugs as tincture of digitalis, of strophanthus, and of adonis, or the solid extract of digitalis and of spartein sulphate, or of caffein, on account of either their equal or similar effect. . . . What is your mixed treatment of mercury and iodides if not a transgression of the one drug rule—not found at the bedside but concocted on a classroom platform. They tell you that by mixing medicines you are liable to cloud your observation. Your observation on the several constituents of a mixture must be made before you approach your individual patient whom you are called to benefit. That is what the conscientious physician has been doing in his lifelong work. He claims no right to experiment on his patient or on any other human being.

There are three great classes of medical men —those whose domain it is to work in the pharmacological laboratory; those whose opportunity for rational experimentation is at the hospital bedside; and those more numerous and still more directly and practically useful than any of the rest. It is they who are to be the preservers of families, the saviors of individual lives, of trusting sufferers. Indeed, you will yet occasionally meet laboratory searchers who know and admit that the cream of the medical profession is the army of hardworking and conscientious general practitioners, and that the statesmen in the profession are found in the ranks of the general clinician.

You have been told that the one drug rule can-

not be contested; surely not when you deal with a specific disease. A malaria fever must not be treated with a plurality of medicines. Is not quinine its specific? Surely it is in most cases. *But* if you strike a case that is *not* simple, but of the cachectic type, complicated with anemia, with swelled spleen? with obstinate constipation? with chronic myocarditis? with valvular disease? those that come from Jersey, from South Brooklyn, from Russian Poland, from the shores of the Theiss? or those that exhibited all the traces of cachexia without ever a chill until the first big dose of quinine was administered. Does the one drug gospel object to giving arsenic with your quinine? or, when in old cases of neglected infection with enlarged spleens quinine and arsenic are not successful, to adding or temporarily substituting ergot?

These fifty years, taught by Dr. Francis Simrock, an assistant in the emigrant hospital at Ward's Island, I have thus utilized ergot in seemingly incurable cases. Or when you give quinine or arsenic, or both, and meet with a low hemoglobin percentage, will you dare to withhold iron? or a vegetable purgative in obstinate constipation? or digitalis in a complicating valvular disease? or caffein or theobromin, as the case may be, in myocardial incompetency? Remember you treat no disease nor a Greek name, but a diseased man or woman.

There are those who dislike a prescription blank filled with three or four remedies, but there are also those who dislike the looks of a patient whose many ailments should not have to wait for the gradual and slowly conservative administration of drugs that could as well act simultaneously and conjointly, and better when conjointly. Indeed, when you treat adults they have, as a rule, more than one disease. It is infants and children only that yield a single uncomplicated diagnosis. The disease of an adult has a long anamnesis and the residue of previous ilnesses. By insisting upon giving a single remedy, you may care for and cure the last affection, and let your patient slip away from you under expectant treatment.

Only one drug! Are you also required to restrict physical treatment to one method? When you treat with a medicine anemia or feeble circulation? or constipation with cold water, or hot bathing, or massage, or electricity, will you *prescribe* one, a single one, and *proscribe* the rest? And indeed, when you mean to feed a man on 3,000 calorics, you might just as well order a uniform single food, merely because it contains proteid and carbohydrates enough to suit your prejudiced pedantry. You know and do better; you change off and mix, you also know that the one drug demand is not a wise but a wiseacre rule.

In connection with malaria I used the term "expectant treatment." Expectant treatment is called the method of waiting for urgent indications. It finds its justification or explanation in the fact that deaths are not frequent compared with diseases. Indeed, there is a death in 35 cases of illness, contrary to the syllabus of Dr. Sam. H. Dickson, of 1845, which teaches that the tendency of all disease is to death. Another alleged reason is the self-limitation of diseases, which in our country has been the teaching of Bigelow (1860). The same Bigelow, however, demands careful treatment as the first duty of the practitioner. He knew that a scarlet fever may last six weeks and run its self-limited course, but he knew also that death may step in at any period unless prevented by active treatment. A typhoid may run its three or its six weeks, perhaps no more; but a typhoid supinely left to itself may prove fatal from many causes. A whooping cough limits itself in three or five months, but it limits not only itself—it may also limit the child unless it be relieved as soon as possible by medication, the best of which is still —as it was fifty years ago—belladonna in ample doses. For every week's duration that could have been avoided is an opportunity for bronchopneumonia, or a hemorrhage, or a convulsion. One child whose hourly convulsions I combated by chloroform for three successive days thirty years ago, is still alive with an unimpaired brain, waiting for his unknown death certificate at some future day. Let him wait; I don't care. Expectant treatment is best elucidated in some of its phases by a few cases.

I saw a baby lately. She was ten months old, had a fairly normal intellect, two teeth, good bones and muscles, *but* the contractions of a spastic encephalitis. Her doctor had her examined by two of our justly famous physicians, so-called specialists. Treatment? "Let me see her again in six months." We stopped this expectant treatment. She was presented again after a regular iodide administration, and systematic bathing, and passive movements and scientific massage—markedly improved within six weeks.

A baby of six months was presented with his 15 pounds in weight, pale skin and conjunctivæ, flabby muscles, constipation, soft fat, placid though languid appearance, no trace of teeth, and low hemaglobin percentage. Treatment—expectant. I was told that the doctor had said all would be well after the teeth would come out. Expectant treatment is too often a compound of indolence and ignorance. The latter is exhibited in not knowing that the accumulated iron of the newly-born baby's blood decreases from month to month, that milk contains very little of it at best, and that a human mother's milk may be more frequently defective than that of a less impressible animal. Actual treatment: add cereals and a daily dose of beef broth to the milk, the doses of which were reduced. Open windows by day and by night. A daily warm bath with lively friction to stimulate the cutaneous circulation and thereby the circulation in general, also drugs—strychnine ½ milligramme and iron 2 centigrammes daily. The

actual treatment of a month proved superior to the persistent expectancy.

The waiting for the first teeth, procrastination until the seventh year, hope for changes about puberty, promise of improvement about the menopause—have you not met this expectant treatment, with all its pusillanimity and neglect? The underweight child of four or six years is not treated for his latent tuberculosis or his dormant syphilis; the girl with undersized heart and small arteries is permitted to glide into an incurable chlorosis, the woman of forty to totter along with her pernicious anemia and flabby myocardium. Expectant treatment! Verily, I tell you, it is malpractice, which should be punished on account of neglecting what nature and sound therapeutics furnish—the use of cold water and fresh air, and selected food—the cheapest is mostly the most effective—and cod liver oil, iodine, mercury, arsenic and strychnine. Expectant treatment is no treatment. It is the sin of omission, which not infrequently rises to the dignity of a crime. A woman of 46 years presented herself exactly four days ago. She had been under the care of her doctor these six weeks, and had taken medicine all the time. He boasted the medicines were mild, but had the great courage to tell her that if she did not become well soon he would make an examination of herself and her urine next week. The urine had not been examined. It consisted to a large degree of pus, rather fetid, with many renal epithelia. The abdomen, which she had complained of, had not been examined. She had a big tumor, a renal abscess of the size of a child's head. She has since taken her iron in the shape of a 'surgeon's knife,' and is no longer under expectant maltreatment.

You may ask me why I refer to this case of criminal neglect. Firstly, because its like is frequent; secondly, because it shows to what extent —by false teaching, by the mere doctrine of the self-healing of disease and of the frequent incompetency of ill-selected medicines—the average man may be rendered callous, both in mind and in morals.

A few days ago there came a man of 39 years. Double heart murmur without increased impulse; murmur, posteriorly, faint only. No increase of size of the heart, but a liver reaching down to within 2 cm. above the umbilical level. You recognize in the last two symptoms a few characteristics of chronic myocarditis. Impossible to walk up a flight of stairs or three blocks on level ground. Expectant treatment! no medication, permission to drink his four cups of coffee and smoke four cigars a day. Actual treatment for the next month: rest in fresh air, a cold wash and brisk rubbing daily, no tobacco, no coffee, a mild saline purgative daily, trinitrin and codein in small doses. Probably I cannot change him into a Samson, but I can render his life, not without drugs, however, endurable and more useful. More expectant treatment: I need not say here that not every fever is beneficent through causing the formation of antibodies, and that an excess of bodily temperature is frequently a cause of dangerous disintegration of tissue—mainly of the heart—and in infants the origin of convulsions and of direct or indirect death. It is not necessary to teach here the indications or contra-indications of cold air, or of the administration of cold in ablutions, bathing or packs, or of warm bathing; none of them, however, is a panacea. In their place, or with them, a coal tar preparation—unless it be acetanilid, detestable, although it has been smuggled into the pharmacopeia—with or without a cardiac stimulant, may be life-saving. Expectancy means loss of time and opportunity.

Expectant treatment in sepsis in general—in diphtheritic sepsis, in particular. Those of you who have seen it in bad epidemics remember its main features—the foul odor from nares and mouth, the colossal glandular swellings, bloody and serous nasal and pharyngeal discharges, erosions, petechiæ or hemorrhages, unconsciousness or coma, and—unfortunately—no increase of temperature. You know that these are the cases that leave you and your antitoxin powerless, and the only possible salvation is in local antisepsis and energetic stimulation. They die, all of them, unless some are saved by a drug. That drug is alcohol. Bacilli and cocci and toxins do not engage in a playful game, they mean killing business. So you had better not play with your antidotes. No dose of alcohol—internal, subcutaneous, or rectal, administered intelligently, is too large. No dose will ever intoxicate, so long as the sepsis is not conquered by daily doses of five, ten, fifteen ounces of whiskey—properly diluted—given to a child of three or five years. Do not let up on whiskey before sepsis lets up on you. No matter how successful the most modern treatment with pyocyanase may prove in cases not reached by antitoxin, it appears that the alcohol treatment is still indispensable in the worst form of diphtheritic sepsis. For in his latest paper of November 5th (*Munich Med. Woch.*), Rudolph Emmerich claims as one of the beneficial effects of pyocyanase—the result of bac. pyocyaneus aureus—its power to reduce high temperatures. The saddest of diphtheritic forms, however, have a nearly normal or even decidedly subnormal temperature.

Expectant treatment: A case of rheumatic polyarthritis—thousands of such cases all over the country. Your man had a number of such attacks, severe or slight, and more endocarditis with every one. Mount Clement is good for "rheumatism," so is Sharon or Richfield. Next summer you will go up and take treatment. Meanwhile what happens? the secondary cardiac enlargement and hypertrophy will grow, and anyhow there may be a new attack of rheumatism. Then my expectant doctor has a new job. When

he is called or pays his visit a day or more have gone by and he prescribes salicylates. Maybe he knows salicylates as well as you and I, but he does not know what to do with it. Indeed, if two do the same thing, it is not always the same thing. When a patient has had rheumatic polyarthritis once, it will probably have him again. Such a patient must never be without his sodium salicylate on hand, ready to be taken without delay. He must take a few doses as soon as he feels the slightest sensitiveness in a joint, and stay in bed perhaps a single day only. That is the way to escape three or six weeks in bed and a new endocarditis; also to avoid the misuse of an honest drug—and the belief and its public expression in a poor innocent journal—not that you do not know *how to employ* a drug, but that the drug is useless.

How many cases of pneumonia have I lost in these fifty-four years? I might tell by counting death certificates. How many have I saved? You know I cannot tell, for I am not aware of how many would have got well without me; but when the feeble and arhythmic pulse-beats rise in undue proportion to the number of respirations at an early date, you may feel sure the heart will give out before it is time for either crisis or lysis. Expectant treatment means neglect, and loses the game.

These endangered hearts demand help. Digitalis, strophanthus, spartein, camphor, caffein, strychnine, ammonia, musk—they are required according to the indications, and by employing some of them, you may succeed in keeping your patient alive until he can get better.

Are there other things that may be required in a pneumonia? We are told often and by many that no opiates must be given. And why not, when sleeplessness and exhaustion are threatened by an incessant cough? A single dose of opium that provides a sleep of a few hours may save the life of your patient and spare his doctor the self-reproach of expectant treatment permitted at an improper time. There are other cases in which drugs are positively life-saving—for instance: pneumonia of the second or third day, with vast infiltration, which exhibits cyanosis, beginning pulmonary edema, and dilatation of the right auricle and ventricle far beyond the right margin of the sternum. With or without a venesection you may save your patient by big doses of a drug. Apply ice, give of fluid extract of digitalis 10 or 12 minims in one dose, and repeat it once or twice within a few hours. Nihilism or drugs, you have your choice and your responsibility.

Great successes are not always dependent upon big doses. As small meals, well selected and repeated regularly, improve metabolism and nutrition, so small doses of digitalis continued indefinitely strengthen the poorly innervated heart muscle, facilitate compensation in chronic valvular disease, improve, by its very effect on the arteries of the whole body, the heart muscle, and regulate visceral and universal circulation and nutrition. Small doses of digitalis, three to five grains every day, or their equivalents, may therefore be given in chronic anemia, chlorosis, and chronic tuberculosis—alone, or according to circumstances, with iron, arsenic, or nux. A treatment of that kind may be continued many months and years, uninterruptedly, without such cumulative effects as arhythmia or vomiting. Its effect on the circulation in general is rather favorable on account of the improvement in gastric and hepatic circulation. They say we owe the knowledge of this beneficent method of employing digitalis in small and persistent doses, a few daily, to the Germans, like many other things which we are always glad to attribute to them. Indeed, it was Groedel who favored the method and mentioned it before the German Congress of Internal Medicine, in 1900. He was not at all applauded until one or two years afterwards Kussmaul and Naunyn reported a few favorable cases. Now it is called Groedel's method. It will reach America pretty soon. But after all it was not a product "made in Germany." If you want to learn all about it, both its theory and its application, and all the particulars, you will find them in the Transactions of the Medical Society of the State of New York, of 1884, in an article entitled, "Arsenic and Digitalis in Chronic Pulmonary Tuberculosis."

Which, as a general rule, are the doses of medicines? Nothing is easier than to be misguided. Minimum and maximum doses are forced upon you in text-books and pharmacopeias with refreshing coolness. Hundreds of times I have been called up by a druggist who informs me that he has been told the dose of spartein is one-quarter of a grain. I reply that may be the dose of the man who is to be drugged with a placebo, but that my patient requires his one-half or one grain dose six or eight times a day. The average dose of fluid extract of digitalis is set down as one minim; those cases which require ten may get well with ten, but surely die with one.

Dosage depends upon sex, age, body weight, the stage of sickness or convalescence, on high or low temperatures, on the condition of the absorbing tissues, on the locality of application, on the amount of blood circulating in the vessels, on the presence or absence of sepsis.

Age: The text-books tell us that a nursling must have a fifteenth or a twentieth of the dose of an adult in proportion to their body weights. I do not insist upon giving too large doses of drugs, but at least I do not gloat over big doses of expectancy. I try to give proper doses, for instance, of corrosive sublimate in diphtheria and some other forms of sepsis. One thing I am sure of, as my experience in a thousand observed cases has taught me these thirty years—that a baby of six months will take from one-half to one milligramme of corrosive sublimate every hour, diluted in ten thousand times its quantity

of water, and continue sixteen such doses daily for several days, and not be punished with stomatitis, gingivitis, gastritis, or enteritis. At that rate the baby will take one-fourth part of a grain of corrosive sublimate, or more, for several days in succession. The worst part of that practice is that now and then a man and brother will throw up his hands in horror. But I have met with horror, wonder, and acceptance successively, many times. Its best part is that it has helped me and many friends and pupils in curing many cases of diphtheria—particularly the laryngeal form.

Locality: A small dose of morphine administered under the skin just over a pleuritic or peritonitic pain acts much more quickly and effectively than the same dose in the arm. The latter locality is quite easy for a lazy doctor—I mean nurse—but for sound reasons an abomination to the patient. It acts five times more quickly and satisfactorily than when given internally, much better than in suppositories whose absorption depends on the condition of the rectum, filled with feces, beset with dysenteric or other ulcerations, or merely catarrhal. A soluble tablet of a tenth of a grain or a few drops of Magendie's solution, more or less, sucked down without water, are absorbed immediately in the pharynx, soothe racking attacks of cough; or when taken a few minutes before a meal, facilitates the gliding of food over an ulcerated tubercular throat, or prevent the vomiting of pregnancy.

During the first six weeks of his life the newly-born has an indolent nervous system. Its reflex actions are defective (Soltmann). That is why reflex convulsions recurring soon after birth are almost unheard of, while those depending on intracranial lesions and hemorrhages are very frequent; and why larger doses of strychnine are required for a spastic effect in the newly-born than later. Atropin, quinine, and nicotin are also required in comparatively large doses in the newly-born animal; and to the same extent opium. And still the books and essays that copy from each other, decade in and decade out, preach the prejudice that opium is incompatible with infancy. Nothing is a more untrue and curious statement. Opium is not to be a daily food, but in a majority of cases of enteritis a baby a year old may take one-thirtieth or one-fortieth of a grain every two hours. The relative dose given to an adult (15-20 times as much) would not be so well tolerated. We read of poison cases, it is true, but in fifty-four years of a New York practice I have not seen a single case of opium poisoning of my own making in ever so many thousands of cases of enteritis. Cases of death occur from carelessness or mistakes, very rarely from idiosyncracy. Such occurrences there are, however. Once I sat up with a gigantic adult to whom I had given a single dose of five grains of iodide of potassium, nursing his pharyngeal and laryngeal edema. On the other hand, the same drug is given in daily doses of two drachms to a baby with tubercular meningitis, or the same or a double dose to a syphilitic adult.

As the dangers of opium in children's diseases are over-estimated, so the effect of belladonna is not obtained in daily practice on account of the smallness of the doses generally administered. Of the officinal extract of belladonna an adult may not take more than a grain daily without a dilatation of the pupils and dryness of the throat. A nightly dose of one-half of a grain, or a good deal more, however, is required and easily tolerated by a child of four years suffering from enuresis; and the effective dose in whooping cough of belladonna is measured by its flushing the cheek within half an hour, and not by any book.

The doses of strychnine are controlled by other nervous disturbances. When the splanchnic nerve is injured, or paralyzed by shock, the vast dilatation of the visceral blood vessels is controlled or obviated by large doses of strychnine only. In the paralysis of chronic poliomyelitis the internal administration of strychnine is useless; it will act only in big doses and only when injected into a muscle once every day or two days.

The action of strychnine depends to a great extent on the condition of the blood, viz., anemia and sepsis. Experience teaches what experiments have demonstrated. The resistance of fishes to the action of curare was found (by Welker) to depend on the small quantity of their blood, which amounts to from 1-53d to 1-93d of their body weight; while in the child there is one weight of blood to nineteen, and in the adult one to thirteen parts of body weight. Ill fed, anemic, and septic persons, old or young, require big doses of strychnine, in accordance with experiments which prove that a depleted frog demands larger doses of strychnine than those not so depleted; and the depleted side of a frog more than the other side. It is mainly a slow convalescence in man, and thoroughly septic cases of scarlatina, diphtheria, typhoid and puerperal fever, that should be favored with large doses.

Why is it that the confidence in drugs may be easily shaken? Originally their effect was known empirically only. Thus even digitalis was removed from a place in the London Pharmacopeia until Whithering restored it. The action of a deadly poison can be traced at the autopsy; that of a drug, either active or indifferent, is rarely amenable to that test. Moreover, a bad turn in a disease is readily ascribed to the drug; recovery, to the vigorous constitution of the patient. In the first case, the doctor was guilty; in the other, relieving the patient of his ailment and of his gratitude, he got no credit. Still, the drug is a chief reliance of the physician who moves among the people that have a right to expect

to be cured or relieved, and for that end to be supplied with all the healing potencies furnished by nature. Many of them do not retain their reputation forever intact. New knowledge, new fashions, new experience, have altered our convictions regarding cold water, hot water, altitude, and electricity. On the other hand, scores of drugs, in spite of all the obloquy encountered by them, have preserved their standing. Purgatives, both saline and vegetable, exhibit their effects as of yore, and are credited with them. It is true our forefathers did not know indican, indol, and diacetic acid, and did not look proud, as we do when we spread ourselves with autointoxication and acidosis, but they knew and acted. *Qui bene purgat, bene curat.* Good purging is a good cure. Emetics also deal with us as with our ancient forefathers. We expect a full effect when we either take one or order one to be taken. We prefer the latter. The little girl who told the druggist she would return it if it did not work is still unique. Sulphur was known as a disinfectant before Homer; Odysseus, when he had finished the crowd of would-be husbands of Penelope, told the old housekeeper to bring "purifying sulphur." Male fern has not lost its effect these 2,000 years. Aloe was extolled by Diosmides and Pliny, podophyllum by the East Indians, rhubarb by the Arabs. Mercury was known to the pious crusaders, and we still bow to it. Poppy's fame has been sung in prose and verse; the glory of iodine, or of quinine, need not be told. The large number of alkaloids render drug treatment more positive and easier. The numerous cardiac and arterial stimulants, which I need not enumerate, and the artery dilators, which relieve the heart, the nitrites, iodides, and aconite have made us more sure of our footing, and our patients more comfortable and safer.

Antiseptic drugs, which have rendered surgical antiseptics and aseptics possible, and the anesthetics which cleared the sky of the wails of millions of human beings and aided the science of medicine and healing by rendering animals painless during experiments, demanded by the interests of mankind, have so fully accomplished their mission that they ceased to be a mere tale of wonderland. Well known old remedies have expanded their efficiency; for instance, Meltzer has demonstrated that the intraspinal injection of a sterile 25 per cent. solution of sulphate of magnesium—1 ccm. to 12 kilos body weight—produces within 24 hours a paralysis and analgesia of the lower extremities and the pelvic region. The same amount for nine or ten kilos exhibits the same effect within one hour. In this way operations were made without any pain and tetanus was cured.

Sero- and organotherapy have not fulfilled all our expectations, simply because we expected too much, and in too brief a time. But diphtheria and tetanus, hydrophobia and plague tell wonderful stories of delighted mankind. Thyroid and adrenal substances belong to our surest aids. A case of acromegaly, now of nearly twenty years duration, has changed only imperceptibly these ten years since the woman, about 40 years old, took pituitary substances, with only a single increase of symptoms during half of the past year when she omitted the remedy.

A certain class of institutions has contributed much to the efficacy and the number of drugs. The German Universities, with their numerous pharmacological laboratories, the state institution presided over by Paul Ehrlich, of Frankfort, and the great manufacturies of all countries, have contributed to our knowledge. Chloral hydrate, lanolin, cocain, paraldehyde, sulphonal, veronal, trional antipyrin, phenacetin, pyramidon, etc., are the proofs after all that more good than harm comes even from those places among us with which we have ample reason to find fault on account of the vast number of proprietary and quack medicines that swamp the market. But why offer rebuke there while the fault is ours? There are on this floor men good and true who are influenced by the wiles of drummers, by the outside elegance of their wares, by the alleged convenience of their administration, by the glowing praise bestowed on their action—to recommend them, aye, to prescribe them.

Some years ago Dr. Alfred Herzfeld of New York made it his business to look into this epidemic of quack medicine prescribing. He found amongst those of a prominent practitioner of the metropolis, "Remedium spontaneum Radway"—Radway's ready relief. He took the trouble to examine 50,000 prescriptions compounded in drug stores. Between 1850 and 1873 he met with no prescriptions of physicians that contained nostrums and machine-made tablets; in 1874, 1 in 1,500; between 1875 and 1880, 1 in 50; 1880-1890, 1 in 20; 1895, 12 per cent.; 1898, 15 per cent.; 1902-1903, from 20 to 25 per cent. Personally I have looked over the register of a large drug store in New York. Of 100 prescriptions of doctors in good standing, 70 contained nostrums from all countries.

It is interesting to perceive that Germany, the very land which raised nihilism into power, furnished, without losing its grip on scientific medicine, the vast majority of what is both good and evil in pharmacy and therapeutics, from a proprietary article which has proved life saving and epoch-making, like diphtheria antitoxin, to other patented compounds, which prove to be downright quackery. Nor is it the trade alone that indulges in distasteful commercial methods, but the medical profession also. In spite of its scientific ambition and achievements, the ethical standard of the German profession is low. Advertise-

ments of themselves, of their specialties, of the manufacturers' wares, are commonly found in the columns of newspapers and the bulky medical magazines. What we meet with occasionally amongst us here, viz.: paid so-called original essays, laudatory of new chemical productions, seems to have been promoted into a system amongst our transatlantic brethren. Indeed it seems to take the democratic spirit and the civic pride of a democratic community to condemn it. After all, it appears Plutarch was right when he said, that though death kills everything, superstition will survive it.

I might go on at some length exhibiting a list of drugs that are meant to save, to relieve, to increase your patient's power of resistance, to prolong life and to make it bearable. While for instance, biologists here and elsewhere try to discover the etiology of carcinoma as the foundation of a causal therapy, the knife has added to its many triumphs in curing it. Nor is the apparent helplessness of a great many inoperable cases left to its inevitable fate. Von Mosetig, of Vienna, and Willy Meyer, of New York, injected pyoktanin into the cancerous tissue; neither continued the treatment long. I caused great pain in the small number of cases in which I followed their methods since 1891 and 1893. In the year 1897 (*Journal of the A. M. A.*, June 26th), Dr. Henry R. Slack, of La Grange, Ga., published a few rather favorable cases. The torture, however, to which I exposed my patients made me change my procedure. Since 1892 I have given methylene blue—methylthionin hydrochloride—internally in hundreds of cases of inoperable cases with such fair results as I have discussed at the Boston meeting of the American Medical Association (*Journal of the A. M. A.*, Nov. 6, 1906).

Nor should I be silent in reference to the drug therapy of chronic tuberculosis. Nearly twenty years, since the late Dr. Schüller's first communication concerning guaiacol, have I employed it in at least 5,000 cases of tuberculosis. What I am getting more sure of from year to year, and have published repeatedly, is its reliability, no matter whether it is caused by its beneficent action on digestion, or what I prefer to believe, its direct influence on a probable toxin formed by the tubercle bacillus. While engaged in preaching with a thousand others the gospel of air, and water, and rest, and food, and sanitaria, I cannot withhold my constant exhortation that no private, and no sanitarium, and no hospital and dispensary treatment of chronic tuberculosis should be carried on without some preparation of guaiacol.

To prove the uselessness of drugs, they tell you that the older a doctor gets the less medicines he will give. There are, however, old doctors and old doctors. Old doctors have no right to be senile. As soon as they become senile they are doctors never-more. Advancing years success in finding proper indications, and to their success in finding proper indications, to their knowledge of the action of drugs. Their own experience should be, and is supplemented and matured by that of their brethren, by the teaching of the laboratories, the clinical hospitals, the writings of their peers and betters. That is valid for the so-called old and the so-called young. For let no man rely solely on his own doings and findings. There are those both old and young who make the same mistakes year in and year out, and call it experience. Let the young and the old men beware. White hair and scores of years are not wisdom by themselves. It is certainly true that in our times, when the means of diagnosticating have grown to a wonderful extent, a young man of 30 or 35, bright, open-eyed, erudite, with an appreciation of all that is new and a recognition of the value of what made our fathers—Sydenham, Boerhaave, Peter Frank, Trousseau, Watson, Clark, and Flint, great physicians—should be a mature and experienced practitioner at the time when arteriosclerosis makes its first gentle appearance. When you meet an old doctor who tells you that he gives no drug, or a young one who was born old, who uses no cold water, no massage—on account of their alleged uselessness—he belongs to the class which remained in the rear away from the battlefield of the army of explorers and fighters, or that unlucky class whose brain was first in falling victim to insidious atheromatosis. We are human and all are subject to the laws of nature which is indifferent to whether she preserves full manhood in one and makes an object of pity of the other. They say we are wonderfully and fearfully made. Some wonderfully, some fearfully.

A wise man, one of our profession, Peter Frank, confessed a hundred years ago: "When I was young, the sick feared me, since I got old, I fear the sick." But while fearing them, he never ceased to love the sick and place at their disposal what a ripe empiricism and vast experience taught him. What Bigelow proclaimed as the "leading idea" of the doctor, viz. therapy, was inscribed in Frank's conscience. He appreciated that nature only can heal, but also that by recognizing her power and ministering under her, we master her. That is why we learn that and why nihilism is as conceited as it is impotent; and why we are convinced of the truth of what Robert Bartholow said in 1876 in an address delivered before the medical and surgical faculty of Maryland: "He who despises his art, can never become a great artist. Good practitioners are always found to be men entertaining the greatest confidence in the powers of medicines." Medicine is more than pure science. It is science in the service of mankind. We live in the era of therapy; therapy in political, social and individual life.

COUNTY LABORATORIES AND THEIR USES—FIFTEEN MONTHS EXPERIENCE.*

By O. J. HALLENBECK, M.D.
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DURING the epidemic of diphtheria in the winter of 1905-6, at the Ontario County Orphan Asylum, I was especially impressed with the inadequate means at our disposal of waging war against the enemy.

The State Department of Health was ready and prompt to give us the bacteriological examinations that came within its jurisdiction, but our base of information was too remote to give us in time that scientific information which was due us, both as physicians and patients. It is not living up to the light we have, to grope in the gloom, when the etiology and pathology of such diseases as diphtheria, tuberculosis and typhoid fever are revealed to us by science.

That we may successfully prevent the dissemination of the above-mentioned diseases, it is a foregone conclusion that a bacteriological laboratory and a competent bacteriologist are necessary.

I have studied the problem also from a financial point of view, and I am convinced that if every county in the State had its own bacteriological laboratory and used it only in combating diphtheria, tuberculosis and typhoid fever, it would be a profitable investment for its taxpayers. Think how many cases of tonsilitis are quarantined for diphtheria, and how many cases of diphtheria are permitted to mingle with the public, all for the want of a positive diagnosis. We frequently see cases of inflamed throats, the patients having fever but no membrane, yet carrying enough Klebs-Loeffler bacilli in the pharynx and nasal cavities to infect others. These are cases of latent diphtheria, and these are the cases that spread the disease, because they are not recognized, but are allowed their liberty.

Think how many cases of incipient tuberculosis are amenable to treatment if early diagnosed, and how many mild and walking cases of typhoid fever disseminate disease and death all for the want of a positive diagnosis. In the stages and conditions I have mentioned, these diseases are diagnosed positively only in a laboratory.

Having become convinced from a humanitarian, as well as from a financial, standpoint that the health, happiness and prosperity of the citizens of our country would be enhanced by the benefits derived from a bacteriological laboratory, the next step was to bring the subject to others, get their support and co-operation. The State Department of Health was first asked to give such information as would help to establish a county bacteriological laboratory or refer us to any now existing in the State. The reply came that "No county laboratory now exists in the State of New York, and we are not familiar with the necessary steps to carry out the plan you have in mind." Others were consulted, but nothing definite occurred. A campaign of education was now instituted, and the matter was first discussed among the physicians of Canandaigua and vicinity. At a regular meeting of the Society of Physicians of the Village of Canandaigua, held in January, 1906, the proposition was presented to the society, and after a thorough and extended discussion a committee of three were appointed, consisting of Drs. J. A. Jewett, A. L. Beahan and the writer, to proceed on the lines marked out to provide ways and means to establish a county laboratory. Encouraged by such endorsement as was given at this meeting, we enlarged the scope of our campaign of education among the physicians of our county. At the regular meeting of the Ontario County Medical Society, held in January, 1906, the matter was presented to that body, and after an extended discussion a committee was appointed to co-operate with the former committee to bring about ways and means to establish the laboratory for the county. Drs. A. D. Allen, of Gorham; W. B. Clapper, of Victor, and the writer were designated as the committee. These committees, after due deliberation, formulated a plan to bring about the desired end. The citizens of the county were to be the beneficiaries, therefore they should bear the expense. We realized the fact that to get the Board of Supervisors interested in maintaining a county bacteriological laboratory would be such an innovation in the county legislature that the most enthusiastic felt many misgivings. We knew we must convince the board, as we were already ourselves convinced, that there is money in the proposition for the taxpayers. The campaign of education was now extending throughout the county by the press as well as the people. At this juncture in our proceedings Mrs. Mary C. Thompson, a philanthropic citizen of Canandaigua, came forward and offered to donate, for the use of the county, a site, erect a laboratory and equip the same if the county would pay the salary of a competent bacteriologist and the ordinary running expenses. At the February, 1906, session of the Board of Supervisors the committees were given a hearing. We were there in full force with our plans definitely mapped out on paper.

We illustrated by individual cases where time and expense would often be saved by knowing when and how long to quarantine as well as being of inestimable value to us in preventing the spread of many diseases. We asked for a sum not to exceed $1,500 annually to pay for the services of a bacteriologist.

We emphasized the fact that this laboratory was for the benefit of the citizens of Ontario County and the services of the bacteriologist would be free to them in *all matters* pertaining to the public health. When the individual alone is the one interested or benefited, a small fee would be charged. For all examinations and

*Read before the Medical Society of the State of New York, January 30, 1908.

analyses made for parties outside of the county, a charge would be made. This income was to be paid monthly to the county treasurer, and would be the fund to maintain the running expenses of the laboratory.

We further planned, should our project succeed, that we would organize a County Sanitary Association of the health officers of the county and the executive committee from this association would have general supervision of the bacteriologist and laboratory. It would recommend to the Board of Supervisors a bacteriologist for their appointment. It would inspect the laboratory from time to time and acquaint itself as to the quality and quantity of work done and judge as to the competency or incompetency of the bacteriologist.

It would require him to make reports to the board at such times as they ordered, etc. At this session a vote was taken, which was unanimously carried, to provide the salary for a bacteriologist, if the sanitary officers and committees would carry out the plans outlined. The Board of Supervisors had no power under the law to create a new office or pay a county bacteriologist. We took immediate steps to interest our Senator and Assemblyman in the matter, and April 19, 1906, with the approval of the Governor, the following became Chapter 271 of the General Laws, viz: An act enabling the Board of Supervisors of the County of Ontario to appoint and pay a bacteriologist.

March 4, 1906, the Sanitary Association of the County was organized, a constitution and by-laws adopted. The following officers were elected and now hold the offices, having been re-elected at the first annual meeting in October, 1907.

President, Dr. O. J. Hallenbeck, of Canandaigua; Vice-President, Dr. D. S. Allen, of Seneca; Secretary and Treasurer, Dr. D. A. Eiseline, of Shortsville. The officers also constitute the executive committee of the association. In short, our plans have been consummated.

Our county now has a bacteriological laboratory of its own, free from all encumbrances, running on a paying basis. The laboratory is a one-story building, built of wood on a Medina stone foundation, size 12 by 20 feet, heated by steam, lighted by electricity, supplied with gas, hot and cold water, steam at all times, equipped with incubator, sterilizer, section cutter, microscope, etc., and all the other modern paraphernalia (save in a few minor particulars) that goes to make complete a first-class bacteriological and pathological laboratory.

The cost of the building was approximately $1,000 and the cost of the equipment about $400. Our laboratory was opened October 1, 1906, with Dr. H. I. Davenport as bacteriologist, a graduate of Johns Hopkins University.

Our expenditures for the fifteen months ending January 1, 1908, were $111.91, and our receipts were $163, leaving a balance with the County Treasurer in our favor of $51.91.

A summary of the examinations made during this time are as follows:

1. Blood examinations		172
For typhoid, positive	19	
For typhoid, negative	85	
For others	68	
2. Sputum examinations		195
For B. Tuberculosis, positive	41	
For B. Tuberculosis, negative	153	
For others	1	
3. Diphtheria examination		173
Positive	44	
Doubtful and negative	129	
4. Urine examinations		298
5. Pathological tissues		36
6. Water, chemical		6
7. Water, bacteriological		34
8. Milk, chemical		7
9. Milk, bacteriological		3
10. Miscellaneous bacteriological examinations		55
Total		979

Now what practical benefits are we deriving from our laboratory?

First of all let me say that we have not availed ourselves of all the opportunities offered, because we are novices in this branch of science. The parts of the county more remote from the laboratory are not getting the benefits that those in and about Canandaigua are experiencing; that at first is to be expected. Our County Sanitary Association is the particular medium that is sowing the seeds of bacteriology, that are taking root in every health officer's district of the county. We meet quarterly, and papers on health matters and sanitation are read and discussed. Through the kindness of the State Commission of Health we have been favored with papers on Tuberculosis and Typhoid Fever by Dr. H. M. Pease, the State Bacteriologist.

Incipient cases of tuberculosis have been positively diagnosed by the examinations of sputum that never would have been sent to the State laboratory.

Mild and latent cases of diphtheria have been diagnosed that never would have been sent to the State laboratory for positive diagnosis, for they would not have been sent for a sickness so seemingly trivial. To illustrate, I will report just one case. Miss M——, age 26, complained of stiff neck and sore throat July 15, 1907, next morning was seen by her physician, who discovered a slight exudate on one tonsil. I saw her and took a culture although she was up and feeling "good," as she expressed it. In the evening the bacteriologist pronounced the examination positive. I then informed the patient and family of the result. They protested vigorously against a quarantine of the house or permitting her to go to the contagious hospital, saying "she is not sick enough and you are making too much of a fuss

for nothing." She was taken at once to the hospital and died in ten days from diphtheria. The family now approve of what had been done and believe in bacteriological laboratories. Our milk supply is at present engaging our attention.

We know that milk is being delivered to our people with a bacterial count that is far in excess of what it should be. The people who receive the milk have a duty to perform nearly as important as the salesman. Milk delivered with a 20,000 bacterial count, if received in unclean vessels and allowed to stand in the heat and dust for a short time, is unfit for infant feeding. We are explaining to the milk producer why it is that his milk is not what it should be, also what we mean when we say his milk is 10,000, 100,000 or 1,000,000 bacterial count.

We tell him it is the product of uncleanliness; the result of unclean stables, cows, milkers and containers and the influence of heat. The milkmen usually get interested when they know the reason why.

We now have had fifteen months' experience with a county laboratory in a county of only about 50,000 population. The uses and influences of the laboratory are spreading to every corner of our county and beyond its borders. We believe it is one of the permanent institutions of our county that its citizens will always support.

It is a health disciplinarian, that makes its influence felt like a navy, great in times of peace and greater still when fighting the ravages of infectious diseases and unsanitary conditions.

At the July, 1907, meeting of the Lake Keuka Medical and Surgical Association, the writer read a paper on County Laboratories. At this meeting, upon recommendation of the executive committee, the following resolutions were adopted:

Resolved, That this Association thoroughly endorses the establishment of county laboratories throughout the State of New York, and urge its members to use their influence with their Assemblymen and Senators to have suitable legislation enacted empowering the County Supervisors to organize such laboratories;

Resolved, That the Secretary of this Association also place the matter before the Governor, the leaders of the Senate and Assembly and the State Board of Health, urging their co-operation;

Resolved, That the special law which enabled Ontario County to pay a bacteriologist and maintain a laboratory should be made a general law of the State;

Resolved, That a committee be appointed, consisting of one physician from each county here represented, to be known as the county laboratory committee, to assist in the establishment of county laboratories.

The following were appointed; Dr. G. H. Witter, Allegany; Dr. O. J. Hallenbeck, Ontario; Dr. B. R. Wakeman, Steuben; Dr. G. W. Goler, Monroe; Dr. L. C. Broughton, Wyoming; Dr. E. E. Bauer, Tioga; Dr. C. M. VanDyke, Yates; Dr. G. A. Mottram, Schuyler; Dr. J. F. Myers, Wayne; Dr. C. W. M. Brown, Chemung; Dr. C. A. Greenleaf, Seneca; Dr. F. R. Driesbach, Livingston.

This committee has effected an organization and we expect by the assistance of the Committee on Legislation and by the endorsement of the medical profession to have a law passed at this session whereby all counties may have power to appoint a bacteriologist and pay for the same.

The writer is of the opinion that the County Sanitary Associations of the State should be in affiliation with the State Department of Health. In union there is strength. If every health officer of the State belonged to a county organization he would be a better and more successful official. Unite these forces under the banner of the State Health Department and you have an organization that should assist mightily in staying the ravages of contagious and infectious diseases, especially typhoid fever, diphtheria and that scourge of the land, tuberculosis.

WARM VERSUS COLD ANESTHETICS.

By JAMES T. GWATHMEY, M.D.,
NEW YORK.

THE subject of anesthetics is to me a most interesting one, for the reason that so little is known concerning it. There is no branch of medicine in which so many of us are so vitally interested, and, at the same time, in which so little progress has been made. We are almost as far from the ideal anesthetic today, as when anesthetics were first discovered. It is true that the general principles of anesthetics are well known, but this knowledge is usually acquired after an experience that is always painful to recall. The subject is neglected in the majority of medical colleges, because, as a rule, it is assigned to some professor who has but a poor working knowledge of anesthetics, and who takes this as a side issue. Any one and every one thinks that he can give an anesthetic, and yet there is nothing that requires such constant practice in order to attain perfection. No sleight-of-hand performer should ever rehearse his part oftener than should an anesthetist who wishes to be master of his art. No one should give anesthetics who does not have this daily rehearsing in some public hospital.

The subject of this paper is a most interesting one to me, because no text book or medical paper that I have read has a line in it as to the value of warm anesthetics, and by the term warm, I mean heated to the temperature of the blood. (98° Fahrenheit.)

My own paper read at the meeting of the American Medical Association in June, 1906, for the first time gave a reason for preferring warm to cold chloroform. In this paper I gave

the results of forty-three experiments. Seventeen cats were killed with the chloroform heated to 100 degrees F.; twenty-six were killed with the chloroform at the normal temperature. The average time required to kill with the warm chloroform vapor was twenty (20) minutes. The time required to kill with chloroform at the normal temperature, using the same technique and the same amounts, was eight minutes, showing conclusively that the warm chloroform vapor was 2½ times as safe as the chloroform at the normal temperature.

In a paper read before the East Side Physicians' Association of this city, May 19, 1905, I stated that chloroform is given with less danger to life in the Southern States, Cuba and the Philippines, and in any of the tropical countries than it is north of "Mason and Dixon's line."

From the data that I have just given, it will be readily understood that chloroform is given with less danger here in the North in the summer time than in the winter. I have not looked up the statistics in the matter, but you will doubtless find that more deaths occur from this drug during the winter than during the summer, for the reasons stated above. After the fact has been demonstrated and proven, as it will be by the experiments that I will read to you to-night, it is easy to explain why this is so.

Chloroform has a specific gravity of 1.49 at 59 degrees F. The specific gravity of blood is 1055. We know that the vapor of chloroform is heavier than air. We can readily understand that by inhaling cold chloroform vapor, and allowing this vapor to accumulate in the residual air of the lungs, before being sufficiently warmed to be assimilated by the blood, it might easily have a cumulative effect, and lead in consequence to a fatality.

On the other hand, by heating the chloroform we make it easier to inhale; it more readily passes through the alveoli of the lungs, and it is also thrown off by the blood with much greater freedom than cold vapor. As I have stated before, the cold vapor circulates in the blood as a water-soaked log, and when it reaches the lungs is indifferent to the opening. When the warm vapor reaches the same place it immediately escapes. This may also probably account for the fact that when some susceptible individual is sick from the effect of chloroform, this sickness lasts much longer than the ordinary ether sickness; the individual's blood possibly being in such a condition that the cold chloroform stays indefinitely. Whether this is so or not, it is a fact that the warmed vapor of chloroform is not only safer and more easily inspired, but also has less after-effect.

In giving chloroform by the ordinary drop method, it is an easy matter to heat it by simply placing the bottle from time to time in a small pan containing hot water. This precaution is especially necessary in the winter time. Warm chloroform vapor is as safe theoretically as cold ether vapor. Whether this is true or not in actual practice, I cannot say. From a number of experiments made with ether, this last summer, following the same general plan and using the same technique as in my experiments with chloroform, I can state that ether is also increased in value as regards safety to life by being warmed. The value of heating ether in regard to its after effects, was recognized by Clover over thirty years ago, in his first portable ether inhaler, described by him in the *British Medical Journal* of the 15th of July, 1876; but as far as I know he said nothing about the value of the warmed ether as regards life. We can readily understand that the warmed vapor of ether is more respirable, and there is consequently less danger of bronchitis, pneumonia, or any irritation whatever of the air passages, from the warm than from the cold vapor. The same principle just stated in regard to the chloroform would also apply to the ether, *i. e.;* the warmed ether vapor would be more readily absorbed than the cold. It would also be more quickly thrown off, and there would consequently be less after-effect. The value of any closed inhaler is based upon this general principle of heating the ether. The patient gets a warmed ether vapor instead of a cold one; however, this beneficial effect of the warmed vapor is more than counterbalanced, in a great many instances, by the fact that the anesthetist does not keep the bag for rebreathing one-half to two-thirds full at all times. The attempt to breathe from a depleted bag, is like attempting to breathe from a vacuum. If the old chloroform-ether mixture is to be used (two parts chloroform and three of ether), it is better to have the chloroform and the ether separate. Only use the chloroform when the reflexes become unduly active and continue the dropping with the ether again; the chloroform bottle to be placed in warm water as heretofore indicated.

I wish to give the results of my experiments with the warm nitrous oxide gas and oxygen as against these gases at the normal temperature and also 34 degrees F. These experiments were conducted in Columbia University Laboratory during the summer and fall just past, under the general direction of Professor Curtis, to whom I am indebted for many courtesies.

Before giving these experiments a short sketch of nitrous oxide gas and oxygen might not be uninteresting.

These two agents were discovered by Priestley in 1774. Nitrous oxide gas was used as an anesthetic for the first time twenty-four years after its discovery, Sir Humphrey Davy cutting a wisdom tooth under the influence of this gas in 1798. Seventy years after its discovery (1844) Horace Wells inhaled the gas and had a tooth extracted by a friend without the slightest pain being experienced. (In this same year, 1844, ether, chloroform and ethyl chloride were used

for the first time for anesthetic purposes.) From that time on he employed nitrous oxide in his private practice. In attempting a public demonstration at the surgical theatre of the Harvard Medical School he made a sad failure, probably due to lack of knowledge of the exact percentage of air which should be used in order to make a successful narcosis. Four years after his first experience (1848) the memory of the failure of his public demonstration so worked upon his feelings that he committed suicide. Wells' public failure checked the further advancement of nitrous oxide as an anesthetic for about fifteen years, but in 1863 Colton formed an Association in New York for the Purpose of Painlessly Conducted Dental Operations, under the Influence of Nitrous Oxide Gas.

In 1867 Colton visited Paris, and Dr. Ivins, an English dentist practising in that capital, saw his first public demonstration and acquired his technique. One year later (1868) Dr. Ivins successfully demonstrated the value of nitrous oxide at the London Dental Hospital, and from that time on, with London as the central distributing information bureau, this anesthetic has been used all along for the extraction of teeth.

The century mark (1868) was almost reached before nitrous oxide gas and oxygen were used in combination, Dr. E. Andrews, of Chicago, being the first to employ this nonasphyxial form of anesthesia. This discovery did not receive the attention that it deserved.

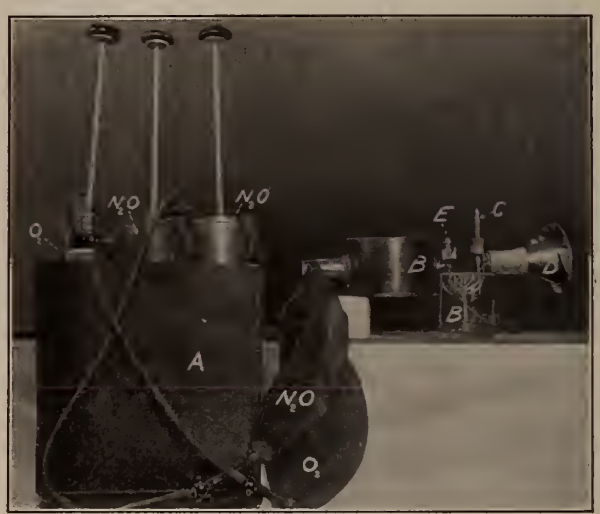
Ten years after this (1878) Paul Bert attracted the attention of the medical world to his experiments in nitrous oxide and oxygen and proved beyond all doubt that it was possible to improve the anesthetic by combining the two gases.

Within the last two years Dr. Brown, of Cleveland, Ohio, has used a warmed vapor of gas and oxygen.

The first animal experimentation with these gases has just been completed by the author with the following results:

Thirty-four of our feline friends were sacrificed upon the altar of science. Twelve were anesthetized and killed by the nitrous oxide gas and oxygen at room temperature. All of these animals were given six per cent. oxygen with the gas for five minutes, and the proportion then reduced to three per cent. (3%). The average time for the eye and extremity reflexes to be abolished was four (4) minutes. The average time required to kill was nine (9) minutes and twenty (20) seconds. The shortest time was four (4) minutes and the longest twelve (12) minutes. Nine (9) of these animals struggled violently until anesthetized; two were quickly asphyxiated; one weakling remained quiet after two minutes. In all cases, heart action, rapid at the start, ran from 150 up to 200 during the frightened struggle; as anesthesia progressed it again became irregular, with marked second sound accentuation, and very rapid and weak just before death. The respiration in all cases was irregular, and gasping to variable degrees. In all cases tonic convulsions occurred just before death. In 25 per cent. of the cases convulsions occurred during the first three to five minutes (probably anoxemic). Continuation of heart action after respiration had ceased: average time, two minutes; longest, three minutes; shortest, one minute.

Twelve (12) cats were anesthetized with hot nitrous oxide gas and oxygen by having the tube containing the mixture of gases passed through a hot water bath kept at a temperature of 98 degrees C. As before, they were all given six per cent. (6%) of oxygen with the gas for five minutes, and then the proportion reduced to three



THE GWATHMEY GAS-OXYGEN APPARATUS SET UP FOR EXPERIMENTAL WORK.

A. Case holding nitrous oxide (N_2O) and oxygen (2) tanks. N_2O. Bag for nitrous oxide gas. O_2. Bag for oxygen. BB. Vessels for either hot water or ice. E. U-shaped tube holding thermometer. C. D. Animal mask.

per cent., as in the administration of the cold gases. In all other respects the technique was the same as far as we could possibly make it.

ABOLITION OF REFLEXES.

Two (2) animals (weaklings) anesthetized with six per cent. (6%) oxygen mixture, lost their reflexes at the end of five minutes; six animals had reflexes abolished with the three per cent. (3%) oxygen mixture in 12 to 25 minutes; average time 18 minutes. Four cats were not anesthetized at the end of thirty minutes. After the removal of the inhaler, two were able to walk in from one to two minutes. The other two were killed, one with chloroform and one with pure oxygen under pressure. Eight (8) animals were killed by the anesthetic; average time 18 minutes. Four (4) were in good condition at the end of thirty minutes; two disposed of as noted above; and two put away for future work. The shortest time was twelve minutes;

the longest time twenty-eight minutes. (Eight cats struggled from one to three minutes because held). The remainder did not struggle after the first few breaths.

HEART ACTION.

After preliminary excitement, action was regular in force and frequency until death approached, when it became rapid and weak.

RESPIRATION.

In all cases quiet and regular after the first few minutes, becoming gasping just before death.

CONVULSIONS.

No early convulsions occurred. Mild tonic convulsions occurred just before death. Continuation of heart action after cessation of respiration: average 3½ minutes; shortest, two minutes; longest, five minutes.

The third series of experiments were conducted in precisely the same manner as the first two, as regards technique, percentage of oxygen, etc., with this difference: the tube containing the mixture of gases passed through a vessel packed with ice. The U-shaped tube containing the thermometer was also packed in ice. The thermometer did not vary from 33 degrees to 34 degrees Fahrenheit during the administration. Ten animals were killed. The results are as follows: After eight to ten breaths of this freezing mixture, violent struggling ensued and breathing ceased almost immediately. Fibrillary twitchings greatly resembling a chill occurred in all the animals after the first minute of inhaling the mixture. The average time required to kill was five minutes and thirty-four seconds, or about four minutes less than at the normal temperature, and thirteen minutes less than the eight animals killed by the warmed gases. The shortest time was three minutes and fifty-five seconds; the longest time seven minutes.

I am indebted for these very full and explicit notes, to Dr. Harold Denman Meeker, who was associated with me during these experiments, and without whose aid it would have been impossible to have gotten the satisfactory results obtained.

From the above it will be seen that the warmed nitrous oxide gas and oxygen are, at the least, over twice as safe as gases at their normal temperature, and from three to five times as safe as the cold gases. We also know that nitrous oxide gas and oxygen is by far, even at the ordinary temperature, the safest anesthetic in the world to-day, over forty thousand (40,000) administrations having been recorded with not a single fatality against it. If now we heat the gases, we have an anesthetic that is so far ahead of all other known anesthetics that it is in a class by itself. From the experiments with all of the anesthetics, *i. e.*, chloroform, ether, and nitrous oxide gas and oxygen, first at the normal temperature, and then heated to the temperature of the blood, and finally with gas and oxygen at 33 degrees to 34 degrees Fahrenheit, we conclude that all anesthetics heated to the temperature of the blood are increased in value as regards life, without decreasing their anesthetic effect. From these statistics it is also evident, that to these highly sensitive creatures, the warm gases were much pleasanter to inhale. From clinical experience I can state positively, that this result, learned in the laboratory, is beyond all question true also in practice.

I wish to report, in this connection, the following cases, some of them illustrating the difference between the warm and cold gases:

First Case. March 13, 1907. Physician's wife. Age, 33. Operation, dilatation and curettage. Time, twenty-five minutes. 1-6 grain of morphine and 1-150 grain of atropine given 30 minutes before the operation. Cold nitrous oxide gas and 8 per cent. oxygen were given. Anesthetic was never pushed to the point of stertor and was entirely satisfactory, with the exception that the patient had a little nausea and vomiting lasting about one minute. From experiences with similar cases since that time, I attributed this nausea and vomiting entirely to the temperature of the anesthetic.

Second Case. Female. French Hospital. Operation, appendectomy. This patient was given 1-8 of a grain of morphine about two hours before the operation, and 1-6 of a grain of morphine one-half hour before the operation. Warm nitrous oxide and 6 per cent. oxygen were used. A great many adhesions were found, and the operation lasted 55 minutes. Patient recovered consciousness as she was being removed from the table; slight nausea but no delirium. Made an uneventful recovery.

Third Case. Female. Age, about 45 years. April 19, 1907. Polyclinic Hospital. Patient was given ¼ grain of morphine and 1-150 grain of atropine thirty minutes before the operation. Operation lasted two hours, during the whole of which time the patient was kept under the influence of nitrous oxide gas and oxygen, without the aid of any other anesthetic. A laparotomy was performed and a fibroid tumor weighing thirty-five pounds was removed. At the end of one hour my gas tanks became exhausted and I had to use the hospital tanks, which unfortunately were of such size and condition that I could not use my hot-water attachments. As soon as I began using the cold gases, the respirations showed a marked decrease in number and were slightly labored, but, with this exception, the narcosis was entirely satisfactory, patient making an uneventful recovery and without nausea or vomiting. The difference in respiration, however, when I was compelled to make the change from the warm to the cold gases, was so marked that it made a distinct impression upon me.

Fourth Case. September 25, 1907. Bronx Sanitarium. A case of intestinal obstruction. Operation lasted one hour and ten minutes. The first thirty minutes warmed gas and oxygen were given, with very great satisfaction. At the end of that time a change was made to the drop method of ether and chloroform, the chloroform being warmed by placing it in a pan of hot water from time to time. Patient seemed to suffer no ill effects whatever from the anesthetic given. This patient was anesthetized twice subsequently by the same method, and with the same results as far as the anesthetic was concerned.

Fifth Case. March 26, 1907. New York Skin and Cancer Hospital. Operation was ligating the subclavian artery and excision of the breast for inoperable cancer, and lasted fifty-two minutes. Patient was absolutely free from any after-effects whatever and ate a hearty meal twenty minutes after the operation was concluded.

Sixth Case. October 1, 1907. New York Polyclinic Hospital. Operation for gall-stones. Time, 45 minutes, patient, 35. ¼ grain of morphine and 1-150 of

atropine given 30 minutes before the operation. About 150 gallons of nitrous oxide gas were used, and ten gallons of oxygen. Reflexes abolished almost entirely during the operation. Patient was conscious when put in bed and suffered neither pain nor nausea. The room was darkened and she fell into a quiet sleep. (Slight nausea from the morphine reported afterward.)

Seventh Case. December 17, 1907. Dr. Bull's Sanitarium. Operation, double mastoid, boy six years old. Suffering from an acute attack of nephritis. Urine heavily charged with blood. Temperature had been to 104 degrees. Pulse 134. From the first incision to the last suture operation lasted one hour and fifteen minutes. Warm gas and oxygen were used throughout. No preliminary medication. The little fellow simply closed his eyes and went to sleep, and opened his eyes at end of operation. No nausea, vomiting, or apparent shock whatever from the anesthesia. Blood in urine not perceptibly increased by operation.

Eighth Case. December 21st. Patient, a boy nine years old. Operation, circumcision; adenoids and tonsils. Operation lasted 22 minutes. Warm gas and oxygen were used for the first operation. After that, gas-ether for a short while; and then ether with small amounts of chloroform by the vapor method for the adenoids and tonsils. The patient suffered absolutely no nausea nor vomiting, and the case is especially interesting, as these patients usually vomit considerably.

Ninth Case. Thursday, December 16th. Operation, amputation of breast, curettage, amputation of cervix and perineorrhaphy. Operation lasted one hour and forty five minutes from the first incision to the last suture. Warm gas-oxygen was used throughout. A preliminary dose of 1-6 grain of morphine was given. Slight movement during breast amputation, but not sufficient to interfere with the operator in any way. In the last part of the operation the patient was absolutely quiet. Slight nausea and vomiting afterwards, probably from the morphine.

Tenth Case. The ideal anesthesia was reached in a patient of Dr. Henry C. Coe. Gas and oxygen were used; operation lasted about 20 minutes; patient had no nausea or vomiting, but on the contrary her sensations were extremely pleasant throughout the narcosis. On awakening she said she had been dreaming of grand opera throughout the operation.

I have made no experiments with ethyl chloride, but I have a right to conclude, that, as chloroform, ether, and nitrous oxide are increased in value by heat, ethyl chloride would be proportionately so increased. In fact, I think that ethyl chloride would show a greater gain than any other of the anesthetics.

It takes a long time for any general principle in medicine or any other science to be universally accepted. The value of warmed anesthetics is not accepted by the medical profession at this time, and at no hospital, excepting those with which I am connected, is the practice of warming anesthetics carried out. At the present time, I practically stand alone. However, the knowledge that I was the first to discover and publish this physiological fact, is a very great satisfaction to me. Like all principles, it will gradually become accepted; first by the medical profession and then by law. Certainly no one would be excusable if a fatality occurs when anesthetizing with cold chloroform in this climate during the winter months, when he could so easily have doubled the value of his anesthetic, and increased the limits of safety, by simply placing the bottle in a vessel of hot water.

124 East 16th Street.

PUERPERAL MASTITIS, ITS PREVENTION AND TREATMENT.

By J. A. SCHMITT, M.D.,
NEW YORK.

THE management of a confinement has reached such degrees of perfection, that an uneventful convalescence is looked for as a matter of course. Yet the most strict and successful measures taken to prevent infection of the parturient canal may be upset by the development of a mastitis. In order to guard against this complication, physicians now pay as much attention to the breasts as to the sexual organs. By way of prophylaxis, some even advocate washing the nipples daily during the last weeks of pregnancy with astringent and antiseptic solutions. The writer holds rather with those who claim that women surrounded by proper hygienic conditions, and with healthy nipples, do not require preparatory treatment, and that preventive antiseptic and astringent applications are rather harmful in that they may either cause maceration and excoriation of the delicate epithelium, or else lead to obstruction of the orifices of the lactiferous ducts and sebaceous glands, by the precipitation and deposition of powder. Proper care is devoted to the sexual organs at the *commencement of labor;* with the same reasoning attention should be directed to the nipples at the *approach of lactation.* Cleaning the nipples and the surrounding parts with soap and water, washing them with saline solution or alcohol, and finally covering them with sterile gauze, are sufficient measures to comply with the rules of cleanliness. Subsequently, rational treatment merely requires that the nipples be washed with salt solution and then covered with sterile gauze after every nursing, if the nipples are normal. Nothing seems more erroneous than the conception that nipples can be kept in an aseptic state during lactation by means of antiseptics. On the contrary, it is well-nigh impossible to keep off micro-organisms, owing to the anatomical peculiarities of the parts (thin layer of epithelium, wrinkled surface, with numerous recesses and apertures). Fortunately, nature has provided its own defense in the secreting energy of the gland, its force from behind which affords protection against the entry of germs. If the passage of the milk ducts be free, the danger of infection is slight, as bacteria ordinarily do not progress against the current. But the danger of infection becomes imminent if the surface of the nipple is bared of its epithelium, and a direct entry of micro-organisms into the lymphatics is thus made possible. Inflammatory processes of the interglandular tissues are communicated to the lactiferous ducts and the parenchyma of the gland, the milk passages become obstructed and retention and decomposition of

the milk are the result. An intact surface of the nipple and an unimpeded flow of the milk afford, therefore, the best guarantee against infectious processes in the mammæ. In case of sore nipples we are naturally obliged to resort to more active remedies. Here I know of nothing superior to the time-honored nitrate of silver pencil, with which the lesion is slightly touched after the application of cocaine. It forms an antiseptic as well as an astringent covering, and if a nipple shield is used and a sterile gauze dressing applied between nursing, a cure may be affected within a short time. Most cases of sore nipples heal without the development of inflammation in the mammary gland. On the other hand, mastitis may appear without any lesion, or at least without visible signs of this. While instances of suppurative mastitis are rare, hardly reaching 5 per cent., indurated, painful swellings of the breast are more frequently met with. Every practitioner is familiar with these abortive cases, which develop in the first or second week, sometimes much later, as hard lumps, very sensitive to touch, and often associated with fever, sometimes even severe chills. We may be in doubt as to the character of the process, and may not be able to decide whether there is stagnation of milk and distension of the milk ducts, or whether an abscess is forming. Here the most brilliant results are obtained by the suction therapy, as advised by Prof. Bier. This may be pronounced a valuable addition to our therapeutic resources, and far preferable to the customary treatment with ice-bag, poultices, lotions and ointments. Pain is subdued, and swellings which otherwise would have gone on to suppuration are dissipated. Suction should be used early and no time lost with other means.

When an abscess has formed, it should, of course, be opened. Here the results of suction therapy are none the less gratifying. Pain is allayed, the extension of the suppuration is checked and the duration of the disease is shortened. Since the incision need only be small, extensive scar formation is obviated and mutilation of the breast thus avoided. The writer's own experience as well as a large literature bearing upon this subject afford conclusive evidence of the great advantage of this modern treatment over the old.

The procedure is very simple. The vacuum is produced in a glass globe or receiver, the aperture of which has a diameter of 12 to 15 cm., so that the whole or the greater part of the breast is covered. One to two daily sessions are held, each lasting about three-quarters of an hour, during which five suctions, each of five minutes duration and followed by three minutes rest, are made.

Care should be exercised to place the border of the receiver on healthy and never on inflamed parts of the breast, as the pain on suction would become unbearable; furthermore, the rarefaction of air should not be carried to excess. If, with a moderate vacuum, milk and pus should not be sufficiently evacuated, dry cups should be applied to the nipple and the incision after each session. These are also very convenient in the treatment of isolated, circumscribed abscess cavities. The daily sessions are to be continued until all inflammatory signs, viz., hardness, tenderness, and discharge of pus, have disappeared.

It is but natural that such good results arouse our curiosity with regard to the physiological effects of suction. There can be no doubt that suction withdraws the pus and milk in an effective manner; it diminishes the painful tension and establishes a free drainage by removing obnoxious material that obstructs the passage. But this is not the sole advantage, as suction had been used for the same purpose long ago and given up on account of failure. The curative effect lies in the hyperemia we produce through long-continued and methodical use of suction. Whether the hyperemia is active or passive, has been and still is the subject of an animated controversy. Bier has plausibly demonstrated that in the suction-therapy, both forms of hyperemia manifest themselves, but he lays stress upon the more important effect of venous stasis, which suction is likely to create. The various portions of the breast are not under the same condition; thus, the parts within the vacuum are freed from atmospheric pressure, which, however, is fully exerted on the adjacent parts outside of the receiver. The result would be an increased arterial influx with a retarded venous reflux.

Active hyperemia accelerates the circulation, stimulates the tissues by supplying more oxygen, nutritive material, leucocytes, etc.; passive hyperemia, on the other hand, retards circulation, produces serous exudations which dilute effete matter. The micro-organisms are retained and destroyed in their own products, etc. These are theoretical considerations which the reader may expand and improve as he sees fit. Many of these statements are not, however, merely speculative, but based on experiments. A perusal of the literature bearing upon the various effects of active and passive hyperemia upon localized infectious processes is both interesting and instructive. Hyperemia, generally speaking, may be produced by an elastic bandage or by suction; in the former, venous stasis is the principal, if not exclusive, agency; in the latter, both kinds of hyperemia become operative.

In determining the value of Bier's method, theoretical arguments avail less than practical results. It has proved excellent in a great variety of disorders, so that nearly every specialist is placed in a position to try the method and arrive at a conclusion as to its merits.

LEGISLATIVE NOTES.

By FRANK VAN FLEET, M.D.,

Chairman of the Committee on Legislation, of the Medical Society of the State of New York.

A LETTER from Boston, asking an opinion on two questions, was received recently. The questions are part of the argument used in Massachusetts by opticians who are anxious to secure legal recognition. As the same effort will be made in this State, these questions and answers will be interesting to our members, and are published in the hope that all the physicians in the State of New York will read them and do their utmost to defeat this iniquitious effort to secure special legislation. The questions are as follows:

1st.—Is it true that the practice of optometry involves a knowledge of optics? and

2d.—Are oculists required to qualify in optics before the Board of Registration in Medicine?

I would answer these questions as follows:

1st.—The practice of optometry, *i. e.*, "the determiing of the powers of vision," should involve not only a knowledge of optics, but also knowledge of much more than this, lest in "the adaption of lenses for the relief thereof" harm may be done. If to determine the power of vision is merely to ascertain how much one can see of the letters or figures on a chart placed at twenty feet from the person examined, and if the adaption of lenses for the relief of defects means to place successively before the eyes of the person so examined, numbered lenses taken from a tray, until the lens is found which gives the best vision, the examiner then declaring that lens No. 1 or 2, or whatever it may be, all the lenses being numbered, is the one the person requires because it is the lens which improves the vision the most, then a knowledge of optics is not necessary, nor is the possession of any knowledge or ability other than what may be called ordinary intelligence, necessary.

If to determine the powers of vision means the estimation of myopia, hypermetropia and astigmatism; the determination whether amblyopia is a congenital or an acquired defect, due to non-use or disease, or possibly to muscular spasms which can only be determined and relieved by the use of atropine or other drugs; whether muscular insufficiencies associated with defective powers of vision may be due to the latter, or to disease of the brain or spinal cord (locomotor ataxia and other affections) and so on through an almost endless series of conditions, then not only is a knowledge of optics necessary, but what is vastly more important and necessary, is the knowledge of anatomy, of physiology, of pathology and of drug therapeutics, else the absence of this knowledge may result in the loss of life to one whose defective power of vision may be due to curable brain tumors, diabetes, kidney disease and numerous other diseases, which may first manifest themselves in some apparently trifling defect in the powers of vision, or detachment of the retina, or glaucoma, which might be cured by a timely treatment, may go on until nothing can be done and ultimate and permanent blindness result, because the optometrist, whose knowledge is limited to optics, was not competent to estimate the value of symptoms and the relations of cause and effect. That such calamities occur frequently is a fact known to every physician who treats diseases of the eye, which you and I can bring cases to prove.

2d.—One of the requirements for beginning the course of education necessary to make one eligible to take the State Medical Examination in New York State, and in nearly every State in the United States, is evidence of a preliminary training equal to a High School course, which includes a knowledge of optics sufficient for all practical purposes in practising optometry. The State Medical requirements do not include examination in optics for this reason.

The fitting of glasses and the diagnosing and treatment of diseases of the eye are all taught in medical colleges. Extended time is not spent in the details of special practice in undergraduate medical schools for many reasons. It would be impossible to drill men in the details of all special lines of practice if it were desirable to do so, for the ordinary span of human life is too short. Indeed, if one could give the time to become theoretically proficient in all special lines, it would be of doubtful wisdom to do it, for experience has demonstrated that one cannot be proficient, from a practical standpoint, in more than one special line of practice.

In medical schools students are taught the fundamentals. They are instructed in the knowledge of the human body in health and disease, and in all that goes to make up a thoroughly rounded, competent, general practitionery of the healing art. No physician comes from the medical school an expert in special lines of work, whether it be in the treatment of diseases of women, of the skin, of the eyes, or of other parts of the body, but he has acquired knowledge, both in his preliminary and his medical course, which qualifies him, by continuing his study, to become expert in special lines, which would not be possible without this general preparation.

So our State Medical Examinations represent, not the highest ideal of professional proficiency, but the minimum knowledge it is safe to say one must possess to receive any privileges at all.

The doctor who desires to take any special line of work, as for instance, optometry, finds that his license to practice medicine is only the beginning of his work. Following his graduation, he either takes courses in the special hospitals, nearly all of which now have schools for graduates in medicine, or he becomes attached to some clinic where he gives his time in exchange for the knowledge he receives, and this makes him competent to care for affections of the eyes,

whether it be the treatment of disease or the fitting of lenses for the correction of defects of vision. If a State Examination is desirable now to test this man's ability to measure the powers of vision and to adapt lenses for the aid thereof, the same is true for men who desire to take up other special lines of work, as gynæcology, dermatology, syphilology, and so on. Doctors are sufficiently educated and examined nowadays, to practise medicine, which includes optometry and all other specialties, and the contention of the opticians is absurd, and born of their desire to secure the legal right to do what they really ought to be prohibited by law from doing. They do not believe that doctors are incompetent to practise optometry, else who do they insert in all their bills before the Legislatures in the various States a clause exempting physicians duly licensed to practise medicine? Either they do not believe their own argument, or else, so eager are they to secure legal recognition for themselves, that they are willing to allow the public to be exposed to the continued menace of physicians practising optometry.

No, Doctor, these arguments of the opticians are not put forward because of their intrinsic merit. They have but one purpose, and that is to mislead the members of the Legislature and the public at large. It is our bounden duty to meet and controvert these specious arguments, the propogation of which has already resulted in harm to the community.

For fear of being misunderstood, we have been inclined to stand behind a professional reserve which I do not believe is consistent with a function peculiarly ours—namely, that of public education.

We live in a time when people are demanding education, and if they cannot get it from us, they will get it from those whose knowledge is inaccurate, and this can only result in distress and misfortune.

I am glad to have your letter, and trust you and others will not hesitate to consult me, that I may also feel free to consult you.

Very truly yours,
FRANK VAN FLEET, *Chairman,*
Committee on Legislation.

Medical Society of the State of New York.

TO THE PROFESSION:

The Medical Society of the State of New York, at its Annual Meeting, held at Albany, January 27th, 28th, 29th and 30th, honored me with the position of Chairman of the Committee on Legislation. It is my purpose to establish headquarters at the office of the Society, No. 64 Madison Avenue, New York City.

I have always believed that any legislative action on the part of the State for the protection of the health of its people was in line with the function of the medical profession, and that the interests of the State and of our profession were identical. My effort in the past, as Chairman of this Committee, was to place before the Legislature of this State the concensus of opinion of the profession on all questions relating to public health, and I have always found the members of the Legislature patient and courteous in according us hearings, anxious to hear our opinions, and, as a rule, willing to be guided by our advice. I believe they will continue to accord to the medical profession, and its accredited representatives, the respect and consideration our efforts deserve; and to merit this, it shall be my earnest hope that we will be impersonal, dispassionate, and as unprejudiced in our appeals to the Legislature as becomes a dignified and learned body, whose prime motive is, as it always has been, the protection of the public health.

During the session of the Legislature, I shall endeavor, through the pages of the NEW YORK STATE JOURNAL OF MEDICINE, and, in other ways if necesary, to keep the profession informed of the progress of medical legislation, and I desire the members of the profession to feel that this office is constantly at their command, and that they need not hesitate to write the Chairman of this Committee at any time for information relating to our work. To this end, it is requested that the County Societies and their members will neither endorse nor oppose legislative action until they have consulted this Committee. In union is strength, and in a multitude of counsel there is wisdom, while on the other hand, independence of action begets confusion and antagonism, which may defeat the object we seek to obtain. Therefore, your aid, your co-operation and your advice, whether you are in official position or not, is solicited and earnestly requested.

Very truly yours,
FRANK VAN FLEET, *Chairman,*
Committee on Legislation.

In America new knowledge is applied to a lamentably small extent. We are a reproach to the civilized world, by our inattention to matters of public health and the prevention of disease. Can we conceive of our national government, if a Koch or a Pasteur should make his appearance in this country, calling him to Washington, giving him a laboratory and opportunities to confer inestimable benefits on mankind? Incredible! Under existing conditions our government would do nothing of the kind. Into whose hands has been placed hitherto the application of this knowledge in the administration of matters of public health? It has been in the hands, where it should be to a large extent, of the towns and cities of the state, but only to a small extent has that knowledge been applied in a systematic and intelligent way. The reason is because there is no national co-ordination, no national head in this matter to indicate in what direction money, which has been so wastefully applied in many instances, can be applied most effectively. In England every little town and city has a trained expert in matters of sanitation, one who has a diploma of doctor of public health, indicating that he has a knowledge beyond that of the average physician.—*Dr. William H. Welsh.*

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JAMES PETER WARBASSE, M.D.,
Editor.

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Further information on last advertising page.

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THE PRESIDENCY OF THE NEW YORK STATE SOCIETY.

OWING to the refusal of Dr. Edward L. Trudeau, of Saranac Lake, to act as president of the Medical Society of the State of New York, on account of ill health, under Section 2, of Chapter VI, of the By-Laws, the First Vice-President, in numerical order, Dr. Arthur G. Root, of Albany, becomes the President for the year 1908.

Editorials.

THE ANNUAL REPORTS TO THE NEW YORK STATE SOCIETY.

THE annual reports presented to the House of Delegates of the Medical Society of the State of New York at its last annual meeting are worthy of careful perusal. They show the prosperous condition of the Society and the large amount of work done during the year. The report of the Secretary calls attention to the development of the District Branch organizations and the importance of the office of Councilor or District Branch President, who can be of much assistance to the county societies in his district and who can bring a full knowledge of the needs of his district to the Council and to the House of Delegates. It is also to be noted that, while the State Society has a membership of 6,100, there are twice that number of licensed physicians in the State. Many of these are eligible for membership in their county societies, and should be members.

The Treasurer displays a balance-sheet which testifies to sound business management. The report of the Committee on Publication gives an idea of the financial relation of a medical journal to ethical advertising. The State Society of New York believes in being ethical but not arbitrary, as is shown in its action upon this report.

The Committee on Public Health presents a report which is deserving of especial notice. It recommends that the County diagnostic laboratories should be under the control of the State Department of Health with the view of making their work more uniform and simplifying their administration. It also recommends that the State make its own vaccine and antitoxins, furnishing them free or at cost price to those needing them. It is interesting to learn that the State is now making diphtheria antitoxin at one-tenth the cost at which that necessary remedy is furnished by private makers. There is much material for thought in the statement that seven-eighths of the deaths in the State are due to respiratory diseases together with the diarrheal diseases of children. Most of this represents preventable disease. The committee recommends that the State Society co-operate with the State Department of Health in securing a law compelling the reporting and registration of all cases of tuberculosis, in view of the fact that this disease can never be controlled until the State knows where the cases are. This report also deals with the relation of the State to tuberculosis in many of its phases.

The Counsel, in his report, shows that for the past two years, during the new régime, there has not been a dollar by way of verdict secured from any member who has asked for and received malpractice defense. This shows that the members of the State Society are well protected against this annoyance, and, moreover, that there are no malpractitioners among them. Each District Branch president presents a report which testifies to the healthy conditions of medical work in the eight districts of the State.

Several reports contain recommendations which display an alertness for the interests of the organization, and a general disposition to make the administration of its affairs as nearly perfect as possible.

THE PRACTICE OF MEDICINE BY CORPORATION PROHIBITED.

IN a country as old as ours the correction of more evils can be accomplished by the enforcement of laws already in existence than by the making of new laws. In many States the practice of medicine is rationally defined or interpreted by the courts. Within the past year New York State has adopted a law which embodies such a definition. The enforcement of this law would go a long way towards purging the State of the disgraceful exhibitions of quackery which the press spreads before the public and which deface the landscape.

The law is very clear. Section 15, Chapter 344, Laws of 1907, reads: "Any person not a registered physician who shall advertise to practice medicine shall be guilty of a misdemeanor." Now what is the meaning of "to practice medicine?" It is specifically defined in Section 1, Subdivision 7, of the same law, as follows:

> A person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity, or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition.

The newspapers are full of exhibitions of violations of this law. How many of the concerns holding themselves out as able to treat and cure human diseases have been registered and are recognized by the Regents of the University of the State of New York? The physician educates himself through an expenditure of much time and money, and the State proves his qualifications by an exacting examination, not only of his technical knowledge, but also of his preliminary education, and even inquires into his moral fitness, before he is allowed to practice medicine. On the other hand a man with neither medical knowledge, preliminary education or morals, may put together some combination of ingredients, and openly, and with the co-operation of the very press which should expose his fraud, hold himself out as able to treat and cure diseases and flaunt his misdemeanor daily before the eyes of the legislators who made the law which declares him a misdemeanant.

Such persons not only advertise to cure diseases with medicine, but all of the departments of medical practice are invaded by them. They hold themeselves out as able to treat diseases of the eyes and every other organ. They advertise to cure epilepsy, cancer, Bright's disease, rupture, without operation; syphilis, without mercury; stricture, without instruments; piles, without detention from business—all veritably without success. And who are they who hold themselves out as able to do these things? Mostly unregistered charlatans, for the suppression of whose crimes this law amply suffices.

Moreover, the press which acts as the accomplice of these malefactors is also guilty. Practically the only class of crime which the press is systematically hired to abett is that against the medical or public health laws. There is ground for excluding from the mails most of the newspapers published in New York State, but, when compared with those of other States, we are paralyzed with delight that they are no worse. It should not be lost sight of, however, that a newspaper can be just as guilty of aiding and abetting a crime as an individual can.

An important decision has recently been rendered by the Court of Special Sessions of New York in the case of the people against a certain corporation called the John H. Woodbury Dermatological Institute. This corporation claimed that it was not violating the law because the law specifies "person," and it, being a corporation, could not come under that definition. The case was prosecuted by the New York County Medical Society, the corporation convicted, and a motion to acquit denied.

This case is a step in the direction of freeing the State of this class of offenders against the health and morality of the people. The same legal principles which were applied here are with equal force applicable to those who advertise in public places and to those who make their claims by word of mouth.

Persons in this State who legally practice medicine must be registered physicians recognized by the Regents of the State of New York.

PUBLIC INFORMATION ON CONSUMPTION.

PUBLIC enlightenment is the next important step in the battle against tuberculosis.

The excellent work in the line of public instruction concerning consumption, which is being carried on in Baltimore, is illustrated by the new use to which street car transfers have been put. On the backs of certain transfers the following has been printed:

Consumption can be cured if taken in time. Do not neglect a cold, or such premonitory symptoms as slight cough, fever and loss of weight, but consult a good physician at once.

Consumption is contracted through the spit of consumptives.

Friends of Consumption—Dampness, dirt, darkness, drink.

Enemies of Consumption—Sunshine, cleanliness, fresh air, nourishing food.

An ounce of prevention is worth a pound of cure. Whether you have tuberculosis or not do not endanger the health of your family and friends by careless spitting.

NATIONAL VITAL STATISTICS.

WITHOUT accurately compiled statistics sanitary calculations become guesswork. The value of such statistics is of especial importance in determining the effects of diseases and other conditions upon the whole population. They furnish a judgment upon large numbers of people, while the best that knowledge otherwise could produce would be upon a few individuals. They furnish the measure of the vital phenomena of a population, the relation of birth-rate to death-rate, the prevalent diseases, their increase or diminution, their relation to climates and industrial conditions, and many other invaluable helps in safeguarding the well-being of the people. Long before hygiene and sanitary science had attained to any considerable degree of perfection the value of such statistics was well recognized. The several States of the Union are each devoting a certain amount of attention to this matter, but with indifferent co-operation with one another. Some of the States have applied admirable systems in this work, and others belong to what are known as non-registration areas.

Other civilized countries have vital statistics running back "beyond the memory of man," while the condition of registration in this country is a standing reproach. "In the United States the vital statistics are almost worthless," was said in a recent discussion before the Royal Statistical Society of England, and our statisticians know this to be true. The hopeful sign is that the number of States which are collecting health data of this sort is improving, and if to the natural tendencies of the time can be added some agitation along these lines we may hope for national vital statistics which will relieve us of the reproach we are now bearing. A national department of health would solve this matter, as it would a thousand other matters bearing upon the people's health, which are the proper duties of a progressive and efficient government.

THE ROYAL COMMISSION ON VIVISECTION.

A ROYAL Commission on Vivisection has been appointed in England and has been at work carrying on a thorough examination into this subject. The evidence taken in the enquiry is being published in book form* and offers interesting reading, and throws a light upon that deluded class who love their fellow-men so little that they would cause to be stopped the studies which are contributing so much to health and happiness. The enquiry shows that certain numbers of cats, dogs, guinea pigs, mice, rats, flies, mosquitoes, serpents, and amebæ are subjected to examinations during life and to a merciful death at the hands of men who in the interest of man are wresting from nature her secrets. The enquiry shows that the anti-vivisectionist would cause these beneficent observations to be stopped by act of law. It also shows that the anti-vivisectionists do not concern themselves with the fact that their feet are shod with the skins of animals; that where Great Britain mercifully destoys one creature in vivisection ten thousand are brutally slaughtered for the sake of their skins to deck the vanity of men and women; that all male cattle and horses not preserved for breeding purposes are subjected to the mutilating operation of castration; that the shooting and mutilating of deer, rabbits, birds and other game is one of the common practices against which the anti-vivisectionists urge no law; and that finally those unfortunate people base their contentions upon a mawkish sentimentality and that they are notoriously ignorant of the nature of the practices which they essay to prevent.

"A surgeon may ask for an operation for appendicitis as large a fee as his patient is willing to pay, but should he after years of research discover a method of preventing appendicitis altogether, he would receive no payment at all, but would, on the contrary, give up all future fees for the operation."—*J. McKeen Cattell.*

*London: Printed by Wyman & Son, 1907.

There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only to be marveled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race.—*Robert Louis Stevenson, Preface to Underwoods.*

Medical Society of the State of New York.

ANNUAL REPORTS.

REPORT OF THE PRESIDENT.

To the Members of the House of Delegates of the Medical Society of the State of New York.

Gentlemen:

It appears to be the purpose of the organic law of the Society that, in common with other officers, the President shall make a report to you. I shall take advantage of the opportunity, in fewest words and without intruding on the detailed reports of others, to offer such comments and recommendations as have come to me along the course of my executive service and seem worthy of your consideration.

The chief event of the year has been putting on the Statute book of the State the new law regulating the Practice of Medicine. This is the culmination of what this Society has for more than a quarter of a century worked for. No one will realize except those who have had a hand in it, and they have been many, what labor it has cost, the history of which would make a long story. The medical profession owes this Society its deep obligation for securing what is of wide significance, and the Society to its Legislative Committee, especially to the Chairman, Dr. Root, an appreciation of the sagacity and zeal which has had so worthy an outcome. They have had some most competent helpers, but I will leave it to them to tell who have helped them and who have hindered them and who have passed them by.

The Optometry Bill again appeared and failed of passage only through the veto of Governor Hughes, to whom all honor. That it will be revived is to be anticipated. Legislative conditions in all directions were never so good as they are at the present time for us, though work ahead remains, which will demand earnest effort.

The profession of this State should appreciate the worthy work this Society is effectively doing for the members in its malpractice defense work. This organization has no purpose to forestall the ends of justice, but everyone concedes that most of the suits against physicians are malicious. Some such have come under my own observation this year and have happily won out. Behind every member so prosecuted stands our banded force and the knowledge of this of itself is for our protection. Admirable work has been done for the Society by Mr. James Taylor Lewis, our counsel.

To win to membership all good practitioners throughout the State is commended to the County Societies. A general invitation has gone out, by direction of the Council, to all the profession to attend this annual meeting with an indication of the advantages of membership; and it will doubtless do much to make membership seem essential; but it is the County Society which can best do this direct work. We need and desire no help from outside. Every good man in the State should be in membership, and every unworthy one dropped from it. Let us never forget that the primary purpose for which our organized being came into existence one hundred years ago was to bring together all reputable men in the profession, and to draw a sharp line between them and the unworthy.

I am glad to feel justified in saying that there has been a marked increase in activity and interest this year in many of the County Medical Societies. They have had good meetings, at some of which I have been present. There has been an interchange between them of contributors, and I consider this comity of relations most commendable. The well being of the County Societies is fundamental to our organized existence, and I believe there are yet new and fresh ways in which they can be enriched.

The initial meetings of the District Branch Societies were held this year. I was present at some of these meetings. They drew together from 50 to 200 members. This work was well inaugurated.

It has been an ambition of my own to effect some sort of union between these new societies and certain well established medical bodies, covering similar areas of territory, having similar purposes and meeting at the same time of the year. Co-operation between them is better than competition. It is not necessary that either should lose its autonomy, but it is feasible that they combine their scientific meeting which constitute the main purpose of each. Such a plan has, I think, been practically effected between the Fourth District Society and the Medical Society of Northern New York, covering practically the same area.

The Central New York Medical Association covers parts or all of our Fifth, Sixth, Seventh and Eighth Districts, holding its meetings in turn within their respective territories. If the Branch Society in which it meets should combine with the Association to hold a joint meeting, this would meet my proposition with regard to this organization, each holding its own business session separately, for in this there need be no conflict. Similar procedure might be taken, I should think, between the Associated Physicians of Long Island and the Second District Society. In the multitude of medical organizations, each with its separate purpose, a new one must have a good cause for being to secure a permanent foothold. Ours, a part of the system that takes in the State and Nation, would not come with empty hands to some alliance with the established bodies.

I would recommend that the House of Delegates encourage and approve of such combination as may fit each case between the District Branch Societies and the Associations occupying their territory.

The divisions of the Districts of the Branch Societies along the lines of the Judicial Districts of the State, in the course of a year's experience, appears not always a happy one in that some have inaccessibly related areas; it would be well if each included only territory readily accessible from all points by established lines of travel. Whether a betterment could be effected I cannot say, but it may be worth an investigation, if thought well by a committee for the purpose.

My attention has been called by Dr. D. H. Murray, of Syracuse, to a movement toward correcting the evils of the present system of Medico Legal Expert testimony. He is chairman of a committee of another society on this subject and has sent me letters indicating that the subject will be given earnest consideration by the State Bar Association. This Society is no less interested. The evils are sufficiently conspicuous from our point of view to need no comment. With the co-operation of the State Bar Association a reform can doubtless be effected. I recommend that a committee be appointed to this end. At the meeting last week, a committee was appointed by the State Bar Association for this purpose, and it is expected to work in conjunction with one from this body.

As long as each year has a quota of unnecessary blindness due to ophthalmia neonatorum, the subject cannot grow trite, nor our obligation cease. A committee on ophthalmia neonatorum of the American Medical Association, the chairman of which is Dr. F. Park Lewis, of this Society, send me a communication which sets forth the need of continued work in this direction, and the facts given make this apparent. I would urge on the members to support measures to wipe out this disease, and recommend that a committee be appointed to act with the one referred to on the part of this Society.

A vacancy occurred during the year in the National Legislative Council of the American Medical Association, which consists of one member from each State appointed by the President, I have appointed to this position Dr. Myer L. Rhein, of New York City.

The Council on Medical Education of the American Medical Association sends a request that this Society be represented at an annual congress to be held in Chicago, April 13th next. I would leave it to the House of Delegates to determine regarding this.

During the year a history of the Medical Society of the State of New York for its hundred years, by Dr. James J. Walsh, appointed for the purpose, has been published serially in the JOURNAL, and now in completed form as a bound volume is offered for sale at a moderate price. We are proud of the age and accomplishments of our Society, and it will appeal to all of us as desirable to possess this record of it.

Under the old order membership in the County Society was independent of connection with the State Society; indeed in early years it was legally obligatory to join the County Societies, and the State Society was but a body of delegates from them. To many, the State Society was a remote institution. With a condition so long established, the inevitable question has arisen on the part of some, as the new organization requiring a combined membership and the necessary payment of larger dues has come into effect, as to the propriety of this demand and asking for membership in the County Society alone. I have appreciated from the first that this question would arise, and that there would very likely be some good men on whom the hold of organized professional association would not be strong enough for them to yield to the newly established order. It will be a test of the present system if any considerable number prefer to so ostracise themselves, for it is not well that such a condition should exist. It is certain that there is now no provision for compliance with this demand for membership in the County Society independent of membership in the State Society, nor do I see so far that it would be wise to make one. A consolidated profession of the whole State ought to mean enough to bring into it all good men. You, as the executive body, should see that adequate compensation for membership, with cost as little burdensome as possible, should be effected. The new order is yet young, its hold on the profession although not complete is extending, and with wise management its acceptance by all is to be anticipated.

For a century this Society has held its annual meeting at this season, and in this city. Without anticipating the report of the special committee on this matter to be made at this meeting, I reiterate the often expressed opinion that the season is the worst in the year for the annual meeting since it is the busiest for members, and the place, while central to population is remote from the geographical centre, and many seldom reach it, besides being full of other interests at this time of the year. Is a permanent meeting place desirable? In other States mostly the meeting is carried about the State, to different sections in turn. Albany appreciates its favor, but is often embarrassed to care for all that come in fitting manner. One effective meeting in the year, held in the fall, and at various points, will I believe, best serve the interests of the Society. This in my opinion should be the Annual Meeting; two general meetings of this body are undesirable from any point of view.

During the year 102 of our members have passed away. Their names are recorded in an *In Memoriam* page of our Annual Directory. Among them are those long familiar as faithful secretaries of County Societies, and one of an

ex-President of this Society, Dr. Seneca D. Powell, whose genial presence and good service is a pleasant memory. In unobtrusive life, or conspicuous, the noted editor, the leading specialist, the faithful practitioner, alike they have filled out their goodly life and have now passed out of the light of common day. Let us rejoice in the good work of every associate that has kept us company, and in our way preserve their memory.

Gentlemen, I have no further comment to make except to express to you my appreciation of the honor you did me a year ago. I have held my office with misgiving, but as far as I know have left nothing of which I am capable undone in meeting its obligations. Since 1889 I have been in the active service of the Society, and in all the years I have found abundant satisfaction, and in this last one most of all, by the goodness of many prized friends who have shown me partiality in their help, the appreciative co-operation of the officers, committees, and you all. I will say for myself and my associates that so far as our intentions went we have deserved your goodwill, though your goodness may have exceeded our deserts.

May it be the good fortune of my successors to have like loyalty, and may prosperity ever attend in its good work the Medical Society of the State of New York.

FREDERIC C. CURTIS, *President.*

REPORT OF THE SECRETARY.

To the House of Delegates:

In compliance with Section 3, Chapter VI, of the By-Laws, the Secretary begs leave to submit the following report for the year ending December 31, 1907:

STATISTICS.

Membership January 21, 1907		5,857
Deaths during 1907	102	
Resignations during 1907	50	
Removals during 1907	7	
Expulsion during 1907	1	
		160
		5,697
New and reinstated members, January 21, 1907, to December 31, 1907		626
Membership, December 31, 1907		6,323
Paid-up membership from Treasurer's Report, December 31, 1907		5,980
Dropped for non-payment of dues, December 31, 1907		343
Percentage of paid-up membership, December 31, 1907		94.5%

It can be asserted without fear of contradiction that no State Society can show better results. It is also very gratifying to be able to report that the membership on January 15, 1908, exceeds that of January 21, 1907, by nearly 300. Of the delinquents, a few will pay later, but as was stated last year, "in so large an organization of any description there will always be a certain percentage who will fail to pay their dues."

In this connection, it seems only proper that special mention should be made of those County Societies whose membership for 1907 is fully paid up. The list is as follows: Cayuga, Chautauqua, Chemung, Columbia, Delaware, Dutchess, Genesee, Ontario, Orleans, Rockland, Saratoga, Schenectady, Sullivan, Warren and Washington.

District Branch and County Societies.

During the past year the Secretary had the pleasure of being present at all the District Branch meetings except the second, where the Society was represented by the First Vice-President. The meetings were well attended, the scientific work was of a high character, and the general feeling of those present was that these meetings would do much in the future to increase the interest in the County Societies and prove of great scientific value to all. As the State Society pays all the expenses of the meeting, it really means that nine meetings were held under the auspices of the parent body, although it did not interfere with the local details.

The full benefit of the District Branch organization to the profession has not yet been reached, because the system is new in this State and not thoroughly understood. The value of the Councilor or District Branch President in promoting the best interests of the County Societies in his district should be very great. As he is elected by the different counties comprising the district, he is aware of local needs, of local conditions, and of what should or should not be attempted. As a State officer, his influence is not only of benefit to the local societies, but to the State organization, and his presence at the Council and House of Delegates meetings will bring the local societies in closer touch with the parent body and enable it to more wisely direct its efforts towards the improvement of the profession in all parts of the State.

The presence of the Councilor at the annual meetings of the County Societies should also prove a great stimulus, and it may be here noted that, through the personal efforts of one Councilor during the past year, a County Society had over thirty new men proposed for membership.

Reference to the JOURNAL each month will show what is being done at the scientific meetings of the Branch and County Societies, and it is to be hoped that in the coming year all the County Societies will regularly send their programs for publication.

The Medical Society of the State of New York has a membership in excess of 6,000, and there are, according to Volume IX of the Medical Directory of New York, New Jersey and Connecticut, 12,168 physicians in the State. Many of these are eligible, and a determined effort to increase the membership of the County Societies should be made from now on. If each member would induce some friend who is not a member to join, in another year a great change would be shown in the Statistical Report of the Secretary. The advantages of membership are great, and with the increased membership the Society would do more efficient work in many ways than it is doing to-day.

Registration of Physicians.

Earnest efforts have been made during the past year to secure the registration of those physicians who were not registered. Many have complied with the law, but there still remain unregistered fifty-six. Most of these are men who have retired from practice on account of age, or because they are interested in life insurance or other business. They see no necessity for complying with the law, and probably will never register. A very small number, however, refuse to obey the law, and practise in defiance of it.

If the County Societies in the future will see that registration is properly kept up in their respective counties, the unregistered list will disappear.

As showing the value of the certified County Clerks' lists in the possession of this Society, it may be noted that early in 1907 the County Court House, containing the records of Columbia County, was burned, and all registrations destroyed. It would have been impossible for this County to have made a new list, although at great expense and effort it might have made a partial list. With no expense to the County of Columbia, this Society was able to send it, within twenty-four hours after they had been notified of the loss, a complete and perfect list of the registrations on file in the County Clerk's office, from the date of the enactment of the law of 1880.

County Societies Annual Meetings.

Of the Fifty-eight County Medical Societies in the State, there are fifteen that hold their meetings at different dates in January, the latest being the County of Kings, holding its meeting on the third Tuesday—this year January 21st. It would seem very desirable to have the dates of these meetings changed to sometime in December or earlier, in order that the delegates to the State Society and the new officers of the County Societies may assume office on January 1st, as is done in the other forty-three counties. With the new delegates elected at various times in January, it is most difficult to have them all notified of the State meeting, and men elected within less than a week of the time of the meeting in Albany, cannot always so arrange their affairs as to be present. Even if the County Secretaries promptly notified the State Secretary of the names of the new delegates, it is impossible to send them notice of the meeting ten days in advance of the meeting, as is required by the By-Laws for proposed amendments, when the election occurs only six days before that time.

County Secretaries are also required, Chapter IX, Section 6, to forward a copy of the roster of officers and members, lists of delegates and of other registered physicians of the County thirty days before the Annual Meeting, and this cannot be done when the meetings are held in January.

It is to be hoped that these changes will all be made before the next Annual Meeting, so as to avoid any further complications or conflicts between the State and County By-Laws.

Delegates to the American Medical Association.

Book II, Chapter IV, Section 1, of the By-Laws of the American Medical Association, reads as follows:

"Delegates must have been members of the American Medical Association two years. No one shall serve as a member of the House of Delegates who has not been a member of the American Medical Association for at least two years." As less than one-half of the members of the State Society are members of the American Medical Association, it is desirable that those who are not already members should join the National organization if they desire in the future to become representatives in its House of Delegates. Upon application to the Secretary of the State Society, any member in good standing in the State can have the necessary blank filled out, which will insure his name being placed on the roll of membership of the American Medical Association.

The importance of the National organization is growing from year to year, and it is very desirable that the Medical Society of the State of New York, and through it the profession of the Empire State, be fully represented at the Annual Meeting. It is a pleasure to report that at the last Annual Meeting, held in Atlantic City, the full quota of eleven delegates was present, three alternates representing absent delegates.

As the meetings are held in various parts of the United States and last for five days, it follows that the delegates must be absent from home at least a week and often for a longer time. It would therefore seem proper that the Society pay the traveling expenses of its delegates. This might enable some to serve who at present hesitate to accept the nomination on account of the feeling that they cannot afford to be away from home two years in succession for over a week, and pay all their own expenses.

Delegates to Other State Societies.

It would seem desirable that this Society should be represented by delegates at the annual meetings of the Societies in the States adjoining it. The present plan of issuing credentials to those who apply for them does not always produce this result. The Secretary would suggest that the President be requested to name delegates to such Societies, and also permit members who attend the meetings and desire credentials, to have them, as at present is the custom.

State Board of Medical Examiners.

The reports formerly made to this Society by the State Board of Medical Examiners will in the future, in accordance with the laws of 1907, be found in the Annual Report of the Commissioner of Education of the State of New York. An abstract relating to medical matters will be published. This can be secured by those members desiring it upon application to the Secretary of the Board of Examiners, Dr. M. J. Lewi, 1133 Broadway, New York City.

In conclusion, the Secretary begs to extend his sincere thanks to the officers and members of the State and County societies for valuable assistance rendered during the past year.

Respectfully submitted,
(Signed) WISNER R. TOWNSEND,
Secretary.

December 31, 1907.

REPORT OF THE COMMITTEE ON LEGISLATION.

To the House of Delegates:

The following is a brief summary of the legislation affecting medical interests, introduced in the Legislature at Albany during the session of 1907:

In all, sixty-four bills were introduced, of which number eighteen have become laws.

Of the sixty-four, twenty-one were general medical bills of which mention will be made later. Of these, fifteen died in Committee, four became laws, and two did not receive the Governor's signature.

Three of the sixty-four were so-called ice-bills, referring to the gathering and sale of ice from polluted sources. All these bills died in Committee.

Eight of the sixty-four were labor bills. Those are bills which affect the health of factory children and working women, and general hygienic care of the working classes. Of this number, two died in Committee; six became laws.

Seven of the sixty-four had reference to tenement house legislation in New York City. Bills included under this head have to do with the hygienic construction and welfare of the tenement house and its occupants Five died in Committee and two were signed by the Governor.

Twenty-five of the sixty-four were bills relating to pharmacy, the sale of drugs, poisons, cocaine, etc. Of these eighteen died in Committee; seven became laws.

A few of the twenty-one bills mentioned above are:

The anti-vivisection bill, which died in Committee.

A bill to prevent the practice of Christian Science, which died in Committee.

The incorporation of the Health Defense League, which died in Committee.

The osteopathic bill, and the masso-therapy bills, both of which died in Committee

The anti-vaccination bill; died in Committee.

The bills of greatest prominence, and which the Legislative Committee have taken the most interest in are:

The so-called Medical Unity or One-Board bill, which passed both Houses and was signed by the Governor. This bill was the subject of many controversies, and was amended and reprinted seven different times.

The other bill is the optometry bill, which by nefarious juggling on the part of the introducer and other members of the Legislature, passed both Houses with simply a nominal hearing, and reached the Governor, in whose hands it was vetoed.

As an example of the legislative methods employed in passing the optometry bill, the following dates will be of interest: This bill passed the Assembly on April 23d; it was received in the Senate on April 24th, and was favorably reported by the Public Health Committee on April 25th. A hearing was requested of the Chairman of the Public Health Committee of the Senate, who ignored our request.

Respectfully submitted,
(Signed) ARTHUR G. ROOT, *Chairman,*
Committee on Legislation.

December 31, 1907.

REPORT OF THE COMMITTEE ON PRIZE ESSAYS.

To the House of Delegates:

The Committee on Prize Essays respectfully reports to the House of Delegates that there have been no essays presented during the past year.

(Signed) ABRAHAM JACOBI,
Chairman.

December 31, 1907.

REPORT OF TREASURER.

ALEXANDER LAMBERT, *Treasurer*, In Account with THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

DR. CR.

CASH RECEIPTS, year ending December 31, 1907.

To Balance, January 1, 1907		$5,328.19
" Directory, 1906	$721.50	
" Directory, 1907	1,984.50	
" Clerical Work	350.42	
" Interest on Deposits	140.34	
" Sundry Receipts	181.57	
" Advertising	4,140.79	
" Annual Dues, 1907	17,950.00	
" Dues, 1906	915.00	
" " 1908	291.00	
		$26,675.12
		$32,003.31

CASH PAYMENTS, year ending December 31, 1907.

By Annual Dues, Overpayments		$45.40
Addressograph		532.69
Travelling Expenses, members of the Council		202.66
Accountant		200.00
Carfares		40.10
Express		43.97
Treasurer's Bond		25.00
Typewriter Exchange		46.88
Sundry Petty Cash Disbursements		243.58
Telephone		140.65
Stationery and Printing		154.42
Postage		595.48
Rent		500.00
Insurance		44.00
Committee on Legislation		892.67
Legal Expenses		3,000.00
1906 Directory		631.92
1907 Directory		9,413.92
JOURNAL Expense		205.12
" Salaries		628.67
" Commission		300.09
" Publication		7,266.50
District Branches		392.90
Clerical Work		277.62
Salaries		1,008.00
Sundries		5.25
Annual Meeting		376.94
		$27,214.43
Balance in Second National Bank		4,788.88
		$32,003.31

ANNUAL DUES, 1907.

County.	Am't. Paid	County.	Am't. Paid.
Albany	$456.00	Oneida	$423.00
Allegany	127.00	Onondaga	432.00
Broome	180.00	Ontario	192.00
Cattaraugus	127.50	Orange	234.00
Cayuga	162.00	Orleans	60.00
Chautauqua	204.00	Oswego	156.00
Chemung	132.00	Otsego	108.00
Chenango	93.00	Rensselaer	225.00
Clinton	120.00	Richmond	138.00
Columbia	33.00	Rockland	87.00
Cortland	78.00	St. Lawrence	177.00
Delaware	78.00	Saratoga	135.00
Dutchess	264.00	Schenectady	240.00
Erie	612.00	Schoharie	45.00
Franklin	93.00	Schuyler	51.00
Fulton	108.00	Seneca	75.00
Genesee	108.00	Steuben	153.00
Greene	75.00	Suffolk	201.00
Herkimer	138.00	Sullivan	63.00
Jefferson	195.00	Tioga	81.00
Kings	2,166.00	Tompkins	108.00
Lewis	48.00	Ulster	150.00
Livingston	114.00	Warren	66.00
Madison	129.00	Washington	99.00
Monroe	681.00	Wayne	96.00
Montgomery	114.00	Westchester	447.00
Queens-Nassau	303.00	Wyoming	87.00
New York	6,499.50	Yates	39.00
Niagara	144.00		
Total	$17,950.00		

ADVANCE DUES, 1908.

Columbia	$72.00	Schoharie	$3.00
Chautauqua	9.00	Schuyler	3.00
Cayuga	3.00	Steuben	15.00
Herkimer	21.00	Ulster	39.00
Orleans	9.00	Wayne	6.00
Onondaga	99.00	Wyoming	3.00
Queens-Nassau	9.00		
Total	$291.00		

DIRECTORY ACCOUNT, 1907.

Expenditures.

Postage	$219.00	
Stationery and Printing	253.16	
Delivery	1,064.37	
County Clerk's fees	28.70	
Salaries	2,396.25	
Printing and Binding Directory	5,451.44	
		$9,412.92

Income.

Advertisements	$1,412.50	
Sales	1,164.50	
		2,577.00
Cost of Directory		$6,835.92

REPORT OF TREASURER.

ALEXANDER LAMBERT, *Treasurer*, In Account with THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

DR. CR.

INCOME AND EXPENDITURES, YEAR ENDING DECEMBER 31, 1907.

Income.

Arrears of Dues	$907.10	
Dues, 1907	18,074.00	
Interest on Deposits	140.34	
Clerical Work	72.80	
Deficit	1,287.37	
		$20,481.61

Expenditures.

Expense	$801.31	
Telephone	140.65	
Stationery and Printing	154.42	
Postage	595.48	
Rent	500.00	
Insurance	44.00	
Salaries	1,008.00	
Committee on Legislation	892.67	
Legal Expenses	3,000.00	
Annual Meeting	391.94	
1906 Directory	440.55	
1907 Directory	6,835.92	
District Branches	392.90	
Depreciation, Furniture & Fixtures	214.69	
JOURNAL, Profit and Loss	5,069.08	
		$20,481.61

JOURNAL ACCOUNT, YEAR 1907

Expenditures.

Publication	$6,840.79	
Expenses	273.12	
Salaries	712.00	
Commission	1,218.45	
Discount	31.08	
		$9,075.44

Income.

Advertising	$7,213.77	
Interest, Home Trust Company	1.88	
Subs., Sales, etc	8.40	
		7,224.05
		$1,851.39

Loss, 1907.

Bads Debts charged off	$452.93	
Doubtful Debts charged off	500.00	
		952.93
		$2,804.32
Less Doubtful Debts, 1905 and 1906 paid		55.00
		$2,749.32
*Loss last nine months, 1906		2,319.76
Total charged off		$5,069.08

Loss first three months of 1906 was charged to Surplus in Report for 1906 ..... $504.59

*The loss on the JOURNAL for the year 1906 was, in the last year's report, placed as an asset, because of the belief of those in authority at the time that the JOURNAL of 1907 would show a profit and that this could be charged against the loss for that year. Owing to the Rules adopted by the House of Delegates restricting advertisements. and to the financial condition of the last few months, it has been found that the JOURNAL cannot be run at a profit at present. Therefore, it has been charged off.

BALANCE SHEET, DECEMBER 31, 1907.

Assets.

Cash in Bank	$4,788.88	
Petty	.95	
		$4,789.83
Accounts Receivable		2,126.72
Furniture and Fixtures	$1,000.00	
Directory Catalogue	3,000.00	
		$4,000.00
Directory, 1907		600.00
Union Dime Savings Bank	$55.49	
Albany Savings Bank	276.99	
*Title G. and T. Co., Mtg. Ctf	2,000.00	
		2,332.48
		$13,849.03

Liabilities.

Annual Dues, 1908	$291.00	
Accounts Payable	8.25	
Doubtful Debts Reserve	500.00	
Lucien Howe Prize Fund. $1,555.11		
Merritt H. Cash Prize Fund	777.37	
		2,332.48
Surplus Jan. 1, 1907	15,509.26	
Less Library	3,000.00	
JOURNAL, Old Acct.	504.59	
Deficit, 1907	1,287.37	
	4,791.96	
Surplus Dec. 31, 1907	10,717.30	
		$13,849.03

I hereby certify that the above Balance Sheet is correct, as shown by the books.

A. H. WICKS,
Certified Public Accountant,
302 Broadway, New York.

*Two thousand dollars has been withdrawn from the Savings Bank account and invested in the Title Guarantee and Trust Company, guaranteed mortgage, at four and one-half per cent., thus giving a larger return.

REPORT OF THE COUNCIL.

To the House of Delegates:

The Committee appointed at the meeting of the Council of the Medical Society of the State of New York, held in Albany, December 14, 1907, begs leave to make the following report:

The Council during the year has held three meetings:

January 30, 1907, the Minutes of which will be found in the NEW YORK STATE JOURNAL OF MEDICINE, issue of February, 1907, page 83.

March 26th, 1907, the Minutes of which will be found in the JOURNAL, issue of May, 1907, page 209.

December 14, 1907, the Minutes of which have not yet been approved, but will be published in the JOURNAL, issue of February, 1908.

The cost of JOURNAL for 1907 was $1,851.39, in addition to $952.93, to be charged off for bad and doubtful debts.

The cost of Directory for 1907 was $6,835.92.

Number of Directories on hand at the present time, 378.

We have examined and counted the securities of the Medical Society of the State of New York, and find them as represented on the books as of December 31, 1907.

We also had the accounts of the Treasurer for the fiscal year ending December 31, 1907, examined and checked by Mr. A. H. Wicks, certified public accountant, and have seen his certificate certifying to their correctness.

In accordance with the resolution of the Council, we submit herewith the report of the Committee on Publication and recommendations for amendments to the By-Laws approved by the Council.

New York, January 11, 1908.

(Signed) JULIUS C. BIERWIRTH,
Chairman.
JNO. L. HEFFRON.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS RECOMMENDED BY THE COUNCIL.

Amend the Constitution, Article III, by adding a new Section, 2, to read as follows:

"All officers shall assume office at the close of the Annual Meeting of the Society."

Section 2, Article III, of the present Constitution, will then become Section 3.

Amend the By-Laws, Chapter IV, Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society under its control.

Amend the By-Laws, Chapter IV, Section 1, by striking out Section 1, and substituting therefor the following:

Section 1. The Council shall meet at the close of the annual session of the Society, to organize and outline the work for the ensuing year.

It shall meet once during the months of May and December for each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

And by adding:

Sec. 2. Seven members shall constitute a quorum.

Section 2 then becomes Section 3, and Section 3 then becomes Section 4.

Amend the By-Laws by adding to Chapter VII, Section 1, after the words, "A Committee on Arrangements" the words "A Committee on Publication," and a section to read as follows:

Section 6. The Committee on Publication shall consist of five members: The Secretary and Treasurer of the Society and three other members. The members of the Committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this By-Law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the Annual Meeting of the Society, the Committee shall select one of its members to act as Chairman and he shall serve for one year or until his successor is elected. The Chairman of the Committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source, shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

REPORT OF THE COMMITTEE ON PUBLICATION OF THE COUNCIL

To the Council:

At a meeting of the Council held in Albany January 30, 1907, a Committee on Publication was appointed, consisting of the First Vice-President, Dr. J. C. Bierwirth, the Treasurer, Dr. A. Lambert, and the Secretary, Dr. W. R. Townsend.

The Committee during the year has held fifteen formal meetings, and any subject requiring immediate decision between meetings has always been referred to all the members before action was taken. It is a pleasure to report that every decision has been unanimous.

In compliance with the resolution passed by the Council, at a meeting held on March 26th in Albany, the Committee appointed Dr. J. P. Warbasse Editor for the ensuing year.

As the headquarters of the Society were established at 64 Madison Avenue, New York City, it was deemed advisable to concentrate all the work of the Society there, and accordingly the JOURNAL office was moved from 1313 Bedford Avenue, Brooklyn, on April 1, 1907, to the New York office. While this removal has increased the expense of the Society in the matter of postage about $220 a year, the item of advertising commissions for the ensuing year will show a saving to the Society of an amount considerably in excess of the postage increase, and this saving could not have been made without such removal. The Post Office authorities were seen with a view of having the JOURNAL mailed from Brooklyn after the change of office, but refused to permit it, and the Committee was therefore obliged to incur the extra expense. The regulations of the Post Office Department require full letter postage on all JOURNALS mailed to subscribers living in the city where the JOURNAL has its principal office, and allow the pound rate only on JOURNALS mailed to those living in other places. According to the postal regulations Brooklyn and New York are distinct and separate cities, and although the JOURNAL is printed in Brooklyn, it must be mailed from New York City.

Among other advantages of having the work of the JOURNAL done in the main office, is that the mailing lists are directly under control of the office force, corrections can be made up to the last minute each month and errors promptly corrected. The advertisers deal directly with the main office and correspondence and accounts are directly under the supervision of the Committee.

Books, periodicals, etc., received in exchange, can be promptly acknowledged as they are received, and corrected lists of the same kept on file for future reference.

To care for the increased work of doing its own addressing of JOURNALS, an addressographing machine was purchased at a cost of $532.69. With the aid of this machine the expense of addressing the JOURNAL wrappers, directory cards, Society notices, etc., will be largely diminished, and the results already shown are very gratifying.

The House of Delegates of the Medical Society of the State of New York, at a meeting held in Albany, January 28, 1907, adopted the following rules for the information of those in charge of the Society publications:

1. The name and amount of the active ingredients of all external and internal proprietary medicines advertised in the JOURNAL and Directory of the Society shall be published to the profession either upon the label or the wrapper, and also at least once in the JOURNAL or the Directory, provided, however, that the date of the JOURNAL or Directory bearing the formulas shall be plainly stated in connection with these special advertisements in each subsequent issue of the JOURNAL.

2. All patented medicines (which under the law must be new and useful definite chemical compounds, of known formula, or process of manufacture, and which are accessible to any one) are acceptable as advertisements under the same conditions as open formulas. Provided, however, that the patent numbers of such medicines shall be published with the advertisements of each issue of the JOURNAL or Directory.

3. All internal and external secret pharmaceutical mixtures and secret synthetics (where the processes of manufacture are not divulged) shall be classed as nostrums and the advertisements therefore shall not be accepted for publication.

4. All internal and external remedies which are advertised to the general public in an extraordinary or deceptive manner and those containing dangerous and potent drugs, shall be refused publication in the JOURNAL or Directory.

The Committee has endeavored faithfully to carry out these instructions and as a result has refused many offers of advertisers; has not renewed those advertisements that did not conform to the rules; and has not solicited any advertising for either the JOURNAL or the Directory that could not be accepted. This has resulted in a considerable diminution in revenue, despite the fact that every possible effort has been made to secure other advertising matter that could be accepted. A review of the two leading independent Medical Journals of New York State shows that at the present time they are carrying approximately fifteen pages of advertising matter that the rules of the House of Delegates prohibit our solicitors applying for, and while it is not to be supposed that they could secure all of it, yet your Committee believes that the loss in revenue to the JOURNAL and Directory from carrying out the policy advocated by the House of Delegates is, at a low estimate, $3,000 a year.

Owing to the disturbed financial condition of the past few months it has been very difficult to secure either new advertisers or the renewal of those already in the JOURNAL. Some who have discontinued have stated that they "hoped to renew in April or May," or that "if times improved they would again use the JOURNAL," etc. Collections for advertising have also been very slow and the bills receivable are unusually large, but the great majority are considered perfectly good. The prospects for an increase in revenue from advertising are not good at present, and the deficit for the year 1908 will undoubtedly be somewhat in excess of that for 1907.

At a meeting of the House of Delegates of the American Medical Association, held in Atlantic City on June 6, 1907, the following resolutions were passed:

WHEREAS, The Council on Pharmacy and Chemistry, after examining many hundreds of preparations, has officially announced its approval of a large number of such preparations; and

WHEREAS, We believe that the editors of many medical journals in this country, both official organs of State Associations and privately-owned journals, are desirous of co-operating in the work of freeing the medical profession from the nostrum control; therefore be it

Resolved, That this Association most earnestly requests all medical journals to refuse to aid in promoting the sale of preparations which have not been approved by the Council, by refusing advertising space to such preparations; and be it further

Resolved, That we most earnestly request the moral and financial support of our members for those medical journals, whether privately owned or controlled by medical organizations, which disregard commercialism and stand firm for honesty and right dealing, thus sustaining the Council in its greatest work for the medical profession.

Your Committee has taken no action on these resolutions, as they were informed by the attorney of the Society that they had no authority to do so, but must carry out the instructions of the House of Delegates of the Medical Society of the State of New York, which has been done.

The cost of the publications of the Society will be given in full in the report of the Treasurer, but cannot be known accurately until after the books are closed on December 31st. The net loss in the publication of the JOURNAL is, however, less than it was in 1906. A monthly edition of 7,000 copies is now printed.

At the suggestion of the Editor, and with the full approval of the Committee, the articles by Doctor Walsh, relating to the History of the Society, were kept standing, and it is proposed to issue them in book form in an attractive binding, at the low cost of $1.00 a volume. Of course this is only made possible by the fact that the original cost of setting up the articles was borne by the JOURNAL. It is hoped that this book will find a ready sale among the members and the profession.

In 1906 the edition of 6,000 of the Directory was not sufficient to supply the demand. $536.80 was returned to members who did not receive the book. The edition for 1907 consists of 7,000 copies, and as each member pays his dues, his Directory is sent to him. The following is a complete statement of the Directories sent to members, sold, etc., to date:

Directories sent to members	5,848
" sold	378
" sent advertisers	46
" for review	3
Complimentary and exchanges	6
Directories for office use	4
Bound copies on hand	685
Unbound " " "	30
Total	7,000

Membership of State Society December 14, 1907	6,323
Members whose dues are not yet paid for 1907	519

The Committee is of the opinion that the Committee on Publication is a very important one, and should be made of a more permanent character than at present. To accomplish this end, we respectfully recommend that the By-Laws be so amended as to provide for a Standing Committee of Five on Publication, the Committee to consist of the Secretary and Treasurer and of three members to be elected at the Annual Meeting to serve for three years each.

At the first election held after the adoption of this Amendment, one member shall be elected for three years, one for two years, one for one year, and at each succeeding election one member shall be elected to serve three years. Until this Amendment can be enacted as a By-Law, it would seem desirable to have a Committee on Publication appointed by the Council, on the plan above advocated.

(Signed) JULIUS C. BIERWIRTH,
ALEXANDER LAMBERT,
W. R. TOWNSEND.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH.

To the House of Delegates:

It is pleasing to be able to report that during the past year measures have been inaugurated by the State Health Department which are in accordance with the recommendations of your Committee on previous occasions.

In order to put any physician in this State in a position to have made at the earliest possible moment a bacteriological examination of secretions and excretions, it was recommended last year that in each county seat there should be equipped a laboratory for that purpose that should be under the charge of a skilled bacteriologist. In attempting to carry out this recommendation, some counties found that special legislation was necessary. During the present session of the State Legislature, a bill will be introduced from the State Department of Health which will obviate this difficulty and make it possible for each county through its supervisors to act legally in accordance with this recommendation. To secure concert of action and arouse public sentiment in favor of this and other health messages, there has been formed in the County of Onondaga an association of all the Health Officers of the County. The forming of such associations is recommended, not only for this purpose, but for the mutual information of the officers concerning health problems in each locality and to produce effective co-operation in overcoming them. The law referred to contemplates putting all such county laboratories under the supervision of the State Department of Health, which to your Committee seems a wise measure.

The State Laboratory at Albany is now making the antitoxin for tetanus and a certain quantity of antitoxin for diphtheria. Your Committee recommends that these laboratories be extended, and that they have the duty of manufacturing all the antitoxins and the vaccine virus used in the State and that the State furnish this to those needing it free of cost, or at least at cost prices. It may not be known to you that the State makes antitoxin for diphtheria at one-tenth the cost of that necessary remedy as furnished by private makers. It is a matter of common observation that the impurity of vaccine virus, as obtained in the market has been, and

is the source of great suffering and danger, and has been the only effective argument against vaccination by those who oppose the compulsory vaccination of all citizens. The condition in the northern part of the State to-day, where an epidemic of smallpox is raging and endangering the whole State, is clearly due to a carelessness on the part of physicians in insisting upon vaccination, which has been bred by a general though mild opposition on the part of the people to the State law requiring general vaccination. With a pure virus that does not give a mixed infection, and which can be furnished under guarantee of the State Laboratory, and with the rigid enforcement of the law compelling the vaccination of any child on entering school, and revaccination on entering a higher school, public or private, and with a rigid inspection, there would be no possibility of such epidemics coming, and the citizens of the State would be saved many useful lives and millions of dollars.

Tuberculosis still continues to head the list of causes of death. From the reports of the Department of Health, it is estimated that seven-eighths of the deaths in the State are due to respiratory diseases, together with the diarrhœal diseases of children. We know that this awful record is not necessary. There has never been a successful attempt made in our State for the reporting and registration of all cases of tuberculosis. Before we can intelligently proceed in a campaign against tuberculosis, we must have accurate information as to the numbers and the location of those who are its victims. The earlier attempts to accomplish this were made unpopular and non-operative for two reasons. The unfortunate use of the word "contagious" or "infectious," with reference to tuberculosis, instead of communicable, aroused the resentment of physicians who knew this was not true, and the still more unfortunate use of the term "compulsory registration" excited the antagonism of the people who were loath to expose their friends, already burdened with suffering, to what seemed to them the disgrace of being publicly branded by the compulsory registration. But time, and the diffusion of correct ideas as to the method of infection, and as to the necessity of sanitary disposal of infectious secretions have changed all that. We are now ready, both profession and people, for a law making it a duty to report all cases of tuberculosis for the successful protection of the victims themselves and of their friends.

Your Committee recommends that this Society actively co-operate with the State Department of Health in the passing and administration of a law for the reporting and registration of all cases of tuberculosis in the State. We again call your attention to the necessity of providing special hospitals for the care of the advanced cases of tuberculosis in every center of population, and that members of this Society take up this matter and pursue it vigorously until the helpless poor are thus protected. The State Hospital for Incipient Tuberculosis at Ray Brook is now full and has a waiting list. The work of this Hospital has resulted in so much good that we urge the extension of the plan, and that either the present Hospital be enlarged, or that more be built in favorable localities in our State.

Much has been done to convey to the people intelligent ideas of the nature, the extent, and the curability of this great plague. Much more can be done. We commend to your careful study the plan of campaign carried out in Yonkers, a report of which may be read in the latest volume of the Transactions of the National Association for the Study and Prevention of Tuberculosis.

The certainty of the intercommunicability of human and bovine tuberculosis has been again demonstrated by the experiments of Corbett, of England. The premature statement of Koch to the contrary has been abundantly controverted by the further studies of experts in many countries. In our own State the doubt concerning the intercommunicability of this disease, caused by Koch's communication, caused a halt in the campaign of the Health Department of the State against bovine tuberculosis, which has resulted in the accumulation in this State of a greater proportion of tuberculous cattle in dairy herds than in any of the contiguous States. We are glad to report that the Governor took up this subject in his recent message and urged measures that would clear tuberculous cattle from all herds in the State. This emphasis upon the necessity of keeping herds free from this disease can but intensify the interest of our citizens in the same disease amongst our population. If the State cannot afford not to appropriate millions of dollars to protect the cattle, it will seem most fitting to care for her citizens; for of how much greater value are they than are the beasts of the field.

Next to tuberculosis the most prevalent cause of death is pneumonia. There is no question but that a proper observation of prophylactic measures, equally appropriate for the prevention of tuberculosis as well as pneumonia, would greatly diminish the number of those who are easy prey to this fell destroyer.

The systematic attention to personal hygiene, which should include not only care of the body as to the proper adjustment of work to rest, of food, in quantity and in kind, to the physical needs of the body, of the use of water and of air, but also of the husbanding of every atom of resistance by the avoidance of nerve fag from any cause, would save the lives of very many of those who are now able to heed a warning voice.

The emphasis which has so frequently been put upon the necessity of securing for the people pure water, pure ice and pure food, is having good fruit. The State has already issued its mandates making it imperative to cease discharging all raw sewage and other deleterious matter into streams or lakes or upon the land in the drainage area of streams and lakes that can pollute the waters used as a source for water

supply for domestic purposes of any city or village of the State. This is a great step forward. We heartily commend such action and ask the co-operation of this Society in carrying out every provision of this public act.

We are now ready for the next forward step. It will avail little if producers convey to the market foods up to the standard of purity according to the law, if merchants are permitted to expose them to the contamination of city dust and flies and the soiled hands of would-be purchasers. This evil can be overcome by example. If each of us would insist that his own supplies come from a dealer who protects his food stuffs by glass cases and paper covers from such contamination, a revolution of methods would quickly result.

It is fashionable to scoff at the refinements of modern sanitary ideals. It is considered witty by "Life" and many other journals to decry methods which science has demonstrated are conservative of health and efficient preventives of unnecessary death. It is pertinent to refer all such to the recent report of the Public Health Office of London for 1906. In that report it is asserted that, since the adoption of the Public Health Act of 1901, the death rate in London has been reduced 30 per cent., and that the death rate for 1906 of 15.1 per 1,000 is the lowest death rate of any large city of the world. The report contains many details of the utmost interest to the fair-minded lover of his kind, and we commend its careful perusal to all sanitarians and to all who are tempted to write adversely on subjects of public health.

Respectfully submitted,

(Signed) JOHN L. HEFFRON, *Chairman, Committee on Public Health.*

December 31, 1907.

REPORT OF THE COMMITTEE ON ARRANGEMENTS.

To the House of Delegates:

The Committee on Arrangements has the honor to submit the following report of the expenses of the Committee which have been paid by the Medical Society of the State of New York for the year 1907:

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK IN ACCOUNT WITH THE COMMITTEE ON ARRANGEMENTS.

Cash received from sale of tickets for Banquet		$578.00
" " " State Society as per vouchers		198.25
		$776.25
CASH PAID OUT.		
Hotel Ten Eyck	$573.13	
Cash paid out as per vouchers	198.25	
		771.38
Balance		$4.87

Respectfully submitted,

(Signed) WILLIAM J. NELLIS, *Chairman, Committee on Arrangements.*

December 31, 1907.

REPORT OF THE COUNSEL.

DR. FREDERIC C. CURTIS,

President Medical Society of the State of New York, and the HOUSE OF DELEGATES.

Gentlemen:

I have the honor to transmit to you herewith my report covering malpractice defense conducted by me on behalf of the members of the Medical Society of the State of New York from January 1, 1907, to and including December 31, 1907.

Your counsel has to report that for the past two years, during which time he has represented the Medical Society of the State of New York in this class of litigation, there has never been a single dollar by way of verdict secured against any member of the State Society, who has asked of the Society and received malpractice defense.

During four years prior to January, 1906, when malpractice defense was conducted under the direction of the New York State Medical Association, there had accumulated in the hands of your counsel the list of cases referred to in my report to you of 1906 under the letters of the alphabet. The following is the present status of these cases, and I refer you, for more detailed notes upon each individual case, to my report submitted for the year 1906:

(A) Complaint dismissed; (B) Case tried, verdict for defendant, including bill; (C) Discontinued; (D) On the calendar of New York County; (E) In the Court of Appeals to be argued in February, 1908; (F-1) Discontinued; (F-2) Discontinued; (G) Case tried, verdict for the defendant; (H) Case tried, jury disagreed; (I) Complaint dismissed; (J) Case tried twice, jury disagreed both trials; (K) Discontinued; (L) On the calendar of New York County No. 2,934; (M) Discontinued.

The following cases, begun during the year 1906, have up to date been disposed of as follows (these actions are referred to in my report of the year 1906 in detail under the numerals 1 to 30):

(1) Verdict for defendant; (2) Abandoned; (3) On the calendar New York County; (4) Adjusted as per former report; (5) Adjusted as per former report; (6) Counsel continues to advise family; (7) Abandoned; (8) On the calendar Supreme Court, Westchester County; (9) I believe abandoned; (10) Physician collected bill; (11) Complaint dismissed, plaintiff adjudged insane and later committed suicide in prison; (12) Abandoned; (13) Abandoned; (14) Complaint dismissed, costs imposed and collected; (15) Abandoned; (16) Pending as per former report; (17) Abandoned; (18) Action tried, complaint dismissed, judgment for bill; (19) Abandoned; (20) Abandoned; (21) Verdict for defendant; (22) Verdict for defendant, costs collected; (23) Pending as per former report; (24) Case tried, verdict for defendant, bill collected; (25) On the calendar Kings County; (26) Complaint dismissed; (27) Not moved for trial; (28) Defendant neglects to keep counsel informed; (29) Pending; (30) Pending.

Your counsel desires to thank publicly the following physicians and surgeons who, at personal sacrifice, have lent to the assistance of their brother practitioners valuable advice and faith-

ful service: Doctors Bryant, Pilcher, Beck, Delatour, Vander Veer, McDonald, Morrow, Geyser, Suiter, Meyer, Gibney, Bierwirth, Campbell, and Brandeis.

The amount involved in the actions begun in the year 1907 aggregated upwards of two hundred thousand dollars.

The actual number of actions brought, has decreased about 25 per cent., and at the same time the State Society has increased in paid-up membership. It is satisfactory, therefore, to report that the real end in view, namely, the arresting of an increasing number of malpractice suits, is being speedily accomplished. As a result, the actions which are actually brought on for trial are becoming more and more difficult to successfully defend, and the blackmail variety in a very large percentage correspondingly decreased.

To accomplish this result the work of counsel for the past year has been almost double in time and energy expended, and almost as many cases have been finally disposed of as in any other two years combined, since malpractice defense was inaugurated.

The following cases have been begun during the year 1907:

I. This was an action brought wherein it was alleged that the physician failed to remove the placenta, resulting in a septic condition. This action was tried before a jury and the trial justice dismissed the complaint.

II. This was an action wherein it was claimed the plaintiff (a woman) suffering from rheumatism, was salivated by the prescription of tablets containing mercury. The action was tried, the jury disagreed, standing eleven to one in favor of the defendant, and the action was never again moved for trial and has been abandoned.

III. This was an action where it was alleged that there was a mistake in diagnosis, in that the physician diagnosed a rupture, when as a matter of fact plaintiff was suffering from an abscess. The action was tried and resulted in a verdict for the defendant.

IV. This was an action where it was charged that the defendant improperly treated and improperly advised the plaintiff who was suffering from inflammation of the knee-joint, and the malpractice feature was set up as a defense to suit brought on the doctor's bill. On the eve of trial the action was settled by the plaintiff paying the doctor's bill in full and the complaint was thereupon dismissed.

V. This was an action brought to recover for improper adjustment of a fracture at the wrist, it being contended that the defendant improperly set and adjusted the broken bones. This action is now on the calendar and probably will be tried during 1908.

VI. This was an action wherein the defendant was charged with having improperly set a dislocated elbow. Defendant has attempted to push this case for trial, but the plaintiff has succeeded in having it adjourned; it will probably be disposed of in some manner early in 1908.

VII. This was an action wherein a large amount was demanded for malpractice alleged to have been caused in the treatment of the plaintiff's nose by a specialist, and the defense of malpractice was set up in answer to the doctor's suit for his bill. This case was brought on for trial and resulted in the doctor securing his bill in full and the complaint being dismissed as to the malpractice.

VIII. This action was begun against the physician and another layman, wherein it was charged that the defendants had been guilty of a conspiracy and that the physician had been guilty of assault on a woman plaintiff and had also caused unlawful abortion. This is perhaps the most vicious case of attempted blackmail that has ever come to the attention of your counsel. It resulted after extended efforts, in a complete vindication of the physician and a dismissal of the complaint. Your counsel advised the arrest and prosecution of the plaintiff for perjury, but the perhaps excusable timidity of the physician and probability of newspaper discussion seemed to make such prosecution undesirable.

IX. This was an action wherein a summons only was served and correspondence disclosed that the claim was based upon an operation performed on the uterus. Your counsel appeared in the action and demanded the service of the complaint; time was extended to serve the same and finally the action was dismissed for failure to serve a complaint.

X. Three actions were brought against this defendant (two in the Supreme Court and one in an inferior court). The question involved was as to the propriety of treatment of a child who had had a needle thrust into its hand, which resulted in blood-poisoning. Your counsel dismissed the complaints in all these three actions after extended efforts in court. Two of the actions were brought in the name of the child, and the other in the name of the mother as special guardian to recover for money paid to cure the child.

XI. The defendant in this action was sued in two separate actions, one on behalf of the woman plaintiff who claims to have been injured, the other on behalf of the husband for loss of services and money expended. The question involved was improper diagnosis and improper treatment as a result thereof. The plaintiff claims that the wife was suffering from a dislocation of both shoulders simultaneously received, while the doctor diagnosed the condition as rheumatism and treated her for it. This action was tried before a jury and resulted in a verdict for the defendant.

XII. The claim in this action arose from an alleged careless handling of an infant suffering from a double Erb's palsy, resulting in a fracture of the child's arm. Issue was joined in this action, but the case has never been placed on the calendar for trial, and your counsel believes that it has been abandoned.

XIII. This action was one resulting from the alleged improper care of a Colles' fracture. The defendant was represented by a local attorney, as the attorney of record, and your counsel examined and criticised the various steps in the case until it was about to be reached for trial, when, without the knowledge or consent of your counsel, the defendant settled the case for some small amount. Counsel considers this a very serious breach of the moral obligation of the defendant to fight through his action, which in this particular instance was a matter very certain of success. This case suggests the importance of adopting some method of penalty for physicians accepting defense and then violating their agreement.

XIV. This action is based upon a claim of improper certification of insanity, and the physician represented by your counsel was one of three defendants—one layman and one other physician. The other physician is not a member of the State Society and is represented by other counsel, as is also the lay defendant. In this action issue was joined some months ago, but it has never been placed on the calendar for trial.

XV. This action is based upon a claim of improper care and adjusting of a compound comminuted fracture of the lower end of the radius, and is brought against the consultant who was called in to complete the work of the attending physician. The action is on the calendar for trial, but was adjourned at the last term of court at the request of the plaintiff's attorney, owing to the absence of, or accidental injury to the chief medical witness for the plaintiff.

XVI. This action resulted from a suit for a physician's bill of $50, and as a defense counter-suit for malpractice was set up. The action was brought in a remote hamlet of the State, and the physician did not get word to your counsel until it was physically impossible for him to be present. It is always important to advise counsel when a suit is threatened, and not wait until the case is actually on the calendar and ready for trial, as the best efforts of counsel cannot be accorded without some little time for consideration and study.

XVII. This action is based upon a claim of the parents that an infant child was poisoned by overdoses of morphine administered when the child was suffering from cholera infantum. Death did not result, but it is claimed that other physicians had to be employed to save the child's life.

XVIII. The claim in this action is based upon allegations of the plaintiff, setting forth the alleged fact that the physician, after incising an abscess of the breast in a case of suppurative mastitis, carelessly allowed a safety-pin, used to hold the drainage tube, to come in contact with the wound, thereby causing blood-poisoning.

XIX. This action is based upon the claim of the plaintiff that the defendant, after incising tubercular glands in the neck of the plaintiff, permitted a piece of rubber tubing to remain in the incision and become imbedded therein, thereby causing blood-poisoning of the entire system of the plaintiff.

XX. This action is predicated upon failure or diagnosis of an intra-capsular fracture of the hip, and an omission on the part of the defendant to afford proper care and treatment. The plaintiff claims that he can show absolutely that the hip was fractured. The difficulty of diagnosis and general preliminary advice after a careful examination, is the defense.

XXI. The question involved in this action is as to the care of a physician incident to operating upon a cut received by the plaintiff at the joint of a finger on the left hand. A summons has been served without a complaint, but letters from the attorneys to the physicians, and statements made by the physician to your counsel indicate the nature of the claim.

XXII. The alleged cause of action in this case resulted from an alleged burning on the part of the physician, by a patient treated by electricity, while lying on a hot marble slab. Your counsel has had no opportunity to examine the papers in the action as the case was defended by another attorney, with the result that the jury disagreed. The action is now restored to the calendar for trial, and application for the services of your counsel has been made.

There has come to the knowledge of counsel two cases in the State, neither of which were defended by your counsel, one of which resulted in a verdict of $25,000 against the physician, and the other resulted in a verdict of $2,000. In one of these cases the defendant was entitled to the defense of the Society but did not ask it. The other defendant was not a member of the Society. In the former case the defendant has asked your counsel to assist in the preparation of the appeal, though no formal application for defense has yet been filed.

The names of the various defendants in the above listed cases have, as usual, been omitted, but a complete record of the actions is on file in the office of counsel.

All of which is respectfully submitted.

JAMES TAYLOR LEWIS,
Counsel.

December 31, 1907.

REPORT OF COUNCILOR OF THE FIRST DISTRICT BRANCH.

To the House of Delegates:

As President of the First District Branch, I have the honor to report that a very successful scientific meeting of the Branch was held at the New York Academy of Medicine on October 28, 1907. The papers presented were of a high order of merit, and their discussion was participated in by eminent gentlemen of acknowledged authority.

County Societies in the various counties included in the Branch are in a flourishing condition. In Putnam County, where the number of practitioners is very limited, and the topography of the county makes a common meeting place impracticable, there is no County Society. The majority of the physicians of Putnam County find it more feasible to attend the meetings of the Westchester or Dutchess County Societies.

Respectfully submitted,

CHARLES E. NAMMACK, *President,*
First District Branch.

New York City, December 31, 1907.

REPORT OF COUNCILOR OF THE SECOND DISTRICT BRANCH.

To the House of Delegates:

I beg to submit the following report of the Second District Branch of the Medical Society of the State of New York, for the year 1907. The year has been a satisfactory one. At the beginning of the year another Medical Society was not looked upon as a welcome addition by many men. At the end, the sentiment is that it only supplements other meetings and in reality brings the State Society nearer home. This change in sentiment will undoubtedly make the District Branch much stronger next year, and it will command better support. The new officers are men of ability and active in Medical Societies. The outlook is indeed very bright. One meeting was held in Brooklyn at the Kings County Medical Society Building, September 28, 1907. There was an attendance of sixty. The meeting was a good one. The entire evening was taken up with two papers; one by Doctor Rochester, of Buffalo; one by Doctor Tinker, of Ithaca. The papers were well discussed.

I have visited all the County Societies in the District. Every one is in fine condition and doing excellent work.

The Suffolk County Society has an average attendance of 50 per cent. of its membership. The Richmond County Society with its monthly meetings, has an average attendance of 40 per cent. of its entire membership. The Queens-Nassau Society has well-attended meetings and excellent programs. The Kings County Society has nearly eight hundred members; its high standing is known throughout the State.

The medical profession in the Second District

Branch is active and doing enthusiastic work. And just as they are loyal to the State Society, so are they loyal to one of its component parts.

W. H. Ross, *President,*
Second District Branch.

Brentwood, L. I., December 31, 1907.

REPORT OF COUNCILOR OF THE THIRD DISTRICT BRANCH.

To the House of Delegates:

I have the honor to report that generally throughout the Third District there is a healthy and active interest in medical organization.

Of the seven County Societies which compose this Branch, those of Troy and Albany are in a prosperous and active condition. The Albany Society in particular has made a record year in the size of its meetings, its entertaining of distinguished guests, foreign and American, and its excellent programs. Ulster County is well organized, and has five well-attended meetings each year. The remaining counties labor under the disadvantages of rural conditions, but in each one of them there have been thoroughly satisfactory annual meetings, the growing custom of inviting guests from outside contributing much to the success of the gathering.

Details of the annual meeting have already been published. It may be said that the wisdom of sub-dividing the State Society into branches was amply demonstrated so far as the Third District is concerned. At the annual meeting there was an attendance of about 175 members. The clinical resources of the city of Albany were exploited in a way greatly to add interest to the program; there was no lack of carefully prepared papers, several being of exceptional merit; and social features were amply provided —so that on the whole, the aims of the organization in stimulating professional spirit in scientific and fraternal directions were abundantly attained. The promise of a successful future seems assured.

(1) The idea of a branch, as a section of the profession, grouping itself naturally by means of established channels of communication, associations, and range of personal influence about a populous center, is fairly well realized in the the Third District. An arbitrary territorial division corresponding to a judicial district is not, however, the best. There should be a careful consideration of the question of the readjustment of district lines, with a view of securing a closer approach to organic unity.

(2) On many accounts a two-days session would be preferable. The members can usually afford the time in October. A single day does not permit members from a distance to take in the whole program. The single scientific session becomes fatiguing from its length, and yet the time cannot be well shortened. Two sessions, each shorter, but aggregating more time, would afford more opportunities to writers, which is desirable; give more opportunity for debate, which also is needed; and make the session more interesting. Furthermore, there would be more opportunity for social enjoyment.

(3) Malpractice defense has happily demonstrated its value in this district recently in the successful issue of a case with a verdict of "no cause for action." Not only was the case conducted with signal ability by Mr. Lewis, as counsel representing the State Society, but it was conducted with a dignity of manner which gave satisfaction to the local profession.

Respectfully submitted,

John T. Wheeler, *President,*
Third District Branch.

Chatham, December 31, 1907.

REPORT OF COUNCILOR OF THE FOURTH DISTRICT BRANCH.

To the House of Delegates:

I herewith submit my report as directed by the By-laws of our organization, Chapter VI, Section 5:

I regret exceedingly to report that I have not been able to visit all the county societites in the Fourth District Branch, as required by our By-laws. I found it impracticable to give from 36 to 60 hours at a time to this work, which it would be necessary to do if I were to reach the extreme northern societies in our district. I have, however, visited the near-by counties, and believe this feature of our Constitution, making such visits mandatory, to be sound; and in time it will surely prove of value to the organization of the profession.

The first annual meeting of the Fourth District Branch was held at Saranac Lake, September 18, 1907, and was very satisfactory. The people at Saranac were most hospitable, and provided in an unusual degree for our pleasure and comfort. They tendered us a banquet in the evening of the opening day, and to those who could remain a second day, they gave a trip to the Trudeau Sanitarium laboratory and grounds, which was most instructive and entertaining; also a trip through the lakes and camps.

The scientific program occupied the entire day of the eighteenth, being divided into a morning and an afternoon session. The men of the district were very willing to help in this work, and the papers and discussions were exceptionally interesting. There were about eighty men registered, which was an encouraging number.

The executive meeting was also held on the eighteenth and developed the fact that there was one county in the district, Hamilton, which did not have a county society; also that the members of two counties, Essex and Clinton, were organized as Clinton County. I trust that when the report of the Fourth District Branch is presented next year there may be a county society in each county.

It is most unfortunate that the Fourth District

Branch covers such a large territory; it is impossible to have a meeting at any point in the district where all the men can attend and return to their homes the same day. This is equally true if the President attempts to call his Executive Committee together, as he should, for consultation in regard to his scientific program.

The scientific work and interest in all of the societies of the district I visited was exceptionally good, and I am convinced that the district work will stimulate the work of the county societies, and eventually make them more interested workers in the State Society. We surely possess the advantage of increased numbers since the amalgamation; this should mean increased attendance, enthusiasm, and interest in the scientific program.

All of which is respectfully submitted,

D. C. MORIARTA, *President,*
Fourth District Branch.

Saratoga Springs, December 31, 1907.

REPORT OF COUNCILOR OF THE FIFTH DISTRICT BRANCH.

To the House of Delegates:

I have the honor to report, as President of the Fifth District Branch, that there has been but little for me to do except to prepare for the annual meeting of our Branch Organization. With the exception of Lewis, all of the counties have very active county societies. There is no doubt but that in each the membership could be increased, and I promise you that before the next meeting of the House of Delegates the membership in Onondaga County will be substantially larger than it is to-day.

The first annual meeting of the Fifth District Branch was held in the city of Syracuse October 3, 1907. It was attended by more than 200 members, of whom 163 registered in a book provided for that purpose. There were 22 papers upon the scientific program, and every person who pledged a contribution was on hand with his paper. The large attendance, the liberal number of papers contributed, and the splendid spirit which prevailed throughout the entire session, made the meeting one of the most enthusiastic and successful medical gatherings ever held in central New York. I have no hesitancy in saying that the Fifth Judicial District is thoroughly and actively alive to the interests of the Medical Society of the State of New York, and that this Branch will always be found ready to meet its obligations to the State Society.

The following officers have been elected for the ensuing year: President, W. M. Gibson, Utica, N. Y.; Vice-President, Gilbert D. Gregor, Watertown; Secretary, Frank E. Fox, Fulton; Treasurer, William D. Garlock, Little Falls.

The next annual meeting will be held in the City of Utica.

Very respectfully submitted,

NATHAN JACOBSON, *President,*
Fifth District Branch.

Syracuse, December 31, 1907.

REPORT OF COUNCILOR OF THE SIXTH DISTRICT BRANCH.

To the House of Delegates:

I have the honor of reporting that the County Medical Societies comprising the Sixth District Branch have taken up the new duties and obligations placed upon them by the amalgamation, and with few exceptions are doing scientific work of a high order. In these few counties there has been great difficulty in getting the secretaries to respond to my letters, amounting to complete failures in some instances. I believe the root of the evil in these counties to lie in their holding only semi-annual meetings, which is not often enough to stimulate interest. One such county I have visited and urged the necessity of at least quarterly meetings, but met with opposition. In the others I was unable to learn from the Secretary when their meetings were held, and therefore have not visited them.

Broome, Chemung, Chenango, Cortland, Otsego, Tioga and Tompkins all have active societies, the latter contemplating the adoption of monthly meetings instead of quarterly.

The District Branch meeting was held in Ithaca September 24th, and was successful, both in point of attendance and in the merit of the papers presented. I feel sure that the good report carried home by those in attendance will greatly facilitate arrangements for future meetings.

The county societies all feel the thrill of a new power behind them, and the membership of nearly all has increased at a more rapid ratio since the amalgamation.

One thing has been impressed upon me since this work has been in my hands that the County Society Secretary is the most important officer of the society, and that he should be chosen with the greatest care and continued in office as long as he will serve.

Respectfully submitted,

ROSS G. LOOP, *President,*
Sixth District Branch.

Elmira, December 31, 1907.

REPORT OF COUNCILOR OF THE SEVENTH DISTRICT BRANCH.

To the House of Delegates:

The Medical Society of the County of Cayuga was reorganized May 21, 1906. There are thirty-eight members. Meetings are held quarterly. Since the reorganization the general interest has been greater than before. The attendance at the meetings is usually from twenty-five to thirty. The Society is said to be prosperous. The main difficulty is to get the members of the Society to present papers. Usually a guest of the Society has read a paper and the meetings have been very interesting.

The Medical Society of the County of Livingston was reorganized June 12, 1906. There are forty-nine members, of whom seven were elected at the last meeting. This Society has but two

meetings a year—a semi-annual meeting in June, and annual meeting in October. The meetings are not as well attended as they should be. The attendance is from fifteen to twenty, never exceeding twenty. The meetings are interesting, and the members "respond well" with papers, case reports and discussions. It is the opinion of the "faithful" that there should be more meetings and a larger attendance.

The Medical Society of the County of Monroe was reorganized January 16, 1906. The roll of membership shows 250 names (243 paid dues; 17 have not yet paid). There are four yearly meetings, all of which were duly held during the past year. The average attendance at a meeting has been sixty (about one-fourth of the enrolled membership). The general interest and activity are moderate.

The Ontario County Medical Society adopted By-Laws and reorganized April 9, 1906. There are sixty-three members. There are four meetings a year. The Society has money in its treasury. The attendance will average twenty-five members. This unit of the Seventh District Branch claims to have the best working Society in the State.

The Medical Society of the County of Seneca was reorganized April 19, 1906. The present membership is thirty-one. There are but two regular meetings provided for up to the present time, an annual and a semi-annual meeting. The general condition of the Society is very satisfactory to the members. The membership is now larger than ever before and the attendance is large in proportion to the membership.

The Medical Society of the County of Steuben was reorganized May 8, 1906. There are sixty-one names on the roll of membership. Two regular meetings are held annually. These meetings are well attended. The interest in the meetings is greater than in former years.

The Wayne County Medical Society has thirty-eight members. It holds quarterly meetings which are "fairly" well attended. It is said that the attendance is not what it should be, as the average is not more than ten to twenty per meeting, and usually the same physicians are present. Many of the members do not take an active part in the transactions. It is hoped that the interest may yet be increased. Those members who do attend show a keen interest in the meetings.

The Medical Society of the County of Yates is in existence as a reorganized association, has good officers and the facilities for good work, and the undersigned has no doubt as to its future usefulness and success, but the particulars of the report which should have been at hand, are not at this writing obtainable by the President of the Seventh District Branch, who herewith respectfully submits his first and only annual report.

J. F. W. Whitbeck, *President,*
Seventh District Branch.

REPORT OF COUNCILOR OF THE EIGHTH DISTRICT BRANCH.

To the House of Delegates:

I have the honor of reporting that I have visited the county societies of the counties of Allegany, Cattaraugus, Erie, Genesee, Chautauqua, Niagara, Orleans, and Wyoming during my term of office as President of the Eighth District Branch; that I have found these societies on the whole in a flourishing condition; that I have addressed each society, and have explained to the members at the meetings, and to the members of the profession generally, who were present on invitation, the value of membership in county societies; that I have urged frequent meetings of the county societies for the purpose of fostering closer personal, professional, and social relations between the members, and for the purpose of increasing good scientific work; that during the year past a decided interest in the work of the societies has been manifested, and the attendance at the meetings has been good and the discussions interesting and valuable.

I have further to report that the second annual meeting of the Eighth District Branch was held in Buffalo on September 25th and 26th.

Besides the President's address, there were twenty-four subjects on the program. Of these, all but four were presented and discussed. Under the general heading of exhibitions of cases and specimens, many interesting subjects were presented and illustrated.

The meeting was very well attended, and many took part in the discussions.

The President and the Secretary of the State Society were present, and added much to the success of the meeting.

On the evening of the first day a subscription dinner was held, which was attended by seventy members and guests. At this dinner the President of the Branch acted as toastmaster. The following toasts were offered and responded to in a most fitting manner: "The Medical Society of the State of New York"—Dr. F. C. Curtis, of Albany, President of the Medical Society of the State of New York. "The Legislature"—Hon. John Lord O'Brian, Member of the Assembly. "The Medical Profession"—Dr. Charles G. Stockton, Prof. Principles and Practice of Medicine, University of Buffalo. "The Clergy"—Rev. George B. Richards, D.D., Pastor of Ascension Church. "Women in the Medical Profession"—Dr. Maud J. Frye. "The Hypothetical Question"—Hon. Charles B. Wheeler, Justice of the Supreme Court of the State of New York. "The Press"—Mr. Edwin Flemming.

The social gathering was as much of a success as the scientific meeting, and added greatly to the pleasure of the members. The meeting of the House of Delegates was small, and at this meeting it was decided, after full

discussion, that the body was too small for the business of the Branch, and an amendment to the By-laws was introduced, doing away with the House of Delegates as a separate body, throwing the business of the Society and the election of officers into the general meeting of the entire Society. Dr. A. D. Lake, of Gowanda, was elected president for the ensuing year, and Batavia, in Genesee County, was chosen for the place of meeting next year.

Respectfully submitted,

DE LANCEY ROCHESTER,
President Eighth District Branch.

Buffalo, December 31, 1907.

REPORT OF SPECIAL COMMITTEE ON THE DISTRIBUTION OF THE LIBRARY OF THE SOCIETY.

To the House of Delegates:

The Committee appointed by the House of Delegates at the meeting held in Albany, January 28, 1907, "to study the value of the books contained in the library of the Society, at 64 Madison Avenue, New York City, and to make such disposition of them as they may deem wise and expedient," begs leave to report that, after fully considering the subject from every possible standpoint, they have ordered the books sent from 64 Madison Avenue to the library of the Kings County Medical Society. This is the only county medical society in the State which owns a fireproof building, and maintain it for the benefit, not only of the members, but of the profession. In addition, it is appropriate at the present time to quote the following contract:

"WHEREAS, It is the desire of the Medical Society of the County of Kings to co-operate with and assist the Medical Society of the State of New York in the successful publication of the NEW YORK STATE JOURNAL OF MEDICINE, a publication conducted by the Medical Society of the State of New York.

KNOW ALL MEN BY THESE PRESENTS, That the Medical Society of the State of New York, party of the first part, and the Medical Society of the County of Kings, party of the second part, for and in consideration of the mutual covenants and agreements herein contained, and in consideration of the sum of one dollar each to the other paid, the receipt whereof is respectively acknowledged, do hereby agree and covenant as follows:

First—The Medical Society of the County of Kings hereby agrees to withdraw from publication and circulation the medical journal known as the BROOKLYN MEDICAL JOURNAL, now owned and conducted by the party of the second part, at a date not later than December 31, 1906.

Second—The Medical Society of the County of Kings hereby agrees to help, aid, assist and co-operate with the Medical Society of the State of New York in the successful publication and circulation of THE NEW YORK STATE JOURNAL OF MEDICINE, now conducted, owned and circulated by the Medical Society of the State of New York.

Third—The Medical Society of the State of New York hereby agrees to deliver into the custody of the Medical Society of the County of Kings, each and every book, exchange, publication, or other literary medical pamphlet or magazine received by the party of the first part in exchange for its publication hereafter to be published, with convenient speed after its receipt by the party of the first part, until this agreement is terminated, as hereinafter provided.

Fourth—The Medical Society of the County of Kings promises and agrees within six months from the date hereof to place each and all of the volumes contained in its library in the City of New York, Borough of Brooklyn, as a circulating library at the disposal of the members of the Medical Society of the State of New York wheresoever situate in the State of New York, and shall provide for and prescribe rules and regulations for the proper and satisfactory distribution of all the volumes in said library contained, or which may be hereafter purchased or received from any source whatsoever. And the party of the second part hereby agrees to furnish a suitable book-plate on which shall be inscribed the source of all volumes delivered by the Medical Society of the State of New York, and shall cause to be attached to each periodical a suitable inscription, showing the source of the receipt of such periodical as may be delivered to the party of the second part by the party of the first part.

Fifth—It is hereby mutually agreed and understood by and between the parties hereto that this agreement may be terminated at the option of the party of the first part upon notice in writing to the party of the second part of its intention so to do, upon failure of the party of the second part to carry out any of the covenants herein agreed to be performed by it, or upon failure of the party of the second part to remain in affiliation and to continue a constituent part of the Medical Society of the State of New York, or if, after five years from the execution of this agreement any other County Medical Society in affiliation with and which is then a constituent part of the Medical Society of the State of New York shall offer to the party of the first part a more satisfactory and acceptable arrangement for the disposal of such books and pamphlets received as herein described. If at any time such agreement shall be terminated for any reason, then and in that case the party of the second part may, at its option, either return the volumes so delivered, and in the custody of the party of the second part to the Medical Society of the State of New York, or at the option of the party of the second part, the party of the second part may pay for, purchase and retain the volumes or periodicals so delivered, at fifty per centum of their value at the time of the termination of this agreement, such value to be established and determined by the appointment of suitable appraisers to pass upon the same in such manner as shall be prescribed by mutual agreements of the parties hereto.

Sixth—It is mutually covenanted, agreed and understood by and between the parties hereto, that if the party of the second part fails to provide proper means to complete the circulating library system herein provided, within the period of six months after the execution of this agreement, or to withdraw the JOURNAL of the party of the second part from circulation and publication, then and in that case this agreement shall be and become in all respects void and of no effect, and all books, pamphlets and periodicals received from, shall be immediately returned to the party of the first part.

Seventh—The president or secretary of the respective parties hereto are hereby authorized to execute the within agreement for and on behalf of the Medical Society of the State of New York and the Medical Society of the County of Kings, and to affix thereto their respective corporate seals.

IN WITNESS WHEREOF, The respective parties hereto have affixed their hands and seals.

Medical Society of the State of New York,
By JOSEPH D. BRYANT, *President.*
Medical Society of the County of Kings,
By WM. FRANCIS CAMPBELL, *President.*

Signed, May 8, 1906.

This contract shows that this library is also maintained for the benefit of the members of the

State Society, and that they can get books from it whenever they desire them, under certain proper regulations. In consideration of these facts, therefore, the Committee gives to the Kings County Medical Society library all such books as are contained in the present library of the State Society that are not already in the library of the Kings County Medical Society. The librarian of the Kings County Medical Society, speaking for his society, agreed to have a card catalogue made of all the remaining books of the library, and that this card catalogue shall be sent to the Medical Society of the State of New York when completed.

The Committee further recommends that the State Society shall send this catalogue to all the county medical societies throughout the State, so that from these books a selection may be made by such county societies as a nucleus for the library, who will agree in a proper contract, framed by the State Society, to establish and maintain County Society libraries.

It is the belief of the Committee that libraries should be formed and assisted wherever possible, but that no books should be presented to a county society unless there is a reasonable belief that it will maintain a library. It is not the intention to have these remaining books given to any county society to be stored in the office of the Secretary, or in some place where they are not accessible to the reading public.

The Committee also recommends that when books are to be sent from the Kings County Medical library for such purposes as have been above recommended, that the Kings County library shall be entitled to charge such libraries the exact cost of preparing the books, etc., for shipment, and that, in figuring such cost, allowance should be made for the original cost to the Kings County Medical Society of transferring the books from 64 Madison Avenue to 1313 Bedford Avenue, Brooklyn.

The Committee earnestly hopes that some of the county societies will, in the near future, endeavor to inform such libraries, or to make such arrangements with existing libraries of colleges or other institutions, that they may have proper control of the same and use of the books.

In addition, the Medical Society of the County of Kings, through its Directing Librarian, Dr. Warbasse, has agreed, in consideration of the act of the State Society in giving them the first choice of the books; to do all it can to assist such county societies in forming libraries, by giving them duplicates, etc., from the Kings County library collection.

It is understood that all books presented by the Medical Society of the State of New York to the County of Kings shall be so designated by a suitable inscription placed on or within the volume.

Having performed these duties and made its report to the House of Delegates, the Committee respectfully requests to be discharged.

(Signed) E. B. Angell, *Chairman.*
E. D. Fisher,
J. E. Sadlier.

December 31, 1907.

REPORT OF SPECIAL COMMITTEE ON MEDICAL LIBRARIES.

To the House of Delegates:

The Committee on Medical Libraries begs leave to submit the following report:

The Chairman of the Committee at an early date addressed each of the fellow members with a request for co-operation and suggestions. The Committee of this Society appointed to distribute the collection of works inherited from the Association has also been conferred with. And the views of others interested in medical libraries in various parts of the State have likewise been sought. It may not be possible to present a concensus or agreement on all points, but the following summary may serve for present information:

On one principle only can this subject be approached with any prospect of good; and that is, with a feeling of hearty good-will towards each of our existing medical libraries and towards all efforts and desires for the establishment of new ones in centers not now so favored.

In the number of active medical libraries New York may outstrip other States, but in the more important ratio of books to inhabitants, we rank only third (based on the census of 1900 and the library statistics given by Huntington, *Med. Lib. and Hist. Jour.*, April, 1904). Excluding asylum collections, the ratio proves to be approximately 1 to 30 inhabitants in Massachusetts, 1 to 35 in Maryland (and the Surgeon-General's Library also close at hand), 1 to 40 in New York, and 1 to 45 in Pennsylvania. Though all the other States are far behind these four, the showing is not specially flattering, and the less so as our population is so largely urban. This will not be radically changed by the building up of any one institution, but improvement must come through an increase of the many. It is not a matter of the medical centers any more than of the remotest parts of the State.

It is hardly necessary, in view of all that has been written on libraries the last few years, to give statistics on the various collections in the State. There are two classes of medical libraries: One is that of the working libraries of hospitals and laboratories, notably those of the several State hospitals. These latter are entirely State-supported, $200.00 a year being allowed to each of the thirteen or more, and of such special character and necessarily so managed that they do not come into consideration for general professional purposes.

The other class, that of the consulting or

general medical libraries, including all the rest, is the one that specially concerns us here. In their organization no two of these are alike. The development of each has been an expression of local conditions and resources. This has its good side, in that as each gains experience peculiarly its own, it may serve as a model to others.

A brief reference to the principal medical libraries and departments in the State of New York may, however, be in order.

1. The Library of the New York Academy of Medicine stands at the head. More has been done by that institution to encourage and advance medical libraries in this country than perhaps by all other agencies combined. Its management and policy may vary somewhat, but on the whole it represents what is most advanced, most liberal, and in all ways most admirable.

2. In Buffalo (Erie County), according to the article of Krauss (*Med. Lib. and Hist. Jour.*, April, 1905), and later information, a lack of unification still exists; and, until this is accomplished, the best results cannot be expected.

3. Albany is represented by the excellent medical department of the State Library, and this will benefit by the newer quarters now under way. The original nucleus of this collection was gathered by the profession of Albany. It is the only library of this class dependent on State support.

4. In Syracuse (Onondaga County) the work is done through the medical department of the University Library.

5. At Rochester (Monroe County) the collection of the Academy of Medicine constitutes a department of the Reynolds Library, the latter contributing one-half of its support as well as caring for it. Originally the Monroe County Medical Society participated in this work, but is now entirely divorced from it.

6. In Tompkins County, Cornell University has a small medical library, at Ithaca.

7. At Utica (Oneida County), a medical library has recently been instituted.

8. For the Elmira Academy of Medicine (Chemung County), Doctor Westlake reports: "What few journals and books we now possess are in the Steele Memorial Library. They are not enough to count, however."

9. In Brooklyn is the Library of the Medical Society of the County of Kings. This is the only one of the series, barring the collection of the Erie County Medical Society, that is directly affiliated with the State Society, and is the only one which also possesses a home of its own.

There may be other collections than those here listed, but hardly of moment.

In two cases (Erie and Monroe Counties) there has been some want of harmony for medical library purposes, between the County Society and other local organizations. In most such cases some arrangement looking to the common good would seem highly desirable. It appears that there are two general sections of the State not favored with any local work of the kind, viz.: the extreme northern part and the southwestern tier of counties. As soon as work in these two sections is under way, at one or more points, it may be claimed that an outline basis for all needs will have been laid. Of course, even then, growing centers here and there may find themselves able to participate practically in the movement.

Theoretically, we might dream of a medical bookcenter in every county of the State. But, even the very best of our libraries wax and wane very much according to the enthusiasm of the few devotees who carry their destiny. In other words, unless there exists an adequate local desire and a considerable support, nothing permanent results.

It is the library spirit that first of all must be cultivated. This, at its best, is very noble and edifying in its aims—the finest in conception that we can imagine. Its purpose is to benefit the individual, the community and the race—distinctly more so than libraries in general. But, the finer the object, the more carefully does it need handling.

Local pride, a friendly feeling of rivalry, and an absolute freedom from outside interference, are factors of such radical importance for success that their safeguarding cannot be secured with too great care. Even free aid will prove an injury unless it be given in a way that can only stimulate, and certainly by no chance injure, these primary elements of success.

It will be to the benefit and glory of the profession of the whole State, if on these principles any measure of encouragement can be offered, especially to the smaller and more struggling of our medical libraries. Doubtless something can be done at times for all, but it is to the weaker end of the chain that our practical sympathies should and can go out in largest measure.

The question next comes up as to the ways in which the State Society can be of service here. It may at least act as a channel for distribution, and two immediate sources of material may be mentioned. One is the considerable number of works from the Association collection. And the management of the Library of the Medical Society of the County of Kings, in additional furtherance of this aim, is disposed to offer a considerable number of current medical journals. How many can thus be spared it is impossible as yet to state. These will doubtless be mostly American journals, perhaps twenty-five in number at the start, and more if prospects are realized. Moreover, it may be possible to include recently issued books to some extent. Besides

these sources, there is the chance that other material may gravitate in the same direction.

Some general conditions for the distribution of material should be worked out, so that it shall go only to those who by their own efforts have demonstrated a degree of worth.

In looking over the sources of support of these various libraries, it would appear that those of Erie, Albany, New York and Kings Counties might receive some benefit from the exchanges of journals published in the respective localities. At Syracuse and at Ithaca the University foundations may be able to give some aid directly or indirectly.

PRINCIPLES IN THE ESTABLISHMENT AND RECOGNITION OF MEDICAL LIBRARIES.

1. Each should be conducted as a public library, open and free to all.

2. There should be but a single collection of this class in any one county or center. Then let it be made the best possible.

3. How limited a membership will suffice for the support of such a library? While this must vary greatly with circumstances, it is desirable, under average conditions, and for the maintenance of a separate medical library, to have the organized support of at least a hundred physicians. A larger number is required in a scattered than in a centralized community. Of course, a single individual might support such an institution, if ready to assume the cost. A modest, but very creditable medical department can, however, be successfully carried on by much less than one hundred membership in the supporting organization.

4. As a condition for supplying material, the State Society should ask of any County or District Society the same as it does now of the Kings County Library, that it agree to maintain a permanent medical library, and that if any time after five years it fails to do so, the material contributed by the State Society shall revert to the latter body.

5. Where medical libraries are under other than county society management, they might still come in for like aid, providing the corresponding county society makes a formal request to receive such benefits, and furthermore agrees to continue in its own name the ownership of whatever may be given to it.

6. Where county or local medical organizations are not equal to the maintenance of a medical library, it may very properly devolve on the District Branch of this society to carry on the same.

7. What credentials should be required of a medical library or department to make it eligible for your practical recognition? In addition to the foregoing, the following may be suggested as a *minimum*: It shall operate under some form of charter, have a habitation of its own or in connection with another library, have existed for three years, have a collection of at least a thousand medical volumes, and be the regular recipient of at least twenty-five medical journals. If these conditions prove either onerous or inadequate, they may subsequently be modified.

8. In gathering material for this report, some expressions have been heard indicating a fear of interference. It is only by the maximum of effort that present library results have been achieved. Any meddling is believed to presage injury. And it is right to be jealous of such important interests. If we really seek to do the most good, it will be necessary to proceed advisedly and begin by taking a course that shall develop a feeling of mutual and warrantable confidence on all sides. This is perfectly possible, though not as a mere matter of force.

If the society is disposed to aid in developing the medical libraries of the State, the following plan is recommended: Instead of proceeding independently, it would be well first to have a conference of the medical library interests in the State. In this way, expert knowledge and safe conclusions can be gathered as a basis. Information of this kind on both the executive and administrative sides is available. Much of this work, when it becomes routine, can be directed by a standing committee of the Society, but not the first consideration of the subject. Thus the risk or fear of disturbing existing progress would be met in a fair way.

With reference to the matter of public aid to the Medical Department of the State Library, every one must of course be glad to see it receive its share of the appropriation. But, as opinions regarding it may otherwise vary, and as it presents but one special case in the general question of the advancement of our medical libraries, it has seemed well to offer the foregoing information for the better understanding of each specific instance.

(Signed) William Browning (Kings),
Chairman.
Egbert LeFevre (New York).
Grant O. Madill (St. Lawrence).
Smith Baker (Oneida).
A. Vander Veer (Albany).

REPORT OF SPECIAL COMMITTEE ON ANNUAL MEETINGS.

To the House of Delegates:

At the meeting of the House of Delegates of the Medical Society of the State of New York in 1907, a resolution was adopted creating a committee to consider the advisability of holding a meeting of the State Society once each year, which meeting was in no way to interfere with the annual meeting to be held as heretofore in the City of Albany, and was instructed to report to the society at its meeting in 1908. The committee to make this report was promptly appointed by the President.

Your Committee finds a strong sentiment among the members of the State Society in favor of a meeting each year other than the Albany or annual meeting. This sentiment is confined to no single quarter; it reaches over the entire State.

Prompted by this desire of the active membership of the society, the Committee unhesitatingly *recommends the holding of a semi-annual meeting.* In recommending this semi-annual meeting, the Committee has in mind:

First. The launching of a plan which will bring the greatest profit to the profession of the State as represented in the Medical Society of the State of New York.

Second. The apportioning of the State for the respective semi-annual meetings so as to make it possible to find a suitable and central location for each of these meetings where the visiting members might find comfortable accomodations.

Third. The reduction of the cost of these meetings to a minimum, both to the State Society and to the individual member.

Fourth. The meeting shall have for its object the strengthening of the State Society, the increase of its membership, the encouraging of scientific and profitable work, and finally dignifying and increasing the influence of its district branches.

The State Society must exert itself to encourage healthy activity in the profession in all parts of the State, and your Committee believes that this cannot be more certainly acomplished than by lending aid to the district branches, which are in fact an integral part of the State Society.

For all of these reasons, and after thoroughly considering the subject referred to it from the geographical standpoint it seems wise to your Committee for the purpose of holding its semi-annual meetings to so district the State as to make four groups of the district branches, and the Committee suggests that the State Society hold a semi-annual meeting annually with one of these groups. The Committee further suggests that the first semi-annual meeting be held with the *First Group* in 1908, which shall include the *First, Second, and Third District Branches.*

The *Second Group* with which the State Society shall meet in 1909 shall include the *Eighth District Branch.*

The *Third Group* with which the State Society shall meet in 1910 shall include the *Fourth and Fifth District Branches.*

The *Fourth Group* with which the State Society shall meet in *1911* shall include the *Sixth and Seventh District Branches.*

Included, therefore, in the *First Group* are the counties of

Dutchess, New York, Orange, Rockland, Westchester, Kings, Queens-Nassau, Richmond, Suffolk, Albany, Columbia, Greene, Rensselaer, Schoharie, Sullivan, Ulster.

The *Second Group* includes the counties of

Allegany, Cattaraugus, Genesee, Niagara, Chautauqua, Erie, Orleans, Wyoming.

The *Third Group* includes the Counties of

Clinton, Franklin, Fulton, Montgomery, St. Lawrence, Saratoga, Schenectady, Warren, Washington, Herkimer, Jefferson, Lewis, Oneida, Onondaga, Oswego.

The *Fourth Group* includes the Counties of

Broome, Chemung, Chenango, Cortland, Delaware, Madison, Otsego, Schuyler, Tioga, Tompkins, Cayuga, Livingston, Monroe, Ontario, Seneca, Steuben, Wayne, Yates.

After 1911, the same order of holding the semi-annual meetings shall be repeated as is suggested in this report; thus the meeting in 1912 will be held with the *First* of the four groups suggested.

The District Branches with which the State Society is to meet shall, through its officers, i. e., its presidents and secretaries, work in concert with the President, Secretary of the Medical Society of the State of New York, and the Committee on Scientific Work; shall make all necessary arrangements for the Semi-Annual Meeting, these shall select the time and place of meeting and shall together appoint such other committees as are needed to make the meetings successful.

The Semi-Annual Meeting it is recommended shall continue during two days.

The Semi-Annual Meeting of the State Society, with the respective group of district branches, shall take the place of the regular annual meetings of the included district branches for the year of such grouping. Hence, each district branch will in fact have, if this plan is adopted, a meeting each year, while once in four years the State Society will hold a joint meeting with each of the district branches of the State, and will have met its members in the heart of their activities.

The committee wishes to call attention to the fact that the State Society already makes annual appropriation for the meetings and other expenditures of the individual district branches. The adoption of this plan suggested will add but little to our present expense.

Your Commitee further believes that the adoption of the plan suggested for the Semi-Annual Meeting will not only increase the influence of the State Society, but will bring its members in closer touch with each other; will tend to encourage the study of the topography and natural advantages of the State by the profession, the study of which was earnestly and wisely advocated by the founders of this Society; and will attract to its ranks many members of the profession early in their career, and to many others who have failed to appreciate the advantages of membership in County and State Societies the meetings in the four quarters of the State will prove a wholesome object lesson.

Respectfully submitted,
(Signed) HENRY L. ELSNER, *Chairman.*
WILLIAM A. MOORE,
LUCIEN HOWE,
FLOYD M. CRANDALL,
GEORGE MCNAUGHTON.
December 31, 1907.

REPORT OF COMMITTEE ON TRAINING SCHOOLS.

To the House of Delegates:

At the 1907 meeting of the Medical Society of the State of New York, the Secretary received a letter from the New York State Nurses Association, complaining that the names of reputable physicians were often found on the teaching staff of Correspondence and Short Term Schools of Nursing. The Committee of the State Society appointed to investigate the matter begs leave to make the following report:

As to Correspondence Schools, there is but one in the State, that at Jamestown, called the Chautauqua School of Nursing. Inspection of the booklet of this institution fails to show the name of a single physician as giving a course of instruction. In fact, the only place where the name of a physician is mentioned is on the letterhead of the School. Therefore, so far as this Institution is concerned, there seems to be no legitimate ground on which the Society could take action. The School is incorporated according to the laws of the State, and just as long as it is legal to conduct correspondence schools it is not within the province of this Society to interfere in the matter. If women are satisfied to take a correspondence course in nursing, and thereupon offer themselves as nurses at $30 a week, that is a matter of individual morality and conscience.

Graduates of such schools cannot come up for the examination for Registered Nurse. It is the opinion of the Committee, however, that the art of nursing cannot be taught by correspondence, and it regrets that such schools flourish.

With regard to the Short Term Schools, there is some truth in the allegation that the names of reputable physicians appear as members of the teaching staff. This is particularly true of the Albany School of Nursing. The catalogue of this Short Term School expressly states, however, that the School is endeavoring to supply to people of small means women less highly trained than the registered nurses, who for that reason are willing to work for about half the fees of the Registered Nurse. It is, of course, perfectly true that the poor ought to have as good nursing as the rich, from the moral standpoint, but from the economic standpoint they are unable to pay for it at their homes, and must either employ women who have received some training at the hands of reputable physicians, or go without altogether.

The Chautauqua School openly advertises that its graduates are earning $30 a week. On the other hand, the Albany School states that its nurses are designed for people of small means. Your Committee recognizes the fact that there are thousands of families with incomes much less than $2,500 a year, requiring the services of a nurse. As a rule, they are quite unable to pay $25 a week, since this is often either 50 per cent. or the entire amount of the family's earnings. Up to the present time, the State Nurses' Association has been unable to solve the problem of supplying nurses to such people. There is a demand for nurses of more moderate education, who can give fairly efficient service to those unable to pay the necessarily higher wages of the Registered Nurse. The Albany School of Nursing seems to be a reasonable attempt to furnish such a class of women. It does not graduate them as trained nurses, but as helpers, and does not encourage them to demand the fees of those more highly trained.

Your Committee is unwilling to say that there is not place for such schools when honest and reputably conducted.

Respectfully submitted,
(Signed) A. T. BRISTOW, Brooklyn, N. Y.,
C. A. WALL, Buffalo, N. Y.,
G. A. BELLOWS, Waterloo, N. Y.
December 31, 1907.

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK.

To the House of Delegates:.

The Committe on Scientific Work begs to submit the following report for the year ending December 31, 1907:

The Annual Meeting of 1907 was held in Albany, January 29th and 30th, and a full and complete scientific program, which was well discussed, was presented to the members. Reports of the discussion and the papers have been printed in full during the past year in the NEW YORK STATE JOURNAL OF MEDICINE. Preparations are well under way for the meeting of 1908, and there is every reason to believe that the scientific program will be fully equal to the work that has been done in this Society, in the past.

Respectfully submitted,
(Signed) L. H. NEUMAN, *Chairman,*
Committee on Scientific Work.
December 31, 1907.

REPORT OF THE COMMITTEE ON EXPERIMENTAL MEDICINE.

64 Madison Avenue, New York City.

January 24, 1908.

TO THE HOUSE OF DELEGATES:

Gentlemen:

The Committee on Experimental Medicine begs leave to report as follows:

On Thursday, February 7, 1867, the Medical Society of the State of New York adopted a memorial to the legislature thereof regarding experiments upon living animals in which the following words occur: "The members of the State Medical Society would, therefore, view with regret the passage of any laws calculated to prohibit or interfere with this kind of physiological investigation."

The adoption of the memorial aforesaid was followed by the enactment by the Legislature of the following, which is still the law of New York: Section 10 of an act approved April 12, 1867, "for the more effectual prevention of cruelty to animals":

"Nothing in this act contained shall be construed to prohibit or interfere with any properly conducted scientific experiments or investigations, which experiments shall be performed only under the authority of the faculty of some regularly incorporated medical college or university of the State of New York."

(See Revised Statutes of New York, 3rd Edition, Vol. 1, page 80, paragraph 38.)

On February 3, 1875, the Society adopted this resolution:

"Resolved, that this Society hereby reiterates the opinions and conclusions on this subject embodied in its memorial to the Legislature adopted February, 1867, and re-affirms its conviction of the usefulness and propriety of experimentation on animals."

On February 4, 1880, the Society adopted a memorial against a bill to prohibit "vivisection"; and on the same day it adopted the two following resolutions:

"Resolved, that a special Committee be appointed, composed of permanent members of the Society, and known as the Committee on Experimental Medicine; which shall be empowered and instructed to take charge of the Society's Resolutions on this subject adopted by the Society in 1867 and 1875 and during the present session, and to present them in due form, whenever it may become advisable, to the Governor and Legislature of the State of New York."

"Resolved, that the Committee on Experimental Medicine be empowered to associate with themselves any additional members, from the State or County Medical Societies, as they may desire, to facilitate the action of the Committee; and also to adopt such other measures as they may deem expedient in furtherance of the objects for which they were appointed."

This Committee reported in writing annually, from 1881 to 1887 inclusive; and each report was accepted and each recommendation adopted by the Society.

From among the resolutions adopted during this period by the Society on the recommendation of the Committee the following may be cited, adopted on February 3, 1885, viz.:

"Resolved, that the Medical Society of the State of New York wishes hereby to reiterate its opinion that the untrammeled right, on the part of qualified medical men, to perform scientific experiments upon living animals is essential to the progress of medicine."

On February 7, 1891, the Society adopted a report from the Committee in which it requested "that its powers and duties be reaffirmed" and that its membership be reconstituted.

On February 7, 1893, the Society, on the recommendation of the Committee, adopted the following resolution:

"Resolved, that the performance of scientific experiments upon living animals is essential to the maintenance and progress of the Medical Sciences and of the Medical Art; and that to discourage such experiments would be highly injurious to the public welfare."

No so-called "anti-vivisection bill" had been introduced into the Legislature of New York for ten years previous to 1893; and after that date no occasion arose for the Committee to take action calling for a report until March 29, 1907, when Assembly Bill No. 1955 was introduced into the New York Legislature, the bill being entitled "An act to prevent cruelty by regulating experiments on living animals," which bill was referred to the Assembly Committee on General Laws.

On April 2, the undersigned Secretary of the Committee, who had been elected to that office in 1882, wrote to the President of the Society, informing him of these facts, requesting that the Committee on Experimental Medicine be reconstituted by the President, and stating that there was available to meet the expenses thereof a special fund privately contributed many years before, together with the accumulations thereof.

On April 8, 1907, the President reconstituted the committee, appointing to be members thereof the following twenty-four persons, all of whom had been members or associate members of the Committee at its last meeting, and all of whom at the date of their reappointment, were members of their respective County Medical Societies:

Robt. Abbe, New York County Society; H. M. Biggs, New York County Society; Jos. D. Bryant, New York County Society; B. Farquhar Curtis, New York County Society; John C. Curtis, New York County Society; F. Delafield, New York County Society; F. S. Dennis, New York County Society; Wm. S. Ely, Monroe County Society; E. D. Fisher, New York County Society; A. Flint, New York County Society; J. W. S. Gouley, New York County Society; Henry Hun, Albany County Society; E. G. Janeway, New York County Society; F. P. Kinnicutt, New York County Society; Hersey G. Locke, Onondaga County Society; Roswell Park, Erie County Society; F. Peterson, New York County Society; W. W. Potter, Erie County Society; M. Allen Starr, New York County Society; L.

A. Stimson, New York County Society; J. S. Thacher, New York County Society; W. Gilman Thompson, New York County Society; Albert Vander Veer, Albany County Society; and S. B. Ward, Albany County Society.

This action by the President was published in the NEW YORK STATE JOURNAL OF MEDICINE, Vol. 7, No. 5, page 210, for May, 1907.

On April 11, 1907, three days after the action of the President, a hearing of the opponents and favorers of the bill aforesaid was had before the Assembly Committee on General Laws.

Under the guidance of the Chairman of the Committee on Legislation, who had already acted promptly and effectively against the bill, a number of medical and scientific men spoke in opposition to it. The bill was never reported by the Committee on General Laws to the Assembly. It having come to the knowledge of the Committee on Experimental Medicine, in January, 1908, that medical men were being invited to sign a petition in favor of a proposed bill having the same title as the bill which failed to be reported in 1907, viz.: "An act to prevent cruelty by regulating experiments upon living animals," and the said proposed bill having been considered by the Committee and disapproved, the following preamble, resolutions, and statement were adopted by the Committee, and ordered to be printed, signed by the Chairman and Secretary, and sent by post to every practitioner of medicine in the State of New York:

WHEREAS, in the State of New York a petition is being widely circulated among medical men for signature in favor of a proposed bill entitled "An act to prevent cruelty by regulating experiments on living animals"; and

WHEREAS, the said bill contains in its provisions conditions which would probably seriously impair the progress of scientific medicine;

Resolved, that the Committee on Experimental Medicine of the Medical Society of the State of New York earnestly requests the members of the medical profession to refrain from signing the aforesaid petition, and urges any one who may have signed the same by inadvertence to withdraw their signatures.

The present laws of this State relating to this subject have long proved adequate and satisfactory.

Together with the foregoing, there were ordered sent reprints of certain printed matter relating to the proposed bill. Two copies of the entire circular are appended to this report. The proposed bill referred to in this circular has not yet been introducd into the Legislature, so far as is known to the Committee. Another bill, however, relating to vivisection, has been introduced into the Assembly of New York by Mr. Johnston, of New York County, on January 16, 1908. This is Assembly Bill No. 256, and has a title identical with that of the proposed bill already referred to, viz.: "An act to prevent cruelty by regulating experiments on living animals."

This bill is practically the same as the one introduced under the same title in 1907, which was opposed by many medical and scientific corporations and individuals and which the Committee on General Laws did not report to the Assembly. In many very important parts the two bills are verbally identical; and the only differences, other than verbal ones, are in certain details, relating to inspections and reports, contained in Section 2 and Section 3 of Bill No. 256 of 1908. This bill should receive the same fate as its predecessor of 1907. It has been referred to the Assembly Committee on the Judiciary, and not, as in 1907, to the Committee on General Laws.

In view of all the foregoing, your Committee respectfully submits that continued vigilance is necessary in order to protect medicine and science, and, through them, the public, from the efforts of those who seek to destroy or hamper experimental medicine and biology. In order that the work of the Committee on Legislation in counteracting such measures may be supplemented, as in former years, the Committee on Experimental Medicine respectfully recommends that it be continued, and empowered, as before, to take action when this shall seem necessary, in opposing the enactment of laws calculated to abolish or impair the doing of properly conducted experiments upon living animals for scientific purposes.

The Committee would further recommend that Dr. Wisner R. Townsend, at present Secretary of the Society, be appointed a member of the Committee, vice Dr. Austin Flint, resigned.

Respectfully submitted, by order and in behalf of the Committee.

JOSEPH D. BRYANT, M. D.,
Chairman.
JOHN G. CURTIS, M. D.,
Secretary.

The following circular letter has been sent to the profession throughout the State:

COMMITTEE ON EXPERIMENTAL MEDICINE.
64 Madison Avenue.

NEW YORK CITY, January 18, 1908.

DEAR DOCTOR—On April 8, 1907, the President of the Society appointed twenty-four members thereof to be a "Committee on Experimental Medicine," in view of proposed legislation calculated to injure the progress of medicine by restricting experimentation.

As agitation in this direction has recently been renewed, in a very plausible form, the undersigned have been instructed by the said committee to send you the following copy of a preamble and resolution adopted at a meeting thereof held in New York City, on January 15, 1908; and also the appended reprints of lately published articles relating to the subject:

Whereas, In the State of New York, a petition is being widely circulated among medical men for signature in favor of a proposed bill entitled "An act to prevent cruelty by regulating experiments on living animals;" and

Whereas, The said bill contains in its provisions conditions which would probably seriously impair the progress of scientific medicine:

Resolved, that the Committee on Experimental Medicine of the Medical Society of the State of New York earnestly requests the members of the medical profession to refrain from signing the aforesaid petition, and urges any who may have signed the same by inadvertence to withdraw their signatures.

The present laws of this State relating to this subject have long proved adequate and satisfactory.

Faithfully yours,

JOSEPH D. BRYANT, M.D.,
Chairman.
JOHN G. CURTIS, M.D.,
Secretary.

"VIVISECTION" IN THE STATE OF NEW YORK.

The signatures of medical men in this State are being solicited to a petition in favor of a proposed bill entitled an "Act to prevent cruelty by regulating experiments on living animals."

This proposed bill is so speciously drawn that, on hasty reading, it may seem, even to medical men, comparatively unobjectionable. In fact, some practitioners have signed the petition, regardless of the fact that the bill might easily be made more stringent by amendments. Their action, however, is an error, as is now recognized by a number of the signers who have withdrawn their signatures.

The bill specifies in which cases anaesthetics must be used, while the fact is that the habitual use of anaesthetics in laboratories has long been practised. It is easy, therefore, to overlook the fact that exceptional experiments may be necessary, as they have been in the past, in which it is indispensable, for the good of mankind, to omit the anesthetic, just as such exceptional cases arise in operations upon human beings. In the latter cases, the surgeon is absolutely free to withhold anaesthesia from his patient; but an operator is forbidden by the proposed Act to withhold it, in certain specified cases, from an operated animal, no matter how important for the advance of human knowledge or the relief of human suffering the experiment may be which anaesthetics would defeat, no matter though the pain might be less than that inflicted in the gelding of a horse or the "winging" of a bird. The absurdity of such provisions at once appears, upon consideration, as does the unwisdom of the limitations placed by the bill upon demonstrations.

It is also most injudicious that a system of reports should be established by law, so that the system might readily become a means of persecution, should the State Commissioner of Health be perverse, or yield to the pressure of the agitators by whom the administration of the law would be jealously watched.

The foregoing objections to the bill are not the only ones. Indeed, the persistency of agitators regarding experiments on animals would make the proposed law merely that entering wedge, that "first instalment," for which some of them have long clamored. The passage of the bill in question would not forestall further agitation, as is claimed; it would incite to it. This is abundantly clear from the foreign experience of thirty years. We shall have the agitators with us always, whatever we do or leave undone, short of submitting to the complete cessation of experiments. Therefore, let us follow the example set a few years ago in Washington by the medical men of the whole nation; let us not surrender our present rights, and betray our trust to our successors by inviting the State to withdraw from us one "jot or tittle" of its present confidence. Let no change be made, with our consent, in the present legal status of experimental medicine and biology. Let no medical man of the State of New York sign the petition to change the present laws, which amply suffice for the purposes of scientific experiment, and, should the case ever arise, for the punishment of wrong doing.

(From the NEW YORK STATE JOURNAL OF MEDICINE, January, 1908.)

AN UNNECESSARY BILL.

A bill purporting to be in the interest of humaneness has recently been drawn up for introduction at the present session of the New York Legislature. The promoters of the bill have been sending canvassers about among the members of the medical profession in this city endeavoring to obtain signatures to a petition favoring the passage of the measure. As the bill, on hasty reading, seemed to be moderate enough and devoid of oppressive features, a number of signatures were obtained, but we understand that many of these were withdrawn by the signers as soon as they appreciated the real significance of the movement. Even a medical contemporary was led to commend the measure editorially, but withdrew its support the following week. This is the only basis for the statement that the medical profession of the State is in favor of the proposed legislation, and the assertion that has been made that the New York physicians themselves drew up the statute is entirely erroneous. The New York physicians are opposed to it and the more they study it the stronger is their opposition.

It may not be known to all of our readers that the existing laws regarding the prevention of cruelty to animals, which seem to have been very wisely drawn, already constitute a safeguard against possible abuses. The law allows the performance of "any properly conducted scientific experiments or investigations, which experiments shall be performed only under the authority of the faculty of some regularly incorporated medical college or university of the State of New York." This law has proved sufficient for its purpose, and under it New York has advanced to the front rank among American centers of medical and scientific progress. Neither in the interest of humaneness nor on the part of the medical profession is any change in the existing law needed or desired, and we can conscientiously counsel our professional brethren to stand as a unit against lending their assistance to any such movement.

The measure now proposed is the more dangerous from its plausibility. It requires the licensing of all buildings in which animal experiments are to be performed, provides for semi-annual reports regarding the statistics and details of experiments, limits demonstrations, and places upon experiments a number of restrictions frequently demanded by the out-and-out anti-vivisectionists. Under the notion that the disposition of experimenters is such that they require restrictive control —a notion, the insulting character of which must be evident to every member of the medical profession—the bill offers barriers to medical progress. It should be strenuously opposed.

Especially should the argument be allowed no weight that the bill in question would forestall more radical and more dangerous legislation. It would inevitably pave the way, should it become a law, for other oppressive and more restrictive measures. Such an argument reveals only more clearly the insidious nature of the present attack. Here, as elsewhere, it is the first step that counts. The passage of the first anti-vivisection law in this State would mean the beginning of improper limitations which would have no end. The united effort of the medical profession is needed to prevent this first step.

(From the *Medical Record,* New York, Jan. 18, 1908.)

REGULATING VIVISECTION.

A Protest Against the Bill Now Being Drafted for Presentation at Albany.

To the Editor of the New York Times:

It is with regret that I have read in this morning's Times the article headed "Advancing to Meet the Enemy," in which approval is given to a proposed bill for "regulating" vivisection. The bill in question does not emanate from the medical profession, although some

members thereof have been induced to sign a petition in its favor by canvassers employed by the promoters of the bill. A number of such signatures have already been withdrawn, however, as the result of a better understanding of the dangers underlying the plausible provisions of the measure, and the approval given to it by *The New York Medical Journal* of January 4 has been withdrawn completely and emphatically in its next issue of January 11.

In point of fact, the detailed restrictions and regulations imposed by the bill upon experimentation could not fail to be harmful to experimental medicine and biology. Both are rapidly changing sciences; and it is as impossible rationally to prescribe by law the details of their practice as it would be to give directions by law for the practice of medicine and surgery.

Even should the bill not be amended on its way through the Legislature, in a sense even more hostile to science, it would, if enacted, afford precisely that "entering wedge" for agitators which many of them desire. This is shown by the foreign experience of thirty years, which demonstrates that no legislation short of the simple prohibition of vivisection will forestall continued vexatious agitation against it. Those medical men who are not imperfectly informed on this subject, and the institutions where medical research and teaching are carried on, will undoubtedly oppose the bill in question, as well as oppose whatever more violent measures may be introduced looking to changes in the present law of the State of New York, which already sufficiently provides for the prosecution of improper persons.

The *New York Times* has always understood so well the benefits which mankind derives from experimental medicine and biology, that one may venture to hope that it will uphold every effort to maintain and transmit ehese sciences unimpaired.

New York, January 13, 1908. M. D.

(From the *New York Times,* January 15, 1908.)

A BILL THAT SHOULD DIE A-BORNING.

A bill has been introduced into the Legislature, entitled "An Act to Prevent Cruelty by Regulating Experiments on Living Animals." [The bill has not yet been actually introduced, January 15, 1908.] That is one of the misleading titles calculated to commend a measure on a subject which does not need any new legislation to carry out the very provisions sought by the bill itself. The surgeons of this State are not wantonly treating living animals with cruelty, and the prohibition of what they are not doing is, to say the least, unnecessary.

Moreover, the requirement in the proposed measure, that institutions of medical instruction, or hospitals, or laboratories of medicine shall twice a year report all instances of vivisection of animals to the State Commissioner of Health, is designed to clothe with unnecessary importance an officer whose importance is already sufficient and whose functions need no augmentation.

The State Commissioner of Health, appointed by a wise Governor, will, as in the present case, be a competent man. But such commissioner, appointed by a fool Governor or an unwise Governor, would probably reflect the quality of the Governor appointing him, and would be an unwise custodian of the power proposed by the measure under consideration.

The medical profcssion of the State of New York is a civilized body of educated and humane men. The different schools of medical education and practice report candidates for admission to mcdicine and surgcry to the Examining Board designated by the Regents, and that Examining Board insists on like qualifications for all intending practitioners. Neither those already in practice, nor those hcreafter to become practitioners, require any such overseership as the proposed bill suggests, and thev do not need to make any mcdical Statc official a clearing house, so to speak, to pass upon their vivisectional surgery or their use of anaesthetics or any other department of their art.

When the bill named was first proposed, quite a number of practitioners favored it. When they had had their thinking caps on for a week, a large proportion of those who had favored the measure renounced their approval of it, and are against it now. The members of the Legislature should take the inability of the measure to retain the approval of thoughtful practitioners into account, and should allow the bill to dies where it is.

(From an Editorial in the *Brooklyn Daily Eagle,* January 14, 1908.)

MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held at the residence of Dr. F. C. Curtis, 17 Washington Avenue, Albany, N. Y., at 9.15 P. M. Saturday, December 14, 1907. Dr. F. C. Curtis, President, in the chair. Dr. Wisner R. Townsend, Secretary.

There were present Drs. F. C. Curtis, President; Julius C. Bierwirth, First Vice-President; Wisner R. Townsend, Secretary; Alexander Lambert, Treasurer; L. H. Neuman, Chaiman Committee on Scientific Work; A. G. Root, Chairman Committee on Legislation; J. L. Heffron, Chairman Committee on Public Health; W. J. Nellis, Chairman Committee on Arrangements; W. H. Ross, Councilor Second District Branch; J. T. Wheeler, Councilor Third District Branch; D. C. Moriarta, Councilor Fourth District Branch; De Lancey Rochester, Councilor Eighth District Branch.

Moved, seconded and carried that the Chair appoint a committee of three to audit the accounts and make the annual report of the Council to the House of Delegates of the Medical Society of the State of New York. The Chair appointed Drs. Bierwirth, Neuman and Heffron.

Moved, seconded and carried that the proposed amendment to the by-laws of the Medical Society of the County of Dutchess "to increase the size of its Comitia Minora" be authorized.

Moved, seconded and carried that the proposed amendments to the by-laws of the First, Third, Fifth, Seventh and Eighth District Branches, "to do away with the delegate system and elect officers and select place of meeting by the entire body" be authorized.

Moved, seconded and carried that the Secretary be authorized to sign application blank of Trunk Line Association for reduction in fare to those attending the annual meeting.

Moved, seconded and carried that the Committee on Arrangements be directed to provide for the validation of all tickets, and that the validation be limited to the members, their families and guests of the Society.

Moved, seconded and carried that the Sccretary and Treasurer be authorized to destroy such old correspondence files now in the office at 64 Madison Avenue, as in their opinion are of no historical or practical value.

*The report of the Committee on Publication was read by the chairman, Dr. Julius C. Bierwirth.

Moved, seconded and carried that the report be accepted.

Moved, seconded and carried that the recommendations of the report be adopted and that the full report be included in the report of the Council to the House of Delegates.

Moved, seconded and carried that the Council recommend to the House of Delegates that the following amendments be made to the Constitution and By-Laws of the Medical Society of the State of New York:

Amend the Constitution, Article III, by adding a new section, 2, to read as follows:

"All officers shall assume office at the close of the annual meeting of the Society."

Section 2, Article III, of the present Constitution, will then become Section 3.

*See report of Council to House of Delegates, p. 86.

Amend the By-Laws, Chapter IV, Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society under its control.

Amend the By-Laws, Chapter IV, Section 1, by striking out Section 1, and substituting therefor the following:

SECTION 1. The Council shall meet at the close of the annual session of the Society, to organize and outline the work for the ensuing year.

It shall meet once during the months of May and December of each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

And by adding:

SECTION 2. Seven members shall constitute a quorum.

Section 2 then becomes Section 3, and Section 3 then becomes Section 4.

Amend the By-Laws by adding to Chapter VII, Section 1, after the words "A Committee on Arrangements" the words "A Committee on Publication," and a section to read as follows:

SECTION 6. The Committee on Publication shall consist of five members: The Secretary and Treasurer of the Society, and three other members. The members of the Committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this By-Law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the annual meeting of the Society, the Committee shall select one of its members to act as chairman and he shall serve for one year, or until his successor is elected. The chairman of the committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution, and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates, specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

The Treasurer made the following report:

December 14, 1907.

ESTIMATED CONDITION OF TREASURY JANUARY 1, 1908.

Cash balance December 14	$5,568.75	
Bills payable	2,124.30	
		$3,444.45
Bills Receivable:		
Journal advertisements	$2,608.55	
Directory advertisements	478.00	
Directory Sales	137.50	
		$3,224.05

Just how soon the bills receivable will be paid it is impossible to say, as owing to financial conditions collections are slow.

The Committee on Scientific Work reported progress.

The Committee on Arrangements reported progress.

Moved, seconded and carried that the Committee on Scientific Work be authorized not to receive papers for the annual meeting after December 31, 1907, and that as soon as possible thereafter, the program for the scientific session be arranged. The session to begin at 2 P. M., January 28, 1908.

Moved, seconded and carried that an invitation to the annual meeting and the preliminary program be sent to all registered physicians in the State of New York.

Moved, seconded and carried that the annual banquet be held Wednesday evening, January 29, 1908.

The meeting then adjourned.

(Signed) WISNER R. TOWNSEND, *Secretary.*

MEETING OF THE COUNCIL.

A meeting of the Council of the Medical Society of the State of New York was held in the Recorder's Court Room, City Hall, Albany, on Monday, January 27, 1908, at 8.10 P. M.

There were present: Dr. F. C. Curtis, President; Dr. J. C. Bierwirth, First Vice-President; Dr. E. Torrey, Second Vice-President; Dr. N. G. Richmond, Third Vice-President; Dr. Wisner R. Townsend, Secretary; Dr. Alexander Lambert, Treasurer; Dr. L. H. Neuman, Chairman Committee on Scientific Work; Dr. A. G. Root, Chairman Committee on Legislation; Dr. W. J. Nellis, Chairman Committee on Arrangements; and the following Councilors: 2d District, Dr. E. H. Bartley; 4th District, Dr. C. Stover; 6th District, Dr. W. A. Moore; 8th District, Dr. A. D. Lake.

The minutes of the last meeting were read and approved.

The following new by-law was presented by Monroe County, with request that it be authorized:

CHAPTER XIII.

CONTRACT PRACTICE.

"SECTION 2. No member of this Society shall, after the first day of January, 1908, enter into or renew any contract, agreement or understanding whereby he shall undertake to furnish or perform any services as physician or surgeon for any society, corporation, lodge, or other association of persons, or for the members thereof, for a smaller fee or remuneration per member than would ordinarily be charged such member for such services if furnished or performed for him as an individual, and no member of this Society shall, after said first day of January, 1908, furnish or perform such services for such smaller fee or remuneration except so far as necessary to fulfil any contract entered into before said date."

Referred to a committee consisting of Dr. Lake, Dr. Whitbeck, and Mr. James Taylor Lewis, Counsel.

There being no further business the meeting adjourned at 8.30 P. M.

(Signed) WISNER R. TOWNSEND, *Secretary.*

ANNUAL MEETING OF THE HOUSE OF DELEGATES OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York was held at the City Hall, in Albany, January 27, 1908, at 8.30 P. M. Dr. Frederic C. Curtis, President, in the chair. Dr. Wisner R. Townsend, Secretary.

Present: F. C. Curtis, President; J. C. Bierwirth, First Vice- President; E. Torrey, Second Vice-President; N. G. Richmond, Third Vice-President; Wisner R. Townsend, Secretary; Alexander Lambert, Treasurer; L. H. Neuman, Chairman Committee on Scientific Work; A. G. Root, Chairman Committee on Legislation; W. J. Nellis, Chairman Committee on Arrangements. Also the following Councilors: Second District, E. H. Bartley; Fourth District, C. Stover; Sixth District, W. A. Moore; Eighth District, A. D. Lake.

On roll call the following delegates answered to their names: J. D. Craig, W. G. Macdonald, S. B. Ward, W. A. Moore, J. E. K. Morris, N. G. Richmond, R. P. Bush, W. C. Thompson, Z. F. Dunning, I. G. Harris, J. E. Sadlier, A. H. Briggs, A. L. Benedict, F. E. Fronczak, A. G. Bennett, G. L. Brown, A. W. Hurd, W. H. Thornton, F. M. O'Gorman, J. H. Pryor, R. L. Ellithorp, C. F. McCarthy, Chas. P. McCabe, U. G. Williams, J. D. Spencer, E. H. Bartley, J. E. Blake, A. T. Bristow, Wm. Browning, W. F. Dudley, Chas. Jewett, C. H. Tag, Geo. F. Little, J. C. MacEvitt, J. P. Warbasse, S. A. Gluck, F. R. Driesbach, E. B. Angell, W. R. Howard, W. T. Mulligan, Douglas Ayres, P. S. Boynton, S. A. Brown, W. L. Carr, F. M. Crandall, R J. Devlin, W. G. Eynon, E. D. Fisher, R. H. Halsey, E. F. Hurd, A. Jacobi, A. M. Jacobus, E. Le Fevre, L. K. Neff, G. R. Pisek, M. L. Rhein, H. Roth, R. F. Weir, Wm. H. Potter, H. G. Jones, Chas. Bernstein, J. L. Heffron, D. M. Totman, D. H. Murray, A. L. Beahan, J. T. Howell, M. Latcher, C. H. Travell, J. B. Harvie, D. C. Moriarta, C. G. McMullen, G. A. Bellows, W. S. Cobb, W. H. Ross, L. Colville, J. L. Preston, H. Van Hoevenberg, R. A. Heenan, J. F. Myers, G. A. Peck, W. S. Fleming. Total, 81.

The Secretary announced that a quorum was present.

The Annual Report of the President was read by Dr. F. C. Curtis. See page 79.

Dr. Ward moved that the reports of the various committees be received as printed, and that the discussion of any points be laid over till the following morning. Motion duly seconded and carried.

Dr. Ward moved to adjourn to 9 A. M. Tuesday, January 28.

The Secretary stated that a number of communications has been sent to the Society and that he would like to present these and have them referred to committees, to be reported on the following morning.

The motion to adjourn was withdrawn.

Dr. Townsend presented the report of the Committee on Experimental Medicine (see page 101). Moved that it be received and referred to a committee of three, consisting of Drs. Ward, Le Fevre and Fisher. Motion duly seconded and carried.

The Secretary presented a communication from the American Medical Association, reading as follows:

AMERICAN MEDICAL ASSOCIATION,

103 Dearborn Avenue.
CHICAGO, September 12, 1907.

DR. WISNER R. TOWNSEND,
Secretary, Medical Society of the State of New York.

DEAR DOCTOR:

I send you herewith a marked copy of the official minutes of the Atlantic City session of the House of Delegates of the American Medical Association, showing the action taken regarding branch associations. This matter was discussed by Dr. J. N. McCormack, Chairman of the Committee on Organization, in his report, and was referred to the Reference Committee on Reports of Officers. This committee recommended that Dr. McCormack's report on the subject be referred to the State associations with the urgent request that they give an expression of their views, to be presented at the Association at the next annual meeting. Later on the resolution of Dr. P. M. Jones was adopted. Will you kindly bring this matter to the attention of your State association, advising me of the action of your association, in order that it may be presented to the House of Delegates in the next annual report of the General Secretary.

Very truly yours,

FREDERICK R. GREEN,
Assistant to the General Secretary.

The marked passages were as follows:

"REPORT ON BRANCH ASSOCIATIONS.

"On account of repeated solicitations from various interstate societies for authority to organize branch associations under the permissive provision of the by-laws of this Association, your committee submits its second report on this subject. We renew our recommendation that permission be given for the organization of seven branches, at the discretion of State associations composing them, so arranged as to cover the entire country. Provisionally, it is suggested that the branches be numbered and named, and that they shall contain or have assigned to them States and territories, as follows:

"1. North Atlantic Branch: New York, New Jersey, Connecticut, Rhode Island, Massachusetts, Maine, Vermont and New Hampshire."

"In the matter of the proposed branch associations, we recommend that this report on branch associations be referred to the State associations by the General Secretary, with an urgent request for an expression of their views, to be presented to this Association at the next annual meeting."

"*Resolved,* That recognition be given to the branch associations applying for the same, subject to the adoption of the uniform constitution and by-laws, to be prepared by the Committee on Organization of this Association.

"On motion, this resolution was adopted."

Moved that the communication be referred to a committee, with Dr. Bristow as chairman. Seconded. Carried.

The Secretary read the following communication from the Onondaga County Medical Society:

At a meeting of the Comitia Minora, held January 20, 1908, it was moved:

That we, the Onondaga Medical Society, request the State Society to appoint a committee, to meet a similar committee from the State Bar Association, to jointly frame a law that will diminish the present disrepute of medical expert testimony; and that this committee have power to present such a law to the State Legislature.

(Signed) JOHN C. SHOUDY, *Secretary.*

Moved that it be referred to a committee consisting of Drs. Jacobi, Murray and Beahan. Motion duly seconded and carried.

The following communication from the State Department of Labor was read by the Secretary:

ALBANY, January 27, 1908.

WISNER R. TOWNSEND, M.D.,
Secretary Medical Society of the State of New York,
Albany, N. Y.

DEAR SIR:

I beg to call the attention of your society to the fact that in this State information relating to the physical effect of various occupations on boys, girls and women is very meager. In fact, we are entirely lacking in scientific data that will enable us to determine the physical fitness of women and children to perform certain labor in factories. Such information properly compiled would be of great value to this department as well as to the medical profession generally. Our medical inspector of factories, Dr. C. T. Graham-Rogers, has suggested that we seek the co-operation of the Medical Society of the State of New York, through its county societies, in gathering such information. This department will be pleased to have the Society express its opinion upon the subject, and will gladly welcome any suggestions relative thereto.

Yours very truly,
JOHN WILLIAMS, *Commissioner.*

Moved that the communication be referred to a committee, with Dr. Nellis as chairman. Motion duly seconded and carried.

The Secretary presented the following communication from the Queens-Nassau Medical Society:

To the Medical Society of the State of New York:

We, the undersigned members of the Queens-Nassau Counties Medical Society, residing in the County of Nas-

sau, petition the State Society for a charter for a separate County of Nassau Medical Society.

The population of Nassau County is one hundred thousand (100,000) and growing rapidly. Queens County is too remote for a large number of Nassau County practitioners to become members of, and with the formation of a new society, to which we think the county is entitled, we feel assured of an increased membership.

(Signed)

A. Ferrée Witmer, Freeport; Edwin Carman, Freeport; Frank T. DeLano, Rockville Center; J. Ensor Hutcheson, Rockville Center; Arthur D. Jaques, Lynbrook; Robert F. Hutcheson, Cedarhurst, L. I.; Edward H. Pershing, Lawrence; J. Card Schmuck, Lawrence; F. W. Fletcher, Freeport; Charles H. Ludlum, Hempstead; Louis N. Lanehart, Hempstead; H. A. Alderton, Hempstead; John W. Durkee, Sea Cliff; James E. Burns, Glen Cove; Joseph A. Kerrigan, Hempstead; L. A. W. Alleman, Hempstead; J. F. Michel, Farmingdale; W. W. Dutcher, Farmingdale; Adolph G. Rave, Hicksville; F. F. Schirck, Mineola; Samuel J. Bradbury, Lynbrook; J. M. Foster, Valley Stream; W. J. Malcolm, Jericho.

Moved that the communication be received and laid on the table. Seconded. Carried.

The resignation of Dr. Park as delegate to the American Medical Association was presented and accepted with regret.

Dr. Ward moved to adjourn. Seconded. Dr. Townsend moved to incorporate in the motion that the election of officers for the ensuing year be made a special order for 10 o'clock the following morning. Amendment seconded and motion carried as amended.

An adjournment was taken to 9 A. M., Tuesday, January 28.

WISNER R. TOWNSEND, M.D., *Secretary.*

ADJOURNED MEETING OF HOUSE OF DELEGATES.

The adjourned meeting of the House of Delegates was called to order at 9.30 A. M. Tuesday, January 28, President Curtis in the chair.

The President gave notice that there was to be a slaughter of cattle infected with tuberculosis at Downey's slaughter house, under the supervision of State Veterinarian Dr. Wm. H. Kelly, at 11 A. M.

Dr. Le Fevre moved that the roll call be dispensed with. Seconded by Dr. O'Gorman and carried. By count 67 members were present, constituting a quorum.

Moved by Dr. Jacobi and seconded by Dr. Le Fevre that the reading of the minutes be deferred. Carried.

CONSIDERATION OF REPORTS.

Moved by Dr. Travell and seconded by Dr. Jewett that the President's Address be referred to a committee of three to report on the recommendations. Carried and the following committee appointed: Drs. C. H. Travell, Charles Bernstein, D. M. Totman.

Moved by Dr. Townsend that the recommendations contained in the report of the Secretary be considered. Motion duly seconded and carried.

Dr. Bush moved that the recommendation as to the payment of the traveling expenses of the delegates be adopted. Seconded by Dr. Moriarta and carried.

Dr. Bush explained that his motion was intended to cover all the recommendations made in the Secretary's report and moved that they be adopted. Motion seconded and carried.

Dr. Jacobi stated that the rules adopted last year in regard to advertisements had seemed to work well and moved that they be continued for this year. Seconded by Dr. Blake and carried.

Moved by Dr. Townsend, seconded by Dr. Van Hoevenberg, that the proposed amendments to the Constitution and By-Laws, recommended by the Council, be accepted by the House of Delegates, and that in conformity with the By-laws they shall be presented for a vote at the next annual meeting. Carried. For amendments, see page 105.

Dr. Heffron, Chairman of the Committee on Public Health, moved the adoption of the recommendation "that the work of the State Laboratory be extended to the furnishing of virus and antitoxins for the entire State." Motion seconded by Dr. Bristow.

Some one inquired how many private laboratories there were in the State. The Lederle Laboratory was cited as one.

Dr. Macdonald stated that the present laboratory located in the City of Albany and supported by the State of New York, is now and always has been a laboratory for the entire State, and it was his understanding that this laboratory does now furnish antitoxins everywhere throughout the State, particularly to State institutions.

Dr. Heffron stated that the intention of the recommendation was not a multiplication of laboratories, but an increase in the output of antitoxin, so that all the people of the State could have it free of cost; that the laboratory at Albany was capable of producing antitoxin which was absolutely pure and reliable for about one-tenth of what it could be bought for in the market and was desirous of being able to manufacture it in sufficient quantities to protect all the people of the State and at the same time furnish an antitoxin in which there could be absolute confidence. The present condition as to smallpox was due in large measure to the impurity of antitoxins on the market and the result was an unvaccinated population which might prove a menace to the entire State. If physicians were assured of getting a virus which was absolutely pure this condition would no longer exist.

Dr. Bush said that the wording of the recommendation would require that the State Laboratory manufacture all the antitoxin used in the State and that if he bought some in an emergency he would be violating the resolution; furthermore, that no manufacturer could afford to promulgate infection. He suggested a different wording for this part of the recommendation.

The President stated that the purpose of the recommendation was clear enough and that it was the most important resolution to come before the House of Delegates.

The motion that the recommendation be adopted was carried.

Dr. Heffron moved that the recommendation, that the Society co-operate with the State Department of Health in passing a law requiring the registration of all cases of tuberculosis, be adopted. Motion seconded and carried.

Moved by Dr. Heffron that the recommendation in regard to the extension of the work of the State Hospital for Incipient Tuberculosis at Ray Brook be adopted. Seconded by Dr. Moriarta and carried.

Moved by D. Heffron that the recommendation in regard to the discharge of raw sewage be adopted. Motion seconded by Dr. Bristow and carried.

Report of Counsel: Dr. Townsend called attention to the cases reported and stated that where a physician agreed to put his case in the hands of the Counsel for the Society and then settled without knowledge of counsel there should be some penalty attached. He suggested as a penalty that such physician be obliged to pay the expenses of the trial up to the time of compromise.

Dr. Fisher thought a physician should have the same right of compromise as when he engaged private counsel.

Dr. Carr stated that it was not wholly a personal question, but that when a physician became affiliated with the State Society he should consider not only his own personal interest but the interest of the whole organization, and that in cases of this kind there should be some method of discipline.

Dr. Moriarta said that it was a matter of considerable moment to the physician involved, but considered the recommendation a wise one.

Dr. Townsend moved that the question be referred to a committee of three, who should report at the next annual meeting. Motion seconded by Dr. Fisher and carried.

Report of Committee on Distribution of Library. Dr. Angell moved that the committee be discharged.

Dr. Browning said that if the work outlined by the report of this committee and the following report was to be successfully carried on it would be necessary to have a standing committee. He moved that the recommendations of the committee be adopted and that the committee be continued. Seconded by Dr. Harris. Carried.

Report of Committee on Medical Libraries. Dr. Browning explained the recommendations contained in paragraphs 1, 2, 4, 5, 6 and 7, and moved that they be adopted as the sentiment of the Society. Seconded by Dr. Potter. Carried.

Dr. Angell moved that the recommendation under paragraph 8 be adopted. Seconded by Dr. Bristow. Carried.

Dr. Bartley wished to know whether any provision was to be made for carrying out these recommendations—whether it was necessary to continue the committee.

Dr. Angell suggested that the matter be left to the incoming President.

Dr. Bartley moved that a special committee be appointed by the incoming President to take charge of this matter and carry out the recommendations of the committee.

Dr. Browning moved as an amendment that the committee which had just been continued take charge of this matter also. The amendment was accepted and the motion carried as amended.

The hour of ten having arrived, it was moved to proceed with the special order of business, the

Election of Officers.

The President called attention to the fact that the present officers had no vote in the choice of their successors, as only delegates were entitled to vote.

Drs. Jewett, Briggs and Spencer were appointed tellers.

President: Dr. Bristow placed in nomination Dr. Edward L. Trudeau, of Saranac Lake. Nomination seconded by Drs. Jacobi, Brown, Bernstein and Thompson.

Dr. Bennett nominated Dr. Charles G. Stockton, of Buffalo. Seconded by Drs. Angell and Macdonald.

Moved that nominations be closed and that while the tellers were counting the ballots the House proceed to the selection of

First Vice-President: Dr. Le Fevre nominated Dr. Arthur G. Root, of Albany. Seconded by Dr. Ward.

There being no other nominations, moved that the by-laws be suspended and that the Secretary be instructed to cast one vote for Dr. Root, who was declared elected First Vice-President for the ensuing year.

Second Vice-President: Dr. Moriarta nominated Dr. John T. Wheeler, of Chatham. Seconded by Dr. Ward.

Moved that the Secretary cast one ballot for Dr. Wheeler, who was declared elected Second Vice-President for the ensuing year.

Third Vice-President: Dr. Morris nominated Dr. M. C. Hawley, of Randolph. Seconded by Dr. Harvie. Dr. Murray nominated Dr. John L. Heffron, of Syracuse. Seconded by Dr. Jacobi.

Dr. Heffron asked that his name be withdrawn, and the Secretary was instructed to cast one ballot for Dr. Hawley, who was declared elected Third Vice-President for the ensuing year.

Secretary: Dr. Bristow moved that Dr. Wisner R. Townsend be re-elected. Seconded by Dr. Jacobi.

The President was instructed to cast one ballot for Dr. Townsend, who was declared elected Secretary for the ensuing year.

On being called on for a speech, Dr. Townsend stated that he appreciated very highly the compliment of a re-election, but as he believed in rotation in office this was positively the last time that he would allow his name to be presented and that next year they would have to choose some one else to carry on the work of the Secretary's office.

Treasurer: Dr. Alexander Lambert was re-elected.

Chairman Committee on Scientific Work: Dr. L. H. Neuman, of Albany, was re-elected.

Chairman Committee on Public Health: Dr. John L. Heffron, of Syracuse, was re-elected.

Chairman Committee on Legislation: Dr. Carr nominated Dr. Frank Van Fleet, of New York. Seconded by Dr. S. A. Brown.

The Secretary was instructed to cast one ballot for Dr. Van Fleet, who was declared elected Chairman for the ensuing year.

Chairman Committee on Arrangements: Dr. W. J. Nellis, of Albany, was re-elected.

The tellers having concluded their count reported that 66 ballots had been cast for President, of which Dr. Trudeau received 38, and Dr. Stockton 28.

Dr. Trudeau, having received a majority of the votes cast, was declared elected President for the ensuing year.

Delegates to American Medical Association: The Secretary called attention to the fact that no one was eligible as delegate or alternate who had not been a member of the American Medical Association for at least two years. The following were chosen:

Two Delegates for One Year: Drs. Robert F. Weir, of New York, and Charles Jewett, of Brooklyn.

Five Delegates for Two Years: Drs. Wisner R. Townsend, of New York; D. C. Moriarta, of Saratoga; E. B. Angell, of Rochester; J. C. Bierwirth, of Brooklyn, and Albert Vander Veer, of Albany.

Six Alternate Delegates for Two Years: Drs. J. H. Glass, of Utica; Z. F. Dunning, of Philmont; Charles Stover, of Amsterdam; W. H. Thornton, of Buffalo; C. W. M. Brown, of Elmira, and Geo. F. Little, of Brooklyn.

Five Alternate Delegates for One Year: Drs. John A. Fordyce, of New York; A. H. Terry, of Patchogue; Wesley T. Mulligan, of Rochester; G. W. Rossman, of Ancram, and Lorenzo Burrows, Jr., of Buffalo.

Moved that the tellers be discharged with the thanks of the House. Carried.

Appointment of Counsel: Dr. Fisher moved that Mr. James Taylor Lewis by reappointed Counsel for the Medical Society of the State of New York for the year beginning February 1, 1908. Motion seconded and carried.

Committee Reports Continued.

Report of Committee on Annual Meetings: Dr. Elsner stated that the committee found a strong sentiment in favor of a meeting each year other than the annual meeting at Albany.

Dr. Townsend moved that the report be referred to a committee of three, for consultation with the Counsel of the Society as to the legality of the change in the place of meeting, and with other members of the Society as to the advisability of a change of time or place, the committee to report at the next annual meeting.

Dr. Jacobi moved as an amendment that the present committee be continued. Amendment accepted and motion carried as amended.

Report of Committee on Training Schools: Moved that the report be accepted and the committee discharged. Carried.

Moved by Dr. Van Hoevenberg that the proposed amendments to the Constitution and By-Laws be adopted as read. Seconded by Dr. Le Fevre. Motion carried, and the following amendments to the Constitution and By-Laws declared as operative:

Amend the Constitution by adding to Article VI, a Section 3, as follows:

The notices of the annual, regular and special meetings of the Medical Society of the State of New York, its House of Delegates, Council and Censors shall state the date, place and hour, and shall be mailed in securely postpaid wrapper to each member, at least ten days before said meeting. The affidavit of mailing by the Secretary of the Society to the last recorded address of the

member shall be deemed sufficient proof of the service of such notice upon each and every member for any and all purposes.

Amend the By-Laws, Chapter VII, Section 1—In place of "all Committees shall be elected by the House of Delegates unless otherwise provided," by substituting the following: "The Chairman of all Standing Committees shall be elected by the House of Delegates unless otherwise provided in the By-Laws. The remaining members may be elected by the Council at the recommendation of their respective Chairmen."

Amend the By-Laws, Chapter IV, by adding to Section 2, the following: "The Council shall be empowered to fill any vacancies which may occur in any elective position."

The committee on the President's Address reported as follows:

1. The committee would recommend that the House of Delegates encourage and approve of such combination as may be fitting in each case between the District Branch Societies and the associations occupying their territory in reference to meetings.

2. The committee approves the recommendation of the President that the proper officers of the Society arrange to redistrict the State in such a way as to facilitate the attendance of the members in each district at the meeting of the district branch association, so that the meeting may be at a place readily accessible from all points in the district by established lines of travel.

3. The committee approves the recommendation of the President that a committee be appointed to confer with a like committee from the New York State Bar Association on medical expert testimony.

4. The committee approves the President's recommendation that the Society continue its efforts for the prevention of blindness in children, and recommends the appointment of a committee to take such action as they may deem necessary.

5. The committee recommends that the House of Delegates elect a delegate to the Council on Medical Education of the American Medical Association, which meets April 13 next at Chicago, and that the actual traveling expenses of such delegate be paid by the Society.

(Signed) C. HOWARD TRAVELL,
CHAS. BERNSTEIN,
D. M. TOTMAN.

Moved that the report of the committee be accepted and the recommendations adopted. Seconded. Carried.

Dr. C. H. Travell, of Troy, was elected a delegate to the Council on Medical Education of the American Medical Association, in accordance with the fifth recommendation.

Dr. Ross asked unanimous consent to take from the table the communication from the Queens-Nassau Medical Society, and moved the adoption of the following resolution:

Resolved, That the House of Delegates request the Council to recognize as one of the constituent County Societies of the Medical Society of the State of New York the County Medical Society of the County of Nassau, when it has complied with all the legal and other requirements in the formation of county societies.

Seconded by Dr. Jewett and motion carried.

Dr. Bristow, for the committee on the communications from the American Medical Association, stated that in the opinion of the committee there was already a sufficient number of societies, and offered the following resolution:

Resolved, That in the opinion of the House of Delegates of the Medical Society of the State of New York, it is not advisable to form a branch association, composed of States, to be an intermediate body between the State organization and the American Medical Association.

Moved that the resolution be adopted. Carried.

The committee on the report of the Committee on Experimental Medicine reported as follows:

We recommend that the report of the Committee on Experimental Medicine be accepted and printed in the minutes of the Society. That the powers and duties of the committee be reaffirmed and its membership be continued. That the recommendations of the committee be accepted, and that Dr. Wisner R. Townsend be appointed a member of the committee vice Dr. Austin Flint, resigned.

(Signed) SAMUEL B. WARD,
EDWARD D. FISHER,
EGBERT LE FEVRE.

Moved that the report be accepted and the recommendations adopted. Carried.

Dr. Le Fevre moved the adoption of the following resolution:

Resolved by the Medical Society of the State of New York, That it is the unanimous opinion of the members of this Society that the unrestricted performance, by qualified men, of scientific experiments upon animals is essential to the maintenance and progress of the Science and Art of Medicine, and that the present laws of this State relating to this subject have proved adequate and satisfactory.

Motion seconded by Dr. Heffron and carried unanimously.

Report concerning proposed committee to meet with a like committee from the State Bar Association: Dr. Murray stated that one year ago this subject was taken up by the retiring president of the Syracuse Academy of Medicine and a committee appointed. He stated further that the State Bar Association, at a meeting held last week, had passed the following resolution:

"Resolved, That a committee consisting of one member from each judicial district be appointed by the President, to unite with a committee to be appointed by the State Medical Society in considering a regulation concerning the introduction of expert testimony, and report at the next meeting of the Association."

Dr. Murray moved the adoption of the following resolution:

Whereas, It is believed by the House of Delegates of the Medical Society of the State of New York that the appointment by the court of an independent medical commission, which shall not prejudice the constitutional right of each side to call its own expert witnesses, would go far to diminish the disrepute in which expert testimony at present lies, therefore

Be it Resolved, That the President of the Medical Society of the State of New York appoint a committee of five to meet jointly with a similar committee from the State Bar Asociation, whose combined duty it shall be to frame a law, suitable to meet the question equitably to all, that shall diminish or cure the present conditions.

Resolution duly seconded and carried.

The President appointed on the committee Drs. D. H. Murray, Syracuse; A. T. Bristow, Brooklyn; A. W. Suiter, Herkimer; Edward D. Fisher, New York City; John A. Wyeth, New York City.

Dr. Spencer moved that the traveling expenses of this committee be paid by the State Society. Seconded by Dr. Potter. Carried.

The following communication from the Genesee County Medical Society was presented by Dr. E. E. Snow:

Whereas, The courts of this State have decided that the provisions of the present garnishee law are not applicable to bills for physicians' services,

Be it Resolved, That the Medical Society of the State of New York shall use its influence, through its Legislative Committee, to secure an amendment to the garnishee law, whereby its provisions shall be made to apply to bills for services of physicians and surgeons.

Dr. Angell presented a similar communication from Monroe County, and Dr. W. H. Ross from Suffolk County.

Moved that the resolution be adopted and referred to the Committee on Legislation. Carried.

Dr. E. E. Snow presented the following further communication from the Genesee County Medical Society:

Whereas, The protection of the public through en-

forcement of the medical practice law is properly a function of the State,

Be it Resolved, That a committee be appointed to draft a bill requiring the State to assume the responsibility and expense of prosecuting infringements or infractions of the medical laws in a similar manner to that assumed by the State in prosecutions of violations of the excise law, whenever information of such violations of the medical law is furnished by the President and Secretary of a County Society, and further

Be it Resolved, That this Society will use all proper means to secure the enactment of the aforesaid bill.

Moved by Dr. Angell that the communication be received and referred to the Committee on Legislation, for a report at the next annual meeting. Carried.

Concerning the communication from the Department of Labor, Dr. Nellis moved that it be referred back to the Secretary and that he send a copy of the communication to the secretary of each county society, with the request for a reply as to the opinion of the society. Carried.

The Secretary being obliged to leave, the chair appointed Dr. Le Fevre Secretary *pro tem.*

Dr. Spencer offered the following resolution, and moved its adoption:

Whereas, The excessive use of narcotics and alcohol is and has been recognized by our profession as a disease and a great menace to life and society, and has increased in the State of New York to such an extent as to attract widespread attention; and

Whereas, It has been demonstrated that persons who are addicted to excesses in the use of drugs and alcohol may, with proper treatment and control, be cured, and in many instances thereafter become valuable members of society; and

Whereas, The importance of the establishment of some State institution to treat persons so afflicted has been recognized by many of the States in the Union and institutions established therein for the care and maintenance of patients of this character; and

Whereas, We believe that great service could be rendered in this State by the establishment of a State institution for the treatment of this class of patients to which they may be committed voluntarily or by the Court;

Now, Therefore, It is resolved that we recommend the establishment and maintenance by the State of an institution for the care and treatment of inebriates and persons addicted to excessive use of drugs, and earnestly urge and recommend to the Governor of the State of New York and the Legislature the necessity and importance to society of the establishment of such an institution.

Seconded by Dr. Nellis and carried.

Dr. Angell stated that the State Industrial School had been removed from Rochester and had left in the city a large plot of ground with buildings. He stated, further, that an increased appropriation was desired for the enlargement of the institution for crippled children in the eastern part of the State. He believed that with the support of the Society a hospital for crippled children could be established without much expense in the western part of the State and demonstrated the need of such an institution for that locality. He therefore moved the adoption of the following resolution:

Resolved, That the Medical Society of the State of New York endorses the movement to establish a State Hospital for Crippled and Deformed Children at Rochester, N. Y., making use of State buildings now unoccupied.

Dr. Bernstein did not believe in trying to convert old buildings into a modern institution. He believed that another institution was needed, but thought it should be located in the country rather than in a city.

Dr. Angell stated that the old institution had 20 or 25 acres of ground and that some of the buildings were comparatively new and in good condition. It was proposed to use the newer buildings.

The resolution was seconded by Dr. Nellis and carried.

Mr. James Taylor Lewis, Counsel for the Society, asked unanimous consent to speak and stated that there had been brought to his attention many cases where physicians seeking to recover for their services after the death of a patient had failed to recover because of the conditions surrounding a doctor's testimony when he seeks to prove his claim. He had sent to the Chairman of the Committee on Legislation, in view of the fact that the amendment to the garnishee law was to be pressed, two bills for introduction, one dealing with this prohibition against physicians testifying to the extent of their services, the other dealing with malpractice actions where the circumstances should be given fully. The bills amended Section 834 of the Code of Civil Procedure, and Section 829 of the Code.

Moved by Dr. Van Hoevenberg that the matter be referred to the Committee on Legislation, with instructions to carry the bills through if possible. Seconded by Dr. Potter and carried.

Moved by Dr. Jewett that the minutes be printed in the JOURNAL and approved at the next meeting. Carried.

The House of Delegates declared adjourned *sine die* at 11.58 A. M.

(Signed) WISNER R. TOWNSEND, *Secretary.*

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

102d ANNUAL MEETING.

TUESDAY MORNING, JANUARY 28TH.

The meeting was called to order in the Common Council Chamber of the City Hall. Dr. Frederic C. Curtis in the chair. Rev. J. V. Moldenhawer offered an invocation, following which the delegates from other societies were received. From Connecticut, Dr. C. D. Alton, of Hartford.

Dr. Tucker read a letter from Dr. William J. Chandler, a delegate from New Jersey, regretting his inability to be present on account of an accidental injury.

It was moved by Dr. Elsner, of Syracuse, that as the minutes were printed, they be approved without reading. Seconded and carried.

Dr. C. D. Alton was asked to take a chair on the platform. Dr. Alton extended his thanks for the courtesy.

The address of the President was then read. See page 55.

Dr. Abraham Jacobi delivered an address on "Drugs and Nihilism." See page 57.

The meeting adjourned at 1 P. M.

SCIENTIFIC SESSION.

TUESDAY AFTERNOON, JANUARY 28TH.

BACTERIAL VACCINES.

Report of Four Cases Treated by Vaccines,
Algernon T. Bristow, Brooklyn

Clinical Observations on Vaccines,
Joshua M. Van Cott, Brooklyn

Description of Methods of Sir A. E. Wright,
William H. Woglom, Brooklyn

The Value of the Opsonic Index in Controlling the Use of Vaccines,
William H. Park, New York City

The Importance of Examining Individuals Exposed to Tuberculosis, John H. Pryor, Buffalo

The Treatment and Prognosis of Suppurative Cystitis,
Victor C. Pedersen, New York City

The Sequence of Pathologic Changes in Appendiceal Peritonitis,
Edwin McD. Stanton, Schenectady

Diffuse Peritonitis in Women,
Ellice McDonald, New York City

Exhibition of Bier's Congestive Hyperæmia Apparatus,
James N. Vander Veer, Albany

TUESDAY EVENING, JANUARY 28TH.

SECTION ON CUTANEOUS DISEASES.

Hereditary Syphilis, Grover W. Wende, Buffalo
Clinical and Historical Features of Acquired Syphilis, John A. Fordyce, New York City
Technique of an Efficient Operative Procedure in Malignant Disease of the Skin, Samuel Sherwell, Brooklyn
A Study of 400 Cases of Epithelioma in Private Practice, L. Duncan Bulkley and Henry H. Janeway, New York City

SECTION ON PUBLIC HEALTH.

Arranged by Henry L. K. Shaw, Albany.

Tuberculosis in Children, Charles G. Kerley, New York City
What the Rigid Inspection of Milk Has Done for New York, Russell Raynor, Chief of Bureau of Milk Inspection of New York City.
Can Tuberculosis be Eliminated from Cattle? Veranus A. Moore, Ithaca
Milk Production, Old and New, L. Emmett Holt, New York City

WEDNESDAY MORNING, JANUARY 29TH.

SYMPOSIUM ON THE UPPER DIGESTIVE TRACT.

Arranged by Edgar A. Vander Veer, M.D., Albany.

Pancreatitis Resulting from Gall Stone Disease, William J. Mayo, Rochester, Minn.
Duodenal and Gastric Ulcers, Albert J. Ochsner, Chicago
Surgery of the Liver and Gall Bladder, John C. Munro, Boston
Non-Parasitic Cysts of the Liver and Congenital Cystic Liver, Willis G. McDonald, Albany
The Gastric Neuroses, Dudley D. Roberts, Brooklyn
The Diagnosis and Treatment of Gastric Ulcer, DeLancey Rochester, Buffalo
Modern Conception Regarding Chemical Regulation of Function, Graham Lusk, New York City
The Effect of Alcohol on the Secretions, H. C. Jackson, Albany
Discussion opened by Charles G. Stockton, Buffalo.

WEDNESDAY AFTERNOON, JANUARY 29TH.

The Mosquito: Its Relation to Disease and its Extermination, Alvah H. Doty, Quarantine, S. I.
Oxygen in Surgery: A Contribution with Report of Cases, Wm. Seaman Bainbridge, New York City
Significance of Uterine Bleeding, John A. Sampson, Albany
Acute Flexures—Angulations of the Sigmoid and Colon, James P. Tuttle, New York City
Aerotherapy in Certain Toxaemias of Childhood, Frederic W. Loughran, New York City
Vascular Crises, Henry L. Elsner, Syracuse
The Causes and Treatment of High Arterial Tension, Louis Faugères Bishop, New York City
The Diagnosis of Pulmonary Tuberculosis by Tuberculin and Other Methods, Lawrason Brown, Saranac Lake
A Study of Children Fed on Milk of Tuberculous Cows, William L. Stowell, New York City
Esophagoscopy and Bronchoscopy, Thomas H. Halsted, Syracuse
A Study of 300 Cases of Acute Anterior Poliomyelitis Occurring in the Recent Epidemic in New York City, Joseph Collins and Theodore H. Romeiser, New York City.
A Case of Splenic Anaemia—Splenectomy, I. Harris Levy, Syracuse. (Read by title.)
Treatment of Fracture of the Neck and Shaft of Femur, A. L. Beahan, Canandaigua, N. Y. (Read by title.)
Fracture of the Patella, Russell S. Fowler, Brooklyn. (Read by title.)

THURSDAY MORNING, JANUARY 30TH.

The Emmanuel Church Movement of Boston and the Treatment of Psycho-Neuroses, William C. Krauss, Buffalo. (Read by title.)
County Laboratories and Their Uses, Orlando J. Hallenbeck, Canandaigua
The Clinician and Pathologist—One and Inseparable, Bond Stow, New York City. (Read by title.)
What New York State is Doing for Its Crippled Children, Newton M. Shaeffer, New York City. (Read by title.)
Importance of Radical Measures in the Treatment of Tonsils and Adenoids, John O. Roe, Rochester. (Read by title.)
The Intracranial Complications of Middle Ear Suppuration, with a Report of Ten Cases, Samuel J. Kopetzky, New York City
Chronic Middle Ear Deafness, W. Sohier Bryant, New York City
Medical Libraries for the Smaller Centres, Smith Baker, Utica
Instruction in Physiology and Hygiene in the Public Schools, George W. Miles, Oneida

Moved by Dr. A. Jacobi, seconded by Dr. R. P. Bush, that the Council be requested to publish the paper of Dr. Hallenbeck at the earliest possible time, and that a copy of the same shall be sent to each member of the Senate and Assembly, with the statement that the Medical Society of the State of New York heartily endorses the views expressed in the paper and urges the passage of a bill permitting supervisors of the different counties in the State to inaugurate laboratories within their respective counties, and be it further

Resolved, That the Committee on Legislation of the State Society be requested to aid in the promotion of such legislation. Carried.

The meeting adjourned at 11.35 A. M.

(Signed) WISNER R. TOWNSEND, *Secretary*.

DEATHS.

JOSEPH A. BIEGLER, M.D., surgeon in the Federal service during the Civil War, and sometime a member of the Board of Health of Rochester, N. Y., died at his home in that city December 22;.

JAMES W. CASEY, M.D., surgeon in the Federal service during the Civil War; president of the medical staff of St. Mary's Hospital, Rochester; died at his home in that city November 18 after an illness of one year; aged 73 years.

HENRY PATTERSON LOOMIS, M.D., President of the New York Pathological Society, visiting physician to the New York Hospital and Bellevue Hospital; consulting physician of the Board of Health of New York City; professor of materia medica, therapeutics and clinical medicine in Cornell University Medical College, died at his home in New York City, December 22, from pneumonia, after an illness of five days, aged 48.

LOUIS R. PIERCE, M.D., obstetrician and assistant physician to St. Luke's Hospital, Newburgh, N. Y.; died at his home in that city, December 29, from pneumonia, after an illness of two weeks, aged 41.

ROBERT W. TAYLOR, M.D.; professor of genito-urinary diseases in Columbia College, consulting surgeon to the genito-urinary division, Bellevue Hospital, and consulting surgeon to the venereal division, New York Charity Hospital, died at his home in New York City, January 5, aged 65.

LOUIS F. WEAVER, M.D., in 1894 a member of the Common Council of Syracuse, N. Y.; twice coronor of Onondaga County, and 1894 a trustee of the Syracuse State Institution for Feeble-Minded Children; died at his home in Syracuse, December 18, aged 58.

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Original Articles.

INDICATIONS FOR ARTIFICIAL ABORTION IN THE FIRST THREE MONTHS OF PREGNANCY.*

By CHARLES JEWETT, M.D.,

BROOKLYN-NEW YORK.

THE commonly accepted indications for induced abortion are:

1st, Conditions in which the woman's life would be seriously jeopardized by longer continuance of gestation;

2d, Rare instances in which it may interrupt morbid processes that threaten to cripple permanently important mental or physical functions.

The question of interference often is a matter of critical judgment, and, involving, as it does, the sacrifice of a human life, is always one of grave responsibility. It need scarcely be urged that, not alone for legal reasons, but on scientific grounds as well, the step should not be taken except with the full assent of competent counsel.

The principal indications for inducing abortion in the first three months will be briefly reviewed without attempt at definite classification.

Pelvic Contraction. In the present status of Cesarean section, pelvic contraction of whatever degree no longer affords occasion for abortion as a routine procedure. It is justified only in very exceptional instances in which its alternatives would entail too great danger to the mother.

Pelvic Tumors. Here the indication depends upon the tumor more than the pregnancy. Operation upon the tumor should be governed by the same rules as in the non-gravid woman. The removal of ovarian tumors or pedunculated subserous fibroids of the uterus seldom disturbs the pregnancy. Rarely uterine growths, still more so ovarian tumors, may be so situated as to obstruct delivery at term and may necessitate abortion. As a rule, in fibroids situated in the lower uterine segment, unless very small, the evacuation of the uterus in the early months is little, if at all, less formidable than the Cesarean operation at term.

Malignant Disease of the cervix at its inception calls for hysterectomy. When the parametria are much invaded the pregnancy in the interest of the child should be allowed to go to the viable period.

Uterine Displacement. A retroflexed and gravid uterus when irreducible is best treated usually by liberating the adhesions and repositing the uterus through an adominal incision. This being impracticable the uterus must be emptied. Rarely complete prolapse or hernia of the uterus may require abortion.

Vesicular Mole. In vesicular degeneration of the chorion there is no question concerning the necessity for evacuating the uterus. Prompt intervention is indicated to avert the dangers of continued hemorrhage, of sepsis and of possible perforation of the uterus. Malignant degeneration, too, very commonly occurs. Indeed, there is reason to believe that the condition often is primarily chorioepithelioma. Hydatidiform mole should be treated as potentially as a malignant growth.

Death of the Embryo always indicates operation immediately the diagnosis can definitely be made. The necessity for clearing the uterine cavity at once is still more urgent if the contents are infected. Necrotic material carried for three or four days in the uterus exposes to general pelvic infection.

Toxemia of Pregnancy. Here the indication relates essentially to pernicious vomiting. Eclampsia I have never seen in the first three months. In hyperemesis with marked and progressive exhaustion, especially as indicated by weekly loss of weight, when the usual dietetic and medicinal measures have failed, no time should be lost in emptying the uterus. Serious complications, such as renal insufficiency, tuberculosis, advanced cardiac disease and certain others, emphasize the necessity for intervention.

In hyperemesis it is better to interfere too early than too late. Under the combined effects of toxins and starvation the woman's strength fails insidiously and often the end comes abruptly. Lives are lost by too long delay. The indication is to be based more upon the general condition of the patient than upon the nitrogen distribution in the urinary compounds. Yet the latter when disturbed, as Ewing and Wolf have said, affords "a readily accessible sign of a very unstable condition of the organism," and a high percentage of ammonia, more than double the normal, should have weight.

It is difficult to understand the attitude of certain European writers on the question of inter-

*Read by invitation before the Eastern Medical Society, New York City, December 13, 1907.

rupting pregnancy in hyperemesis. Pollak would intervene only when the patient becomes emaciated, fever sets in and the clinical picture is alarming. If patients are permitted to reach this condition many will be lost in spite of abortion.

A. Martin has operated in only two cases and in those because they were complicated with pulmonary tuberculosis. Backhaus believes that hyperemesis can be treated successfully without arresting the pregnancy. Salowgiff, Barsony, Wright, Zaborsky, Dorff, Fasius and Frank all condemn the interruption of pregnancy in pernicious vomiting.

Pulmonary Tuberculosis. Except in localized processes and in the fibroid type of phthisis the influence of pregnancy generally is bad. The disease often pursues a more active course in advanced gestation. Respiration is more or less crippled in the later months and the infection is prone to extend with renewed virulence during the puerperium and lactation. In light and incipient tuberculosis little or no harm can come from the early termination of pregnancy, and often the course of the disease may be retarded thereby. The indication would seem plain when the disease grows worse upon the onset of pregnancy. In the severer types of the disease interference usually will do no good.

With reference to the influence of pregnancy upon pulmonary tuberculosis, however, obstetric opinion is divided. Pinard is totally opposed to the interruption of pregnancy in tuberculous women. While he grants that the disease may be aggravated by gestation, he declares that it is not retarded by abortion. His advice is to treat the tuberculosis and watch the pregnancy.

Veit would be governed more by the individual condition than by the fact that the woman has tuberculosis. He adopts as the main clinical guide the gain or loss of body weight. A steady gain is proof that the disease is not seriously complicated by pregnancy; on the other hand in progressive emaciation nothing is to be gained by abortion; it is too late to interfere. In certain instances between these extremes, in which the gain is irregular or insignificant, abortion may offer some hope of prolonging life.

Burkhardt thinks that intervention at any stage may act injuriously, yet he grants that it may sometimes be permissible in the very early months especially in cases complicated with hyperemesis.

Löhnberg opposes the interruption of pregnancy in tuberculosis, whether pulmonary or laryngeal on the ground that abortion is permissible only as a life-saving measure and not for the mere purpose of ameliorating the woman's condition.

Cohnstein, Hœrder, McCann, Kleinwächter, Jacob, Ahlfeld, Fritsch and others would operate only on special indications. Tuberculosis, they hold, does not of itself call for abortion as a routine practice.

On the other hand a large array of authorities counsel interference in a greater or less proportion of cases.

Rosthorn thinks a febrile process in tuberculosis, whether new or old, demands intervention, and especially if the disease is located at the arytenoid cartilages.

Tecklenborg has made an extensive study of the subject and has observed that this disease, though mild in the early months, often takes on a rapid course in the later stages of gestation. He pleads for early abortion, believing that apparently hopeless cases may sometimes be rescued from death if relieved early of the pernicious influence of pregnancy. Abortion is indicated not so much as a curative measure as for the reason that it removes a grave etiological factor in the course of the disease. This applies especially to primigravidae with incipient tuberculosis which has not yielded to the usual therapeutic measures.

Tiesler, Kellman, Everke, Van Holst and Freitag are substantially of the same opinion.

Kuttner, Fellner and others are pursuaded that in laryngeal tuberculosis abortion affords a moderately favorable prognosis if performed in the early months.

Heart Disease. In valvular disease of the heart in pregnancy the danger arises chiefly from the muscular exertion of labor and from changes in the blood pressure at its close; most frequently from the sudden and marked rise of arterial tension at that juncture. This danger is greater the more advanced the pregnancy. Obviously the prognosis must depend essentially upon the integrity of the heart muscle. With full compensation the labor may be as well borne as in normal conditions. With broken compensation the mortality is extreme. But the competence of the heart muscle cannot always be definitely determined before labor. In two instances under the writer's observation alarming symptoms developed at the close of the second stage without premonition. Zweifel has reported two cases of labor ending fatally owing to cardiac complications, in which the women were not previously known to have heart lesions.

Again it should not be forgotten that the bad effects of pregnancy are not confined to the labor. The nutrition of the heart is impaired by dyspnea and cyanosis, as Heyman has pointed out, and degeneration of the heart muscle progresses with the continuance of the pregnancy.

All recognize the grave danger in mitral stenosis and in aortic insufficiency. Wenczel, in a recent paper, reporting eight cases, has seen none with the foregoing lesions survive the labor.

There would seem to be ample reason to assume that except when compensation is good and is likely to remain so, the interests of the patient will best be served by early interruption of the pregnancy. Medicinal measures should of course have been given a fair trial, and if

possible the advice of a competent internist should be had.

While this view is upheld by a large proportion of writers, it is opposed by certain others.

Sänger, Winckel, Dorhn, Kleinwächter, Gusserow and Eulenberg think the danger of operation and its effect upon the heart are greater than in spontaneous delivery occurring at whatever period of gestation.

Zweifel, Spiegelberg, Löhlein, Schauta, Fehling, Kaltenbach and Olshausen operate only on the occurrence of grave symptoms.

Chronic Nephritis. In chronic nephritis, according to Hofmeier, the fetal death rate is 60 per cent., and especially in primigravidæ the disease is made worse and the mother's life more seriously endangered with each succeeding month of gestation. The chances for the child are so small and the risk to the mother's health and life so great that in pre-existing nephritis or in nephritis developing early in pregnancy I have usually advised evacuation of the uterus, especially if other measures had failed. With increasing albuminuria, elimination below the normal, much ventricular hypertrophy, marked nervous disturbance or albuminuric retinitis, intervention is imperative. Yet very rarely in chronic nephritis the woman may go safely to term with no apparent ill effects, as happened in a notable instance under my care. In this case the woman lived nine years after the confinement. The child is still living and well.

Veit, in pregnancy complicated with nephritis, awaits the first signs of disturbance. He interferes only on the occurrence of grave symptoms, especially of dyspnea, or irregularity of the pulse.

Rudaux would operate only after vigorous treatment along other lines has failed.

Barone, too, pursues an expectant course in the early months and in the absence of serious symptoms in the attempt to carry the pregnancy into the viable period.

Williamson thinks the induction of abortion is justified only by so formidable a symptom-complex as headache, edema, vomiting and albuminuric retinitis, truly a dangerous state of affairs. Of the urinary changes he rightly attaches most importance to scantiness.

Diabetes Mellitus, according to Hofmeier, is fatal to the child in about 50 per cent. of diabetic gravidæ. This author urges the importance of early interference. He believes the danger of operating aseptically not a contraindication in diabetes. He cites a case in which operation postponed till the seventh month was followed by coma and death, a result which might have been averted by early interference.

Kleinwächter, in common with certain other writers, because of the fact that the pregnancy sometimes ends normally and that operation in diabetes is attended with more or less risk, interrupts the pregnancy only on the occurrence of complications.

I am disposed to think with Hofmeier that pregnancy with true diabetes should, with rare exceptions, if any, be terminated in the very first months. Operation at this time done in ten minutes, and with suitable precautions, especially a rigid asepsis, should be less formidable than spontaneous labor at term. A preparatory course of medicinal treatment and the selection of a time when acetone and diacetic acid are absent from the urine are important. So, too, is the avoidance of chloroform or nitrous oxide anesthesia.

Polyneuritis Gravidarum. Here acording to Fellner and other writers the interruption of pregnancy is clearly indicated.

Myelitis Ascendens. Hofmeier has reported a case of ascending myelitis in a primigravida in which temporary improvement followed induced abortion; the woman, however, died four months later. The result, the author thinks, might have been better had interference been practiced sooner.

As a rule disease of the brain or spinal cord affords no indication for early abortion.

Chorea. In its worst forms chorea may be benefited by early interruption of pregnancy. According to Alzheimer operation is justified only when required to save the mother's life. As Herschl says, the clinical guide is not so much the violence of the choreic movements as their effect upon the patient. Insomnia, progressive emaciation and rise of temperature call for the termination of the pregnancy. Interference in chorea is the more justifiable for the reason that the mortality for the children, even in mild cases, is not far from 40 per cent. When in doubt a tentative dilation of the cervix may be tried first. This failing to arrest the choreic disturbance, the uterus may be emptied.

Epilepsy is not recognized as an indication for therapeutic abortion. The same is true of hysteria. In hysteroepilepsy the uterus should be evacuated.

Psychoses. Hoche thinks the arrest of pregnancy in the early months is permissible in rare instances in which the disease is likely to become incurable if gestation is allowed to go on. Most diseases of the mind, especially periodic and katatonic depressive conditions, are benefited very little, or not at all, by abortion.

Fellner, in very rare cases of mental disease attended with marked impairment in the beginning months of pregnancy, would intervene to relieve the weakened organism of the extra tax of gestation.

According to Pick, melancholia may be taken as an indication for abortion if the woman's condition is manifestly growing worse.

Schauta has never found reason for interference in the psychoses of pregnancy.

Graves' Disease. Williamson cites an instance in which abortion was induced in four successive pregnancies in the same woman owing to Graves' disease. The writer in one case emptied the

uterus in the early months with marked benefit to the patient. The disease was complicated with pronounced albuminuria which had resisted other treatment.

Blood Diseases. Leukemia and pernicious anemia are practically the only diseases of the blood which may necessitate abortion. They are very seldom encountered in pregnant women. Hermann found but twelve cases in the literature in which gestation was complicated with leukemia. Pernicious anemia, Addison's disease and hemophilia are no doubt rarer still.

Hermann believes that the disease is made worse by pregnancy, and that owing to the enlarged spleen and liver, women with leukemia suffer more in the later months of pregnancy than do other gravidæ. For these reasons he counsels abortion in the early months, more especially when the symptoms are clearly aggravated by the occurrence of pregnancy.

Schauta is opposed to intervention in pernicious anemia, believing that it does no good and may do harm.

Eye Diseases. Threatened loss of vision from causes depending upon pregnancy is commonly recognized as a sufficient indication for the induction of abortion. Germann is very emphatic on this question. He mentions instances in which permanent injury to the sight might have been averted had his advice been followed. Yet such pathological processes as albuminuric retinitis and corneal disease, which not infrequently afford the indication for premature labor, are seldom observed in the early months of gestation.

THE REGULATION OF A RURAL MILK SUPPLY.*

By S. W. S. TOMS, M.D.,

NYACK, N. Y.

PREVIOUS to four years ago the community in which I reside had a most creditable quality of clean milk, the product of a dairy conducted by a public spirited citizen as a hobby and to supply the townspeople with milk of much better quality and purity than they had been getting heretofore. This enterprise was in no way a profitable one, as his herd of milch cows was of selected stock and great expense was entailed in the erection of light, well-ventilated barns, having pure running water and sanitary stalls. The food was proportioned and selected by experts, the men were clean, the animals groomed, the utensils and containers sterilized, and the milk houses constructed and conducted on the most sanitary methods to maintain milk at its best in low bacterial count and pristine purity.

This milk found favor, although sold at an advance of cost in contrast to that of other dealers. But strange as it may seem, this philanthropist was driven out of business by the petty annoyances of complaining housewives and servants, and the good things we got were soon replaced by a lower standard of milk from other dealers. This is suggestive in the fact that the public were lacking in elementary knowledge of what constituted *good milk.* A propaganda of education is essential to inspire public sentiment in favoring and enforcing sanitation in milk as it has in our drinking water sources, and without it little can be accomplished.

The State Board of Health is constantly on the alert in the protection of our water sources, but for some inexplicable reason the milk supply, only second in importance to our drinking water, has not received the watchful care the importance of the condition demands.

The ever-present infant mortality—more especially during the summer months—is still alarmingly high (about one-third of all infants die before the third year). The largest percentage of these succumb from digestive and nutritional diseases directly due to impure food of which milk is the main factor. This fact has been so well substantiated in its relationship to contaminated and unwholesome milk by Dr. G. W. Goler, the efficient health officer of Rochester, in his article, "The Influence of the Municipal Milk Supply upon the Deaths of Young Children" (read at the Annual Meeting of the New York State Medical Association at New York City, October 19, 1903), and by J. N. Hurty, Secretary of the Indiana State Board of Health, who produced figures showing 65 per cent. (455,000) of the total deaths of infants in America last year was due to poisons in impure foods (Meeting of the National Association of State Dairy and Food Departments, Chicago, Ill., April, 1905). Surely this is argument sufficient to demand public protection from our state and national authorities. I shall refer to this later on in my suggestions, after relating the experience of a medical milk commission organized in Rockland county over two years ago.

After the dairy referred to discontinued supplying its customers, I, with others of my colleagues, realized the seriousness of the situation in the lowered standard of the milk sold, by the increase of intestinal diseases in children directly due to this cause. It was talked over in our County Medical Association meeting, and a resolution adopted (see NEW YORK STATE JOURNAL OF MEDICINE, October, 1904) in July, 1903, the outgrowth of which was the Rockland County Medical Milk Commission—composed of the presidents of the two county medical organizations then in existence, all the health officers of the different county municipal boards of health, and a representative from the milk dealers and dairymen of the municipalities of the county; the object

*Read before the First District Branch of the Medical Society of the State of New York, October 28, 1907.

being to improve the milk supply and adopt rules and regulations whereby it could be legally controlled by the health boards—where it was found necessary. This was felt to be a public necessity for the protection of consumers, because it was reported that one herd of eighteen cows had been examined in the principal milk producing district of the county, and fifty per cent. had been found suffering from bovine tuberculosis and were destroyed. The milk from this herd was sold to milk dealers, who mixed it with the products of other farmers, thereby contaminating the entire lot bottled for distribution. A further consideration was found in the entire absence of any sanitary regulations whatsoever in the by-laws of boards of health whereby a standard of milk could be judged, or a dealer held responsible for spreading contagious diseases by ignorance or carelessness through his milk. There was absolutely no protection for the public, and no recourse could be had, or punishment enforcable to the man responsible should an epidemic ensue through this source.

Three important considerations presented themselves to the commission: First, the improvement in the milk supply; second, the protection of the public against the possibility of spreading infectious and contagious diseases through the milk supply; and, third, to have uniform laws adopted by the various municipal boards of health that would legally enforce rules and regulations whereby these objects could be attained. This was forthwith undertaken, and a set of these laws as formulated submitted to the commission at a special meeting, and a resolution adopted accepting them and recommending each health board in the county to ratify and place them on their statute books, which was accomplished, with the exception of three municipal boards, without even the formality of any member of the milk commission appearing in person at their meetings to urge the adoption of these laws. This was most gratifying, and we still hope the lagging health boards will yet fall in line. These suggestive rules and regulations, which were to become official laws after acceptance, were submitted to the State Department of Health at Albany, duly approved of by said department, and recommended for presentation to the municipal boards of health for their action.

REGULATIONS AND RULES FOR THE PRODUCTION AND SALE OF MILK IN ROCKLAND COUNTY, NEW YORK.

1. No person shall sell or exchange, or offer or expose for sale or exchange, any unclean, impure, unhealthy, adulterated or unwholesome milk or cream, or any article of food made from such milk or cream.

The term "Adulterated Milk" shall be construed to cover milk containing more than eighty-eight per centum of water or fluids; or less than twelve per centum of milk solids; or less than three per centum of fats; or drawn from animals within fifteen days before or five days after parturition; or drawn from cows kept in a crowded or unhealthy condition; or milk which has been diluted with water or any other fluid; or to which has been added or into which has been introduced any foreign substance whatever; or milk that contains a higher bacterial count than 50,000 germs per cubic centimeter; or at a temperature above 55° F.

2. No person shall deliver, sell, offer for sale, or have in possession for the purposes of sale, any milk or cream in glass jars, unless said jars have been thoroughly washed and cleaned before being last filled; and no person shall keep milk or fill glass jars with milk in any barn or stable or on any public street or place.

3. No person shall keep milk in a living or sleeping room or in any room that is not kept clean at all times, or in which the plumbing is not constructed in accordance with the plumbing code of the municipality; or keep milk in any cans not made of well-tinned iron with inner surfaces smooth and free from rust; or fail to report to the health board any case of contagious diseases on the premises where milk is produced or sold; if the cellar is used for storage purposes that portion shall be partitioned off and used for no other purpose, and shall be properly ventilated, lighted and dry.

4. *Handling, Care and Marketing of the Milk.*—Remove the milk of each cow from the stable as soon as drawn to a milk room where the air is pure and sweet. Milk cans must not be filled in the stable or be there for any purpose. The milk must be strained through a metal gauze and flannel cloth or layer of cotton, as soon as drawn, aerated and cooled as soon as strained. Cool as rapidly as possible—at least within fifteen minutes after being drawn—to a temperature of fifty degrees or lower. In hot weather bottles should be packed in ice during delivery. Ice must not be placed in milk, and the milk should not be allowed to freeze. No preservative or other substance shall be added to milk for any purpose, and no part of the milk shall be removed. All utensils used for filling jars shall be scrupulously clean, and milk spilled in the process of filling shall not be put into them. No milk shall be sold which is more than twenty-four hours old. Delivery wagons shall be cleaned frequently, and during warm weather the inside shall be washed daily. No empty bottles, milk tickets or checks shall be taken from houses where any contagious disease is known to exist. After the removal of the quarantine the bottles and all tickets and checks in possession of the family or families shall be collected by some one other than the person delivering the milk to the families, and by vehicles not used for the purpose. All tickets in possession of the family shall be taken up and exchanged for new ones. Tickets taken from premises where contagious disease has existed must be burned and the bottles sterilized by boiling for 30 minutes, or steamed before being put into service again. All tickets, checks and labels shall be new when delivered to customers, and none shall be used a second time.

5. *Care of Stables and Cows.*—The stables shall be well ventilated, lighted, drained and dry. They shall be whitewashed at least twice a year. The trenches shall be cleaned at least twice a day during the stabling season; the manure to be at once removed from the stable to a distance of at least one hundred and fifty feet.

The cows used for the production of milk shall not be housed in any barn or portion of a barn used by other animals, fowl, etc.

No hay or dusty forage or bedding to be shaken up, fed, or distributed in the stable until after the cows are milked. The cows shall be supplied with plenty of pure, wholesome water, and their flanks and tails shall be kept free from all excreta. The udder shall be wiped off thoroughly with a damp cloth immediately before milking.

No milk shall be sold from a sick animal or from one suffering with a contagious or infectious disease. It shall be unlawful to buy or sell an animal for the production of milk which is suffering from a contagious or infectious disease.

6. *Permit to Sell.*—No person, persons or association shall sell, offer or have for sale any milk of any kind

or description in any quantity whatsoever, within the limits of the county or municipalities without first obtaining a license from the local boards of health.

A license fee of two dollars shall be charged for each license issued.

Such licenses shall expire on the first day of May next after issue, but no such license shall be issued without the applicant having first obtained a permit from the Department of Health to engage in the milk business pursuant to the provisions of this ordinance.

This section shall not apply to storekeepers who do not peddle milk but dispense the same solely upon their premises, provided such milk is obtained from a duly licensed milk dealer, and kept at a temperature of 50° F., and otherwise conform to requirements and regulations.

No licensed dealer shall furnish milk to be sold by any storekeeper unless said storekeeper complies with all the provisions of this chapter governing the sale and sanitary protection of milk, and such sale may be forbidden at any time by the health officer in the interest of the public health.

Each and every such license and permit shall expire on the first day of May next after its issue, and every violation of the provisions of this section shall subject the person, persons or association violating the same to pay a penalty of not less than ten nor more than fifty dollars.

7. Every dealer in milk who uses in his business a wagon, cart or other vehicle shall, during the months of May to September inclusive, have and keep upon said wagon, cart or other vehicle, a covering of canvas or other material so as to securely protect the contents from the rays of the sun; and every such dealer shall, during the months of June, July and August, carry in such vehicle a sufficient quantity of ice to prevent heating of the milk. Said covering shall be a clean tarpaulin, and not a blanket, etc.

Nor shall any dealer in milk or his agents serve milk in bottles to any dwelling that has in it any contagious disease or that is placarded by the Department of Health for contagious diseases until said placard has been removed by the proper authorities.

Milkmen violating the ordinances governing the sale of milk shall forfeit their licenses.

All dairy utensils, pails, dippers, cans, bottles, everything in fact into which milk is put directly, shall be cleaned by first thoroughly rinsing them in warm water; then cleaning them inside and out with a brush or cloth and hot water in which some cleaning material has been dissolved, then rinse and sterilize with boiling water or steam. Use only pure water. After cleaning utensils keep them in a clean place away from dust and in the season of flies covered with mosquito-netting. Tin utensils in which parts of the tin are worn off should not be used. Sterilize brush and cloths used for cleaning by boiling daily and oftener if necessary. Sponges for cleaning utensils must not be used.

Milk Inspectors.—The milk inspector's first duty after appointment shall be to visit each dairy, retailer, milk market, milk depot and all other places where milk is produced or handled for human consumption in Rockland County, and present to the owner or proprietor of such places a copy of the rules and regulations adopted by the different boards of health, also a blank application for license.

The inspector shall make note of any conditions which are not in accord with the standard requirements, and transmit the same to the commission, together with any suggestions for their correction.

The inspector shall give every cow or other bovine animal over six months old, at each dairy visited, a physical examination, and if upon such examination he is suspicious of tuberculosis or any other infectious or contagious disease, general or local, being present, he will at once report the same, with the name and address of the owner, to this commission and to the Department of Agriculture at Albany.

The inspector shall keep in a book for the purpose a correct account of all animals examined for future reference.

Inspectors, before entering upon their duties, must be provided with a "Feser's lactoscope" or other suitable apparatus for making optical tests; these tests must be made at each dairy, and the inspector may take therefrom samples properly sealed and labeled for analysis.

In as far as possible, it is deemed advisable that the inspector will make his visits to the places requiring his attention without the knowledge of the owner that he is coming, and he shall be allowed access for this purpose at any time.

It shall be unlawful for any milk inspector, his servant or agent in the County of Rockland, to wilfully obstruct or assist in the violation of any rule or regulation adopted by the Rockland County Milk Commission or the Health Boards of the county. And whoever hinders, obstructs or interferes with any milk inspector or his servant or agent in the performance of his duty shall be guilty of a misdemeanor.

Inspectors are hereby empowered to enter any or all premises, vehicles of all kinds used for transporting milk, barns or stables used for housing bovine animals, milk houses, milk rooms or cellars used for keeping or storing milk, at any time for the purpose of examination of cows or other animals, sanitary conditions of buildings, feed, water, utensils used in handling milk, care of same while being drawn, stored or en route to wholesaler or consumers, to see that the rules and regulations of boards of health are being complied with.

All tuberculin tests shall be made under the supervision of an inspector, and the results reported at once to this commission or the Board of Health of the municipality.

Inspectors must familiarize themselves with the location of all dairies, milk markets, milk depots, or other places where milk is produced or handled for human consumption, and visit the same as often as required, at least twice in each year, to see that the rules and regulations of the Health Boards are complied with.

Inspectors are at all times responsible for their acts to this Commission and Health Boards who appoint him or them, and before entering upon their duties must file a satisfactory bond.

In formulating these rules and regulations the Codes of Rochester, Buffalo and Oneonta were consulted and freely drawn upon but modified to suit our local conditions. In this I was most ably assisted by a prominent local Veterinary Surgeon, Dr. H. W. Boyd, and the able Secretary of the old Rockland County Medical Association, Dr. J. Howard Crosby of Haverstraw. Up to this date the progress of the undertaking seemed most propitious. Even one of the County Supervisors voluntarily offered to use his influence in securing a financial appropriation to assist in meeting the necessary expenses incident to instituting the work.

All the Medical Milk Commissions up to this time had as their object the selecting of an intelligent farmer, who could establish himself in an improved dairy business, and produce a "certified milk" for family use. None took upon themselves the influencing of legislation. As there were no farms nor buildings available nor a man with sufficient capital or enterprise in our locality to embark on an enterprise of a modern dairy to produce "certified milk," the Commission exerted their efforts along the lines I have related as it seemed the only avenue of approach to the situation.

Such apparent encouragement from all concerned was to me most gratifying, and it seemed as if the objects sought for would be an assured fact for the following season. Up to this point

few obstacles or objections were encountered. We had a special meeting at our county seat following our regular County Medical Society meeting in which we interviewed some of the members of the Board of Health of Clarkstown, in whose jurisdiction much of the milk that is sold in Nyack by dealers is procured; to which one of the members objected on the ground that some of his neighbors had one or two cows and derived an income thereby, which was a very necessary help in supporting a family, and these regulations would not only be a hardship for the man, but in some instances compel him to sell his cow or cows. It is a fact, this class of milk-producers are the greatest menace to health from contaminated milk that exists in any community to-day. This auxiliary to the maintenance of a family is usually purchased from some farmer who has found the animal not profitable as a milker, and tacks up a sign on his gate-post, "Cow for Sale." The inspiration is born in the workman's mind as he passes the sign on his way home, that if he can "raise the wind" it would be a good thing for the little ones at home to have fresh milk, and besides he could sell enough among his neighbors to pay for her keep. He suggests it to his thrifty wife who volunteers to do the milking and help to take care of the cow when she is not out washing and can steal enough time from caring for the family. The cow is purchased for a few dollars, and the death dealing process is begun. The cow being unhealthy, or too old for a profitable milker, is fed on all kinds of slops and unwholesome food, the improvised barn is always filthy, as are the animal's flanks, she is poor in flesh and the food necessary for good milk is not supplied. She drinks stagnant water, lives in cramped, unlighted quarters, and what is the result? Possibly tuberculosis is spread, diarrhea and malnutrition affect the children who drink the milk; and should the man's children have a contagious disease a whole neighborhood is likely to become infected very speedily. This is the man whom the good-hearted member of the health board thinks it his duty to protect from health laws and having a sanitary milk produced in the locality in which he lives! Would it be so regarded if one of his family were to become a victim?

Another municipal Board of Health whose Chairman is a member of the Board of Supervisors of the County, had the Board adopt the Rules and Regulations, omitting the license and penalty clauses, thereby nullifying the entire law.

I have found generally that dairymen are sufficiently appreciative of unsanitary milk as it is not profitable, and will try to get the farmers to produce as good a quality and as clean milk as possible. They themselves in most cases are clean in their methods of handling, bottling and caring for it. However, they do not make the necessary endeavor to keep it at or below a safe temperature after it leaves their milk-houses during the delivery to customers. Some, in fact, are so careless as to use dirty horse blankets or old filthy bed quilts to cover their cans and bottles. Some have been seen filling bottles in their delivery wagons. Many of their cans are rusty and cannot be made sanitary, but most of the infection of the milk is introduced by the milker. He is not clean, his pail has not been sterilized and is so open it catches falling hairs and particles of excreta adherent to the animal's flanks which are shaken off during milking and fall into the pail. The hands of the milker or the animal's udder are not washed beforehand, and often the animal is eating dusty fodder that adds to the contamination of the milk. The milk is rarely cooled quickly enough after it is produced, and the bacterial life multiplies very rapidly, which no straining and after care can purify.

Not only does the farmer need the necessary information imparted to him of the dangers of these conditions, and of others that could be detailed if time permitted, but also, the customer who buys the milk. Servants are negligent and very careless in the care of the milk after its delivery. It is often allowed to stand on the porch, sometimes in the sun, until it becomes warm, or it is permitted to freeze before it is taken into the house. And even then it is rarely taken at once to the refrigerator. I often see open milk bottles standing on the kitchen tables during the breakfasting of the family. In fact, servants seem possessed to have open milk bottles in a hot kitchen at every meal. This is often enough cause to change the chemical quality of the milk and upset a child's stomach—especially so if the milk is not sanitary when delivered. Those of us interested in our Milk Commission, in achieving some showing as the result of our labor, have encountered much apathy and discouragement from those we expected would take an interest in our movement.

It has been impossible to get a quorum at a meeting since the adoption of the rules and regulations. I have personally on several occasions suggested to some of the members the desirability of following up the effort instituted over a year ago. One of the officers remarked "the milk question was a joke." Several of the health officers actually were opposed to the question, fearing the retaliation of patients engaged in the milk business.

A resolution was passed at the spring meeting of the Rockland County Medical Society, stating it was the sentiment of the society that the rules and regulations governing the milk supply which had become laws by enactment of the municipal health boards should be put in force on May 15, 1907; and the secretary requested this in an official letter addressed to each of the several presidents of such boards. Some of these did not reply, some wrote asking information, as they knew none on their statute books; and all of them took no steps in any way to improve matters, which have

been exceedingly bad all summer—so much so that some of our citizens appealed to the State Department of Health, and through it to the State Agricultural Department. Milk was delivered in Nyack during the summer on successive days sour and putrid in the bottles at delivery. Complaints to the dealers brought no help. They are dairymen buying their product on the open market from farmers in the vicinity in which they live. The producers were in the main responsible, although it would be most difficult to convince them of the fact, unless by means such as the New York City Board of Health adopts at present in refusing all milk for transportation that does not conform to their standards of purity and quality. Two years ago I made a personal inspection of a number of dairies selling milk to local milkmen, with the results reported in the NEW YORK STATE JOURNAL OF MEDICINE, September, 1905.

Report.

Dairy No. 1.—Five cows; milk sold, eighteen quarts; stable very poorly lighted, and no ventilation excepting when door or windows are opened. Two horses are also kept in same barn alongside of cows, all very closely crowded together. Condition of stable exceedingly dirty and emits strong odors of animals. Manure allowed to accumulate on floor. Animals' flanks covered with dried excreta. Hides never groomed or udders cleaned before milking. Water for animals is obtained from a cistern in lower part of stable collected from roof of the barn. The yard is covered with manure and stagnant water close to the stable. The milk is not cooled at all, excepting in hot weather. Taken from the barn to the house, some distance away, it is strained and immediately delivered to customers in tin cans, retaining the animal heat. The utensils are taken care of by the housewife in as careful and cleanly manner as is necessary. Night milk is set in pans on a shelf in the cellar without being cooled, and is exposed to odors of vegetables and foods usually kept in a farm house where no refrigerator is used.

In summer the milk is cooled with pump water. This milk is sold to a number of select families, principally because it is considered "good farm milk fresh from the cow."

Dairy No. 2.—Cows in service, twenty to twenty-five; milk sold, ninety quarts daily. Cows look in poor condition; are found in a large stable yard completely filled by the winter's accumulation of manure, banked high around the sides of the stable, the basement of which is used for two rows of stalls, with a central passageway for feeding. This stable has absolutely no light on three sides, or ventilation, and the roof, being the main barn floor, is but a few feet from the animals' backs, covered with dust and cobwebs. The barn floor where the animals are stalled is vilely dirty; the flanks and tails of the animals covered with masses of dried excreta; no grooming or cleaning of udders is ever done, and milkers do not wear protectors or wash their hands. Milk cooled in tub of water after being collected in the stable and strained, and can immersed in a well 200 feet from house. Milk utensils appeared to have been fairly well taken care of. Night and morning's milk sold to dealer, who takes every precaution after it reaches him by further cooling with ice, strained again, and bottled.

Dairy No. 3.—At present only two cows; selling ten quarts of milk, which is cooled in a stream of water, afterwards taken to the house, where it is kept in a cellar and sold from tin pails to customers some miles away. The animals are stabled in the basement of a barn, with horses, pigs and fowls, and a dirtier place could hardly be imagined. The stench from the mixture of odors from the combination was beyond endurance, yet the milking was done in this stable, where sunlight and air were almost strangers, and where the state of the animals was scarcely more inviting.

Dairy No. 4 comprises about fifteen well-kept cows, producing between eighty and ninety quarts of milk for sale, besides what was fed to calves and used in the household. The barn is new, built for the purpose, well lighted and ventilated. The cattle are well fed, and the manure pile is a respectable distance from the barn. The well is a reasonable distance from dangers of surface drainage. The milk is cooled immediately and placed in the well until taken to the dealer. Cans are properly cleaned. Only one thing was lacking to make this an up-to-date dairy, and that is keeping the cows' flanks and tails free from accumulated excreta and grooming the hides, cleaning off the udders and not allowing the animals to feed while being milked to raise unnecessary dust. The stalls might with reason be also a little better kept. Otherwise this man's herd was very good. He took me to see his horse stable in an adjoining building, where the animals were well groomed and the stalls and stable in splendid condition. I wondered if he would like to drive one of those manure-plastered cows to his well-kept carriage! Yet the care of his cattle's skins is infinitely more important than grooming his horses.

None of the cattle anywhere I have seen have been inspected for tuberculosis within the knowledge of the owners.

Through the courtesy of Mr. H. H. Law, Briar Cliff farms, I was invited to visit and inspect a celebrated dairy farm where over 1,300 cows are kept for dairy purposes. The details of my visit, although interesting, would prolong this paper beyond a reasonable length. Let me say, however, that nothing is done there that is not possible to carry out in well-kept dairies. The keynote is absolute cleanliness. The barns are kept clean, the cows curried, the udders wiped with a damp cloth before milking, the men put on overclothes and caps and wash their hands, which is repeated after every cow is milked. The cattle are not allowed any dry feed during milking, and no one is allowed inside the cow barns while milking is being done. This milk is strained after collected from each cow into a large can, which is immersed in ice-water. The strainer is several folded pieces of cheesecloth and absorbent cotton, which is washed and boiled and used but once. The milk is taken to the bottling house and there bottled under the strictest sanitary and sterile conditions. Each week a sample from each barn is examined by the chemist and bacteriologist of the New York City Milk Commission of the County Medical Society and, if more germs are found in it than are wholesome, and the superintendent is unable to eliminate the trouble in three weeks, he is dismissed as incompetent.

This milk brings 15 cents a quart on the New York City Market, and the demand is greater than 1,300 cows can produce on 6,000 acres of land.

I am satisfied the solution of the problem for us living in a district similar to where I am located is in the efforts of a sanitary league, composed of interested citizens, who will take up the matter in a public-spirited way and deal with it as so many of the village improvement clubs do the neglect of local village ordinances and delinquencies which would be a standing menace and disgrace to the community where such exist. They must see the health boards enforce their sanitary rules against the abuses of sanitation in all things.

The City of Yonkers, I am informed, has such an organization. They are interested in a propaganda against the spread of tuber-

culosis. I respectfully commend the milk question to their earnest consideration.

The pure milk propaganda must not stop in its education short of all that concerns the customer and user alike; as well as those more concerned in its production and marketing.

TWO CASES OF STREPTOCOCCUS SEPTICEMIA TREATED BY BACTERIAL VACCINES AFTER THE METHOD OF WRIGHT.*

By ALGERNON T. BRISTOW, M.D.,

BROOKLYN, N. Y.

HOLLISTER, in an article on the general subject of bacterial vaccines, published in the December, 1906, number of *Surgery, Gynecology and Obstetrics,* makes the following statement: "There are four main resisting forces in the blood against bacteria and their toxines: bacteriocidal, bacteriolytic, agglutinating and phagocytic." As the three forces first mentioned are all dependent upon the specific action of the blood serum, this classification may be simplified by stating that the organism has two ways of resisting the invasion of micro-organisms; first, by the specific action of the blood serum, this property being either natural or acquired; and, second, by phagocytosis. Hollister further states that the blood has no bacteriocidal, bacteriolytic or agglutinating power on the strepto, staphylo or pneumococci, and that, while it has some agglutinating power on tubercle baccilli, it has no bacteriocidal or bacteriolytic power. The organism must therefore depend entirely on phagocytosis for its defense in the case of the pathogenic cocci group mentioned, and almost solely on the same force in the case of the tubercle bacillus. In view of these facts we can readily see why it is that we never acquire immunity against the processes of suppuration, since immunity, whether natural or artificial, is always a property inherent in the blood of serum. If we accept this statement as correct we can also easily see why the use of the various antistreptococci sera has almost uniformly been a failure. In a recent article by Power, he reviews the whole subject of the serum treatment of streptococcus infections and concludes that it is a total failure. It is true that there have been two cases reported recently in which the polyvalent serum of Aronson was used in which recovery followed, nevertheless the vast majority of the reports have been unfavorable. Moreover, Wright himself has recently said, and the latest advices from his laboratory confirm the statement, that the vaccines are of no use in general infections; that is to say, where the organism is found in the blood. He reported, however, one case of streptococcus infection of the blood which had been treated for weeks with sera without avail, which nevertheless recovered after the use of a bacterial vaccine made from the patient's own organism. If it be true that we still are without any defense against these most serious blood infections of which malignant endocarditis constitutes the most usual and fatal type, it is our duty to conduct further investigation which may result in more hopeful methods of treatment. In drawing conclusions on the subject we ought not to be led astray either by a few failures or a few successes. What we need is evidence, and yet more evidence, to fortify any conclusions at all. It is with this purpose in mind that I desire to report two cases of streptococcus infection in one of which the organism was recovered not from the blood but from a deep abscess of the neck which was secondary to what appeared to be an attack of Pfeiffer's glandular fever, epidemic in New York last winter, and a second case of malignant endocarditis in which the streptococcus longus was recovered from the blood, there being no suppurative process in the body whatever so far as was discoverable. That is to say, the gate of entrance through which the organism invaded the body was unknown. In the first case, therefore, the infection was local, at least the presence of the organism in the blood was not demonstrated; in the second case the infecting organism was demonstrated in the blood, and yet success followed the use of a vaccine at a time when the condition of the patient seemed entirely hopeless.

CASE I. The first patient was a woman, 58 years of age, whom I saw in consultation with her family physician. Her history previous to the date on which I saw her was furnished by him, and is as follows:

Mrs. H. was first attacked the night of February 25th by rigorous, intense headache, general muscular pains and fever. I saw her first the morning of February 26th. Her symptoms harmonized exactly with a number of cases of grip infection seen during the winter. There were no pulmonary, abdominal or renal complications. She steadily improved, and on the fourth day, March 1st, she was apparently normal, and I left her. On the third day following, viz., March 4th, she was seized as before, the intense character of her headache being most bitterly complained of. As before, she improved daily and on March 9th, the fifth day, I left her, considering her well. She felt so well that the following day she went out for social calling. The day following, however, March 11th, I was again called, and found her complaining of a tenderness on left side of her neck. On examination I found a moderately enlarged gland. Her constitutional symptoms were less marked than in her previous attacks. Headache was absent. Tenderness increased to positive pain. The fever took no definite daily curve, irregularly ranging from 100 to 103. The outline of the swelling was soon lost in a diffuse mass, and on the sixth day, March 17th, 21 days after the initial attack, I called in Dr. Bristow to see her, from which day he has the data. Patient first seen by Dr. Bristow March 17th, in consultation with Dr. Pratt. She then had a temperature of 102 1-5. There was a somewhat circumscribed swelling in the submaxillary triangle moderately painful on pressure. No fluctuation was palpable, and as many such glandular swellings had characterized the prevailing epidemic, all of which had subsided as observed, it was decided to wait before making an incision. A blood count showed 15,000 leucocytes and 78.8 per cent. of polymorpho-nuclears. Her evening temperature on the 17th was 101, pulse 104. From the 17th until the 21st, the temperature of the patient varied irregularly, ranging between 100 and 102. The swelling became more diffuse and began to extend downward

*Read before the Medical Society of the State of New York, January 28, 1908.

toward the clavicle. Nevertheless the blood count showed that the leucocytes had diminished to 10,000 and the perecentage of polynuclears to 75 per cent. No fluctuation could be felt, and in view of the decrease in the leucocytes, it seemed probable that the swelling would subside without suppuration. The pain in the neck had diminished also. On the 23d I again saw the patient, but finding that the tumefaction had extended to the clavicle, determined to operate in spite of the negative findings deduced from blood analysis. A blood count made just an hour before operation showed but 11,000 leucocytes, but the polynuclear count had risen to 83 per cent.

A long incision parallel with the anterior border of the sterno-mastoid muscle was made. All the tissues were much thickened and infiltrated. Deep in the submaxillary fossa an abscess cavity was discovered and the pus was evacuated. There were no swollen glands to be found. Cultures were taken from the pus, a rubber tissue drain introduced and the patient returned to her room. At the time of operation patient's temperature was 100 4-5, on the following morning it fell to 98. By 4 P. M. it had arisen to 102, pulse 100. The wound was drained daily. There was not much discharge, however, and the edges of the wound looked glazed and unhealthy. Patient's countenance was pale and she looked septic. Pulse varied between 90 and 96. Urine examined and found normal, no albumin nor casts. Voiding large quantities, total output urea between 300 to 350 grs. per diem. Total amount daily, from 60 to 90 oz., spec. gr. ranging from 1016-1020. From March 23d to March 26th patient's condition remained much the same. On March 26th the pulse dropped to 70, but her temperature in the afternoon, at 4 P. M., rose to 103. On this date she complained of sore throat, but inspection revealed nothing beyond some redness, and this symptom quickly yielded to treatment. Her pulse began to intermit, however, and she was given cardiac stimulants, which steadied the pulse, and the intermission ceased. On the 27th, patient complained of severe pain in the left leg. Examination showed no evidence of phlebitis, but some tenderness over the left internal condyle. No swelling. The limb was wrapped in cotton. The examination of heart and lungs was entirely negative except that the second sound of the heart was accentuated. March 28 and 29th, patient seemed to be improving so far as pulse and temperature were concerned, but her right knee was swollen and painful; also right wrist and both shoulder joints. The infiltration of the tissues of the neck was slowly disappearing. March 29th, patient seemed improving. At 7 A. M. of March 29th patient had two slight convulsions, restricted to face and upper extremities, eyes turned toward right side, face livid. After recovering consciousness patient felt very weak. The convulsions occurred after the most comfortable and restful night patient had experienced since her illness. Her pulse continued good, not rising to 80. 4 P. M. temperature rose to 101. Urine negative. In 24 hours previous to convulsion 87 oz. urine had voided, urea 347 gr. Patient was put on salicylate of strontium, gr. x, sod. bicarb., gr. xv, t.i.d. She had previously been several days on smaller doses of the same drug. Daily examination had been made of the cultures, which had been made from the pus evacuated at the operation, but no growth appeared until Sunday, March 31st, five days after culture had been made. This was examined and found to contain two organisms; one, evidently the streptococcus longus, and the other a bacillus with occasional polar staining, some individuals somewhat resembling the diphtheria bacillus. A slight hemic murmur over the mitral valve was now observed, the aortic accentuation continuing. There was nothing, however, in the heart sounds indicating the presence of a malignant endocarditis. The streptococcus longus having been found in the culture, patient was now put on the carbonate of creosote and the salicylate withdrawn, as it was evident we were dealing with toxic joints and not rheumatic. I now communicated with Dr. N. P. Bowditch, of New York, with a view to the use of a vaccine, autogenous and heterogenous, after the method of Sir Almeroth Wright, of London. The patient was now very ill, and on consulting with Dr. Potter, of New York, after he had determined the opsonic index of patient's blood to her own organism, it was determined not to wait to get a vaccine from patient's own organism, but to use a vaccine already in stock from another streptococcus case, which reacted to patient's leucocytes similarly to her own organism. The blood taken from the arm proved to be free from any organism, but a culture taken from the depth of the wound proved to be a pure growth of the streptococcus longus.

The patient was given her first vaccine, 5 million organisms, April 2d, and on the following day her temperature rose to 104 and she had a second convulsive seizure, after which she required active stimulation. On April 4th the second dose (10 million) was given, and the morning temperature fell to 98, and at 4 A. M., on the 6th of April, it was 96.2 by mouth, pulse 68 and of good quality.

From this date on the patient steadily improved; the inflamed joints became less swollen and painful. After about three months the affected joints entirely recovered their mobility and the patient her health. No lung involvement was ever found at any time, although carefully sought for.

CASE II. In the second case of streptococcus infection, now reported, the organism was found in the blood. Her history is as follows:

C. S., servant, age 20. First attack of rheumatic manifestation in childhood. Has had pain in muscles and joints all winter. Three weeks ago patient had to stop work. Pain and stiffness of muscles of the back, knee, hip, shoulder. Wrist joints have been swollen, slightly reddened, painful and very tender. Complains of having felt feverish all this time. Admitted in a state of lethargy. Bodily weight about normal, marked evidence of anemia. Tongue badly coated, anorexia, malaise, vomiting after eating at times, bowels constipated.

Circulatory system: Dyspnea on exertion, palpitation and precordial distress. No cyanosis or edema. Examination of heart reveals some hypertrophy with a mitral regurgitant murmur, maximum intensity at the apex and conducted through the back. No murmur over the aortic valve.

Nervous system: Patient complains of intense headache. There is some retraction of the neck. It is rigid and tender on the slightest movement. Patient also complains of pains in many muscles and joints of the body, but no joints are swollen. Urine examination shows 31 ounces in 24 hours. Specific gravity 1022, urea 7 grains, to the ounce. No albumin, sugar casts or other abnormal findings. Patient was put on antirheumatic remedies and heart tonics. The severe headache was relieved only with opium derivatives. Six days after admission the left elbow was swollen, reddened, exquisitely tender and painful. Eight days after admission an aortic obstructive murmur was audible that was not present before. Up to May 26th, there was no improvement in the patient's condition. The severe headache was consequently present and the lethargical condition was deepening into a coma. Case now seen by writer. Diagnosis: endocarditis, probably malignant. On May 24th, Dr. Van Cott made a blood culture which revealed the presence of the streptococcus longus in the blood. On May 27th, 10 c.c. of antistreptococcic serum (polyvalent) was injected into the thigh. Strychnine, gr. 1-30 and spts. frumenti ½ oz., also were given q. 3 h. On the 27th of May the patient could not be aroused from her state of coma. On the next day the antistreptococcic serum was repeated, both at 10 A. M. and 6 P. M., and the patient seemed a little brighter, although there was no effect on the temperature, pulse or respiration. The serum was also given on the two days following without effect. On May 30th the girl was seen by Dr. Potter. The case seemed quite hopeless, but it was determined to try the effect of bacterial vaccines, and on June 1st a vaccine consisting of the same culture used in the first case (5 million bacteria) was injected into thigh. On June 3d

10 million were injected, and on June 5th, 5 million. June 8th, patient had slept well all night and felt very well. She had no headache. Answered all questions without any difficulty. The heart murmurs were still present, but were not so harsh and loud. From this date the history was one uncomplicated recovery. An interesting coincidence was noted in this case, and the case of streptococcic blood infection reported by Wright; namely, that both patients had previously been treated by the serum without apparent result, but got well after the vaccine was used. My colleague, Dr. Van Cott, suggested that possibly the combination might have effected in their cases what neither remedy could accomplish alone; the serum neutralizing the toxines and the vaccine raising the resistance of the leucocytes to a point where further growth of the organism was inhibited.

Case III. A third case, in which a bacterial vaccine seemed to bring about a cure, was that of a trained nurse who, from August, 1905, until June, 1907, was tormented with a crop of large furuncles. The origin of the trouble seemed to be a carbuncle in the back. Succeeding this she had a series of furuncles about the labia and thighs. I saw her first in June, 1907, and sent her to Dr. Potter, who isolated the streptococcus pyogenes aureus from one of the furuncles, and making a vaccine from the patient's own organism, vaccinated her twice in June, 1907. She remained free from trouble until October, when a single large furuncle appeared on one thigh. Dr. Potter again gave her the same vaccine, whereupon the furuncle cleared up and she has remained well since then and free from all evidence of any further furunculosis.

Case IV. A fourth case which interested me very much was that of a lad of 18, whom I saw in one of the suburban towns of Long Island, with a severe arthritis of the right knee, of gonorrheal origin. A small incision had been made into the joint and it had been frequently washed out with salt solution and a small gauze drain introduced.

On the evening previous to the day on which I saw this patient, his temperature was 101 and at noon it was already 100.5. The joint was much swollen and exquisitely painful.

Altogether, the case seemed most unpromising, as the hygienic surroundings were bad and the patient was exhausted with suffering. I had with me a sterile culture of the gonococcus and gave him a dose of 75 million, with instructions to the family physician to repeat the dose on the fourth day afterward. If the patient did not improve, he was to be sent to the hospital and placed under my care. A week afterward I learned that the young man was about on crutches. From that time he has steadily improved. In this case, it was impracticable to make any determination of the opsonic index, and the occurrence of a negative phase could only be conjectured from clinical symptoms. The patient, however, has made rapid improvement, and this case is presented as suggestive merely.

The writer is well aware that no conclusions can be drawn from so small a number of cases. Nevertheless the two cases just mentioned were both desperately ill, had been treated by other medical measures up to the time the vaccine was administered, and then began to improve until they recovered. The case of furunculosis was, when seen by writer, of nearly two years duration, and terminated after the vaccine. As for the gonorrheal joint, every surgeon knows well the chronicity of these cases.

A number of other cases of bacteriemia, occurring in my service in St. John's and the Kings County Hospitals, were submitted to the treatment by bacterial vaccines at the hands of my colleague, Dr. Van Cott, and will be reported by him.

THE SEQUENCE OF THE PATHOLOGIC CHANGES IN APPENDICEAL PERITONITIS.*

By DR. E. MacD. STANTON, M.D.,
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THAT in appendiceal peritonitis, as in all other acute inflammatory processes, we have to do with a complex sequence of changes in which the essential characteristics of the pathologic picture vary from day to day during the course of the disease, has long been a well-known fact; while in recent years the clinical experience of Ochsner, and many others, has overwhelmingly demonstrated that, under favorable conditions of treatment, the vast majority of even the severer cases of peritoneal infection run a quite definite clinical course, characterized by the rapid subsidence of the peritoneal symptoms, and ending either in the ultimate resolution of the inflammatory process or in the formation of localized peri-appendiceal abscesses.

During the past two and a half years, the writer has had the opportunity to observe, both clinically and at operation, a relatively large series of cases of appendicitis, the great majority of which had, previous to the time of operation, been treated under approximately uniform conditions. The clinical course of the disease in all of those cases not immediately operated upon, was such as to leave no doubt but that we were dealing with a relatively uniform sequence of pathologic changes, and the entire series has been studied with the idea in view of tracing as far as possible the sequence of changes. Such a study of the pathologic history of appendiceal peritonitis resolves itself into a study of the progress of the processes of inflammation and repair as they occur in this disease; and a knowledge concerning the progress of these processes can best be obtained by a combined clinical and pathologic study of a sufficiently large series of cases tabulating the pathologic findings according to the time which has elapsed between the onset of the infection and the observation of the pathologic conditions.

The essential features of the lesions as observed at operation during each of the succeeding periods following the onset of the infection were, in this series of cases, of a remarkably uniform character, and the fact that the features prominent at one period were found to be either increased or diminished in preceding or in subsequent periods has made it possible to trace, in a quite satisfactory manner, the course of the processes of inflammation and repair as they occurred under the conditions obtained in these cases.

It is the object of this paper to outline this sequence of the pathologic changes in so far as it has been possible for the writer to trace them by this method of study. The following statements are based upon a study of the condition of the peritoneum as observed at operation in 162

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cases of acute and 331 interval and chronic cases of appendicitis, operated upon at St. Mary's Hospital, and on Dr. A. J. Ochsner's service at the Augustana Hospital, Chicago, during my service as pathologist and interne in these institutions; together with the 40 cases of appendicitis which have been operated upon by Dr. McMullen and myself at the Ellis Hospital, Schenectady, since July 15th, last. As a control series I have made use of my previously reported study* of the operative findings in 485 cases operated at the Albany Hospital during the six years previous to 1905, making in all 1,018 cases studied with reference to the pathologic course of the intra-peritoneal changes in this disease.

As a rule but little difficulty was experienced in determining, approximately at least, the time of onset of the peritoneal infection, for in the majority of the cases peritoneal symptoms became well marked during the first thirty-six hours of the attack, and in those cases giving a clinical history of an acute exacerbation of the peritoneal symptoms occurring some time after the onset of the attack, ample evidence was usually found of the engrafting of a newer upon an older lesion.

The uniformity in the pathologic findings from day to day in the Chicago and Schenectady cases must in part be ascribed to the fact that in all those not immediately operated upon every effort was made to limit the further spread of the infection by peristalsis, for when this line of treatment was carried out there was never any evidence of the engrafting of an acute, diffuse, upon an older, more localized lesion. In the relatively few instances in which food and cathartics had been given by mouth previous to the patient's entrance to the hospital this condition was repeatedly encountered, the character of the newer lesion corresponding in time to the clinical history of an acute exacerbation of the symptoms which had in nearly every instance followed directly upon the giving of a cathartic or an increase in the patient's diet.

The writer believes the following statements to represent accurately the course of events in the vast majority of cases in which the peritoneal surfaces are kept at rest by appropriate methods of treatment, but there is every reason to believe that active peristaltic movements, however produced, tend to complicate the lesion not only by actively spreading the infection but by interfering with the processes of repair.

In a study of this kind, cases of appendiceal peritonitis can be divided into two quite sharply defined groups: *First,* those cases in which the primary intraperitoneal exudate is essentially fibrinous in nature and thus a dry exudate; and, *Second,* those cases in which the intraperitoneal exudate is from the first, or almost from the first, of a serous or sero-purulent type, and thus essentially of a fluid nature.

In the group of cases not primarily accompanied by fluid outside of the appendix, there was usually present a more or less extensive dry fibrinous or fibrino-purulent exudate, forming adhesions between the appendix and the surrounding viscera, chiefly the omentum, but also commonly involving to a greater or less extent the lower end of the cecum, the parietal peritoneum, in this region, and often one or more loops of the small intestine. Such adhesions unless interfered with by mechanical means serve to limit the spread of the infection from the appendix, even though suppuration should later occur in its immediate vicinity. Evidences of the organization of this fibrinous exudate were first noticed on the third day, and this process of organization was well advanced by the fourth or fifth day, highly vascular granulation tissue having largely replaced the primary exudate. Coincident with the beginning organization there was usually also evidence of a rapid absorption of the exudate so that, in the absence of continued or repeated infection, it is believed that this type of lesion rarely results in the formation of extensive, permanent organized adhesions.

In a certain percentage of this class of cases the character of the infection from the appendix was of such a nature as to lead to the later formation of a fluid, purulent exudate in the immediate vicinity of the appendix, which exudate was from the first limited by the fibrinous adhesions. Under these circumstances the wall of the pus cavity was formed, during the first three or four days, by soft, very easily ruptured, fibrinous adhesions. As in the cases without free pus, organization of these fibrinous adhesions was first noticed on the third day and the fibrin was very rapidly replaced by the granulation tissue, so that by the sixth or seventh days true abscess cavities were encountered, surrounded by the usual granulation tissue. Clinically when these cases were treated with the idea in view of limiting, as far as possible, mechanical factors which might interfere with the stability of the adhesions, there was never any evidence of a marked tendency for this type of lesion to spread beyond its early limits.

In sharp contrast to the class of cases described above is the second group in which from the first, or almost from the first, the dominating intraperitoneal exudate is fluid in character with, during the first few days of attack, little evidence of a localization of the area of inflammation. It is this group which comprises the cases having a clinical picture of early diffuse peritonitis, often of an alarming character; and yet, even in these cases, there can be no doubt but that every tendency of the inflammatory process itself is toward the localization of the lesion, for it was in these very cases, providing only that disturbing mechanical factors were eliminated, that we encountered a most definite and uniform process of localization, as shown both by the clinical course of the disease and the pathologic findings.

This group of cases presented such a striking uniformity in the essential characteristics of the

*"The Sequence of the Pathologic Changes in Appendicitis," *Jour. Am. Med. Assoc.,* June, 10, 1905.

intraperitoneal lesions as they were encountered at operation, during each of the succeeding days following the onset of the infection, that the pathologic conditions will first be described as they have been encountered during each of these periods.

In cases operated upon during the first day the intraperitoneal exudate was of a serous or sero-purulent type. Fibrinous limiting adhesions were not present to a noteworthy extent or were present only in the immediate vicinity of the appendix, which was often more or less completely surrounded by lightly adherent omentum. Beyond a more or less intense congestion of the blood vessels of the peritoneum there was little, if any, noteworthly alteration of the serous surfaces themselves.

In cases operated upon during the second day the intraperitoneal exudate was usually of considerable extent and of a distinctly sero-purulent or purulent character. The absence of well defined limiting adhesions was still noticeable and the diffuse character of the lesion in sharp contrast to the definitely circumscribed periappendiceal abscesses seen at a later period. The peritoneal surfaces already showed more or less loss of luster with here and there adherent flakes of fibrin, but they did not, as yet, show the marked roughening seen after the beginning of organization on the third and fourth days.

In cases operated upon during the third day the intraperitoneal exudate was of a distinctly purulent character. The gross changes in the involved peritoneum, especially in the immediate neighborhood of the appendix, were now very noticeable, due in part to the more abundant fibrin and in part to the changes in the peritoneum incident to the beginning organization which seems in all cases first to become noticeable on the third day following the involvement of any given area. Limiting adhesions were now fairly well developed in most instances, but the lesions were, as yet, of a decidedly diffuse character, the area involved being much more extensive than at a later period, and there was, as yet, little or no evidence of the formation of sharply defined abscess cavities. It was at this time that the pus was encountered extending irregularly between the various structures lying within the area involved.

By the fourth or fifth days the process of organization was well established, the previously existing fibrinous adhesions becoming replaced by organizing granulation tissue which was also noticeable over the surfaces of the peritoneum in direct contact with the purulent fluid exudate. This granulation tissue serves to encapsulate the pus, and it is from this time on that the formation of definitely defined abscess cavities was observed, they being at first usually more or less multilocular, but later becoming more localized to form, usually, one well defined cavity. The first evidences of the formation of true abscess cavities were observed on the fifth or sixth days following the onset of the infection, although it was not until the seventh or eighth days that the cavities became sharply defined with limiting adhesions firm enough to permit such manipulations as the packing away of the non-involved intestines, without great danger of accidentally opening the abscess at some undesired point.

The number of cases accompanied by pus outside of the appendix showed practically no increase after the third day, and, except in those cases giving a clinical history of a later exacerbation of peritoneal symptoms, there was no evidence of an increase in the area of peritoneum involved after this time. On the contrary, after the process of organization was well established on the fourth or fifth days, there was every evidence of a progressive diminution in the extent of the peritoneal involvement which became less extensive as the abscess cavities became sharply localized and limited by the organizing adhesions.

This phase of the repair process, which results in the more or less complete resolution of the peritoneal lesion beyond the immediate wall of the abscess cavity, was well shown in a number of cases coming to operation on the tenth and eleventh days, the clinical picture in each having been on admission that of a severe diffuse peritonitis. In these cases the abscess cavities were surrounded by a narrow zone of organizing adhesions, while the peritoneum of the ascending colon and nearby loops of small intestine beyond the wall of the abscess cavity, although non-adherent, was thickened, reddish and distinctly granular, without fibrin or other evidences of an acute lesion. The clinical picture was, on the third and fourth days, undoubtedly that of a diffuse peritonitis, and this view was confirmed by the pathologic findings, as observed later at operation, although by the tenth or eleventh days the diffuse lesion had so far cleared up as to leave but slight, though unmistakable, evidences of its having existed.

After the tenth day the adhesions were found to be increasingly firm and of a highly vascular type, thus often increasing the difficulties of operative work to a considerable extent. It is also about this time, or a little later, that one begins to encounter secondary fistulous openings into the intestine and the other complications caused by the tendency of the pus to seek avenues of exit of its own.

As practically all cases accompanied by abscess formation were operated upon before the close of the second week, it has been impossible, in this study, to trace the further progress of this class of cases when not operated upon; but, judging from the histories and the pathologic evidences still persisting in many of the chronic and interval cases, the ultimate resolution, without operative interference, of even this type of lesion is of more frequent occurrence than is generally supposed.

Tracing this sequence of changes from a purely

pathologic viewpoint, we find three stages of the disease corresponding in clinical experience to periods showing wide differences in operative mortality. During the first stage we find that, when the peritoneal lesions exist at all, they are as yet not associated with marked alterations of the peritoneum itself, the lesions being of such a type as to require, if at all, only temporary drainage. After the full development of the peritoneal infection on, as a rule, the second or third day of the attack, and until the diffuse lesion subsides or becomes a localized abscess on about the eighth day, we find the intraperitoneal conditions of such a nature that removal of the appendix is, of itself, by no means curative at least as regards the peritoneal infection; while this dominating peritoneal infection is itself essentially of a diffuse character at best difficult, and often impossible to drain efficiently, and but doubtfully benefited by operation. On the other hand, by the eighth or ninth days the peritoneal lesion in the milder cases has already largely disappeared, while in the more severe, pus cases the condition encountered, no matter how great the quantity of pus may be, is essentially an abscess cavity, the drainage of which is a simple and satisfactory surgical procedure.

There can be no doubt of the advisability of operative interference previous to the time of development of the peritoneal infection, nor is there any doubt of the satisfactory results and low mortality of operative work in the stage of localized abscess formation. The high mortality of operative interference between these two periods is known to all, and the clinical results of Ochsner and many others now overwhelmingly show that, with proper methods of treatment, the vast majority of cases seen first during the stage of the diffuse lesion can be carried over for operation at a later more favorable period. The almost absolute uniformity in the progress of those processes leading up to the localization or resolution of the peritoneal inflammation, as it was observed in this study, has served to convince the writer that the claims of those advocating conservative treatment during certain stages of acute appendicitis, are founded upon a much more definite pathologic basis than is generally recognized by the profession at large.

In conclusion, the writer wishes to emphasize the fact that the distribution of an intraperitoneal infection is, for the most part, dependent upon purely mechanical factors, and that in the absence of peristaltic movements such as are produced by giving food or cathartics by mouth, the tendency of a localized peritonitis, even of appendiceal origin, to spread beyond its original boundaries is very slight indeed, while, when a condition of peritoneal rest is once obtained, the vast majority of cases of extensive and severe appendiceal peritonitis show a rapid localization of the inflammatory process which either subsides entirely or ends in the formation of a localized abscess.

(*For discussion, see page* 162.)

WHAT NEW YORK STATE IS DOING FOR ITS CRIPPLED AND DEFORMED CHILDREN AT THE WEST HAVERSTRAW STATE HOSPITAL.*

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IN May, 1898, the writer, at the invitation of Hon. William R. Stewart, then President of the National Conference of Charities and Correction, read a paper before the Conference on "The Care of Crippled and Deformed Children."† After reviewing the efforts that were being made in the various hospitals, homes and asylums of this and foreign countries for the relief and education of this class, the necessity for the prolonged professional, medical care of patients afflicted with tuberculous joint disease, especially, was pointed out. A hospital in the country was suggested where "the necessary medical supervision can be maintained, the mental, physical and industrial training can be pursued, and the climatic treatment can be made to supplement the efforts of the surgeon." The writer goes on to say: "And why should not the State aid in such an effort? A strictly dependent, and even to-day, a much neglected class, is being only half cared for by the excellent medical institutions established for its relief. The educational and charitable systems of the State should be adapted to meet the demands of this class of crippled and deformed, as fully as are those for the deaf, the dumb, the blind or the insane. And this is true from a medical standpoint also. A child with a curable deformity, demanding prolonged treatment should be treated, as well as taught, until he is fully recovered, and not when convalescence is fairly established, and he is sure with proper care to recover, be sent out of the hospital to relapse after a few weeks or months, and to become ultimately a more or less useless member of society, perhaps a permanent burden upon the State."

An investigation made by the State Board of Charities, soon after this paper was read, demonstrated the fact that there were over 100 children physically defective, who were cared for by those institutions which made monthly returns to the Board. The great majority of these children were, or had been, capable of a great measure of relief under the modern methods of orthopedic surgery. A great number of these children were inmates of poor houses and homes, where special professional supervision was not available.

It was apparent to all who carefully investigated the subject that something should be done to relieve this unfortunate class, especially in the rural districts; that the State was supporting as

*Read before the Medical Society of the State of New York, January 30, 1908.

†*New York Medical Journal*, July 9, 1898.

paupers numerous dependents who with proper care might be made self-supporting citizens, and that all that was needed to bring about this relief was to interest the public, the medical profession and the proper State authorities.

With this end in view the writer, in December, 1899, visited and secured the hearty approval of Governor Roosevelt in this matter. A bill to incorporate the New York State Hospital for the Care of Crippled and Deformed Children was introduced into the Legislature in January, 1890. The matter at once secured the interest and cooperation of the Hon. B. B. Odell, Jr., and with his assistance and that of other influential and interested friends, medical and otherwise, the bill became a law in April, 1900. An appropriation of $15,000 was made. This sum being insufficient to establish properly the work, the writer secured $5,000 from private sources to place the work upon a satisfactory basis. This latter sum was expended in rehabilitating an old private residence in Tarrytown. About $3,000 of the appropriation was used to furnish it, and the balance was expended on current expenses during the first year. The capacity of this initial building was 25 patients.

Later on the sum of $50,000 was appropriated by the State to purchase a proper site, and in 1904 a tract of fifty acres was secured at West Haverstraw, upon which was located an old colonial mansion, which was renovated, remodeled and made to accommodate forty-five patients. Here the hospital is located at present, awaiting a further appropriation to erect upon this very eligible site a modern hospital, which will ultimately accommodate at least 400 patients.

It would form an interesting topic to dwell upon the gradual development of this work, which in less than seven years has grown into an established State institution. This, however, is not necessary on the present occasion.

During the first ten months of the existence of this hospital—or from the date of its opening (December 4, 1900) until the end of the fiscal year, on October 1, 1901—24 patients were treated. During the year just closed, 68 patients were treated, and over 300 applicants were awaiting admission. Of these 68, 39, or about 58 per cent., were afflicted with tuberculous joint disease. The remaining patients included club foot, knock knee, bowlegs, congenital dislocation of the hip, lateral curvature of the spine, the deformities following infantile paralysis, etc.

Since the organization of the hospital, and up to October 1, 1907, 144 patients have been treated. They are subdivided as follows:

Hip joint disease	45
Hip joint disease and knee disease	1
Knee joint disease	11
Pott's disease	9
Pott's disease and tuberculous wrist	1
Rachitic spine	1
Congenital club foot	7
Acquired club foot from infantile paralysis	29
Acquired club foot from cicatrix	1
Acquired club foot from spastic paralysis	2
Congenital dislocation of the hip	12
Knockknee	2
Bowlegs	4
Anchylosed knee	1
Congenital absence of fibula	1
Lateral curvature of the spine	4
Wryneck	1
Extensive deformity from infantile paralysis	2
	144

About one-half of these patients were suffering from tuberculous joint disease. These patients are treated by the open air method—the temperature of the wards being kept at, or below, 60° in winter; and in all but the most inclement weather those patients whose condition require recumbency are transferred from the wards to an open air pavilion, where they are kept for the entire day in the fresh air and sunshine. The convalescents, who can get about in their portative, protective apparatus, are allowed much liberty in their out of door life—even a modified game of baseball being permitted. The improvement in these patients is marked. The fresh air treatment thus outlined is too well known to require any detailed description. It is only necessary to say that the fresh air treatment is an essential feature of the work at the State Hospital.

Upon these 144 patients, 55 surgical operations have been performed, as follows: For acquired club foot, 12; for congenital club foot, 23; for contracted muscles (due to infantile paralysis, etc.), 9; for torticollis, 1; for congenital dislocation of the hip, 8; for bowlegs, 2.

Of the 144 who have received treatment since December, 1900, 98 have been discharged, prior to October 1, 1907. Of these, 32 have been discharged as "cured," 58 have left the hospital "much improved," 5 have gone home as "unimproved" (including 3 who have been summarily removed by the parents), and 3 have died.

The classification of patients dischargel from any hospital is a more or less arbitrary matter. A wide difference of opinion may exist, for instance, as to what constitutes a "cure" in hip joint disease. In our work we have aimed to be very conscientious in this matter, and the word "cured" in our classification refers equally to the *disease* as well as to the *deformity*, which accompanies it. So also in club foot, bowlegs, etc. We call a patient "cured" when the deformity has been removed and when there is no likelihood of a relapse. One might claim that none of these patients are really ever "cured," but when we place a child with hip joint disease, for example, upon his feet, with little or no deformity, and when the patient can get about with only a slight limp and is free from disease, we call him

"cured." Many of our patients discharged as "improved" might be classified, by many, as "cured." That is, there was, when they were discharged, very little deformity, no pain, and pretty good joint motion, but with the disease in abeyance; checked, but not eradicated. Many of these patients recover. Some, owing to the lack of proper home care, are liable to relapse, although we avoid, if possible, discharging any patient until we secure the best attainable result. But in some cases home influence interferes, or domestic affairs arise, which make it impossible for us to hold a child for an indefinite period. And then again there are some whose home condition promises a good ultimate result. These form the "discharged improved" class. Many of them are watched by the members of the Hospital Staff after they leave the hospital, and we know that many of those discharged as "cured" have not lost ground since their discharge.

We have had two patients for whom it seemed impossible to do anything for it in the nature of relief. They were both desperate cases of infantile paralysis—the loss of power being so extensive that remedial measures were usless; and the summary removal of a patient by hysterical and emotional parents is not an unusual occurrence in hospital work among children.

Since the hospital opened, only three deaths have occurred in the hospital, and we only know of two others which occurred after the patient left the hospital, where the death occurred as a result of the disease for which the patient sought relief at our hands. In all these cases tuberculous meningitis was the cause of death.

It has been the avowed policy of the hospital management to recognize the fact that orthopedic cases, as a class, require prolonged treatment, especially those with tuberculous disease of the joints. It is maintained that it is poor policy on the part of the State to cure a child in part, and then send it to its tenement house home with the certainty that a relapse will occur. There are now two patients, for example, in the hospital who have been there over five years. They are practically well, but we are holding them until a cure is really accomplished. The average duration of the residence of patients in the hospital, for those patients who have been discharged, is one year, three months and twenty-one days. Average duration of patients now under treatment, one year, seven months and twenty-three days. Many of the cases of club foot, knock knee, etc., where no *disease* exists, and where operative measures are indicated, require a comparatively short residence in the hospital. But all the tuberculous cases require a prolonged treatment, and all the patients while under treatment are taught the elementary branches and, so far as possible, industrial training is also given.

In brief, we have at the State Hospital the nucleus of a large, an important, and a necessary work. No reliable statistics are obtainable as to the actual number of deformed and crippled children existing in the State. But there must be many thousands. A recent experience will illustrate the fact that there are many such children, of whose existence little or nothing is known. Since the establishment of the State Hospital at West Haverstraw, there have been discovered, within a radius of four miles of the hospital, 29 children who were eligible for hospital care. No one would have believed this possible, without an actual demonstration of the fact. And so it is in almost every village and hamlet in the State. And one of the principal objects of this paper is to enlist the sympathy and coöperation of the profession in the State at large for these unfortunates—now that a State Hospital has been founded for their relief.

The need of a large and modern hospital for these sufferers must be apparent. Plans for such a building have been prepared, and an appropriation of $155,000 is asked from the Legislature for this object. It is proposed to erect, at first, one wing of a building (with administration quarters) to accommodate 200 patients. Ultimately, the additional wing can be added, making a hospital for 400 patients. The urgent need of this hospital, to accommodate the many sufferers who are now awaiting admission, especially from the rural district, must be apparent to all.

The following rules and regulations governing the admission of patients have been duly approved by the State Board of Charities, and by the Board of Managers of the Hospital.

The hospital was established "for the care and treatment of any indigent children who may have resided in the State of New York for a period of not less than one year, who are crippled or deformed, or are suffering from a disease from which they are likely to become crippled or deformed."

The following conditions are imposed upon all applicants: "No patient shall be received except upon satisfactory proof made to the Surgeon-in-Chief, by the next of kin, guardian, or a state, town or county officer, under the rules to be established by the Board of Managers, showing that the patient is unable to pay for private treatment. Such proof shall be by affidavit. If there was an attending physician before the patient entered the hospital, it shall be accompanied by the certificate of such physician giving the previous history and condition of the patient.

"Patients from four to sixteen years of age will be received for treatment, and all applications will be acted upon in the order of their reception. No patient will be admitted without an examination by, and a certificate from, the Surgeon-in-Chief, or in his absence, one of his assistants.

"No patient whose condition is such that death is likely to occur in the immediate future, or whose condition precludes a reasonable amount

of relief as the result of treatment, will be admitted.

"As this institution is a hospital, and not an asylum or home, it should be clearly understood by each applicant that the patient, if received, may be returned to the committing institution, parent or guardian, at the discretion of the Surgeon-in-Chief.

"It would aid the Surgeon-in-Chief very much in deciding upon the eligibility of a proposed candidate for admission, if, in addition to a written statement, giving the past history and present condition of the applicant, a photograph showing clearly the nature and location of the deformity should accompany the application."

It is needless, perhaps, in conclusion, to call attention to the great necessity for the immediate enlargement of the hospital. The present building is in no way adequate. It is a "makeshift," a purely temporary affair, which was adapted, so far as it could be, for hospital uses, because it happened to be on the site purchased by the State. The plot of ground upon which it stands is fifty acres in extent, and forms a most eligible site for the proposed new buildings.

It was the expressed intention of the State officers, when the purchase at West Haverstraw was made, to erect a new modern hospital within a year or two. The reason for this is apparent in the Report of the State Board of Charities,* which says, speaking of the hospital: "The children have received such surgical treatment and care as their condition required, but the limited capacity of the institution has been taxed to the utmost all the time. It should be remembered that this is the only State charitable institution for which the State has not erected the building. It occupies a reconstructed frame cottage, which does not provide it proper accommodations. The lack of room for employees makes it necessary that a place outside the building be provided for laborers. The small rooms in the basement heretofore assigned to them are without light or ventilation, and are only suitable for storerooms."

A bill, as before stated, is now before the Legislature making the necessary appropriations to erect suitable and modern hospital buildings. The objects of this hasty sketch are to present the urgent needs of the hospital to the medical profession of the State, to ask their influence in aiding to secure this much needed appropriation, and also to call to their attention a work which seems to be little known, the kindly offices of which, it is hoped, may be extended and made available to the many who are eligible to its ministrations.

28 East 38th Street, New York.

*Annual Report of the State Board of Charities for the year 1907, transmitted to the Legislature, February 8, 1908, page 101.

THE NATURE OF TUMORS.

By E. H. P. WARD, M.D.,
WHITE PLAINS, N. Y.

TUMORS are at present being widely studied and a number of theories have been proposed to account for their occurrence. They have been considered as due to injuries, parasites, the inclusion of groups of cells in the embryo in tissues where they do not belong, and a number of other causes. All these theories seem to be derived from the viewpoint of pathology, which tends to take the normal human organism more or less for granted and to consider that it will continue normal unless some gross external influence is brought to bear upon it to cause it to change. The theory of tumors which I am going to suggest is derived from the standpoint of biology, which does not take the normal human organism for granted, but which goes back far beyond it and considers it merely as the expression of one out of many possibilities latent in the cell from which it is developed. From this point of view, the significant fact is not so much that the human organism varies from the normal and becomes pathological, but rather that the normal state should be so well maintained as it is. And we are led to wonder, not that tumors occur, but rather that they do not occur more often than they do.

Let us, then, briefly consider the human organism from the biological point of view. The unit of living matter is the cell, and many living things go through their entire existence as single cells each one sufficient unto itself in the struggle for existence. When, under these circumstances, the single cell grows too large to be nourished through its surface, or for some other reason, it divides into two cells which become likewise separate cells leading individual and isolated existences until they in turn divide again. Such, in the most general terms, is the life-history of no inconsiderable portion of the living matter on the earth to-day, and such probably was the original form of all living organisms. But sometimes in the past history of life on the earth, if we correctly interpret the facts of embryology and evolution, there was a cell which divided into two cells and these two cells did not separate, but remained together and in relation to one another. Furthermore, when these two associated cells divided each in its turn, the resulting four cells still stuck together for mutual help and protection in the struggle for existence; and so on throughout numberless divisions until the enormous number of cells constituted a mass of living matter many times larger than the original cell that was its starting point, and yet a mass made up of single cells each retaining more or less its own individuality. Thus arose the first representative of the Metazoa or many-celled animals which have since been so numerous on the earth.

Now, when cells lead isolated existences each cell must be, and is, sufficient unto itself for practically all the purposes and necessities of life. Each cell provides for its own locomotion; seeks its own food, digests and absorbs it; does its own excreting, its own respiration, and its own reproduction—in a word, practically all the physiological functions of life including its own feeling and thinking if such it can be called; each function being performed in a comparatively simple way and on a small scale. Such are the qualities of single cells when they lead separate lives, and such are the qualities naturally inherent in every cell. But when these cells first started to hang together in the struggle for existence and formed by their union a many-celled organism, a division of labor arose—became both necessary and desirable. At first this was slight, no doubt, but as the associated cells grew more numerous their arrangement became more complicated and the division of labor more complete until finally some cells provided for the locomotion of the organism, others sought food, still others digested it, others highly developed their function of excretion until they became specialized in this function, and performed it largely for the whole organism, others took care of the respiration on a large scale, still others reproduction, others the feeling and thinking for the organism and the co-ordination of its many cells, while still others provided for the circulation of the fluids which accumulated around and between the cells and bathed them in a continuous bath of food, of excretions, of oxygen, etc.; and perhaps the cells that were the least differentiated from the ancestral free-living form became wandering amoeboid cells—the leucocytes of the blood—passing to and fro among their stationary and more highly specialized brethren, one of their most important functions being to protect the organism to which they belonged against hostile invading unicellular organisms—bacteria, etc. (What more reasonable than that those cells should be sent against invading enemies which must nearly resemble those enemies and can fight them on their own terms). Thus the cells composing this multicellular organism became delicately adjusted to one another through subdivision of labor and high specialization of each cell in its own particular function; but, although the remaining functions in each cell were relatively undeveloped, none of them perhaps were ever completely lost, but their possibilities simply lay dormant.

Thus in addition to single cells living practically solitary existences and sufficient each one unto itself in the struggle for existence, there arose a many-celled organism in which each cell, though retaining its individuality and its inherent qualities as a "free-born" self-sufficient cell, yet specialized in some particular branch of the work involved in the struggle for existence, sacrificing much of its freedom and to a greater or less extent many of its functional activities, but receiving in return many advantages to compensate. We must regard these occurrences, within wide limits, as facts that have happened at some time in the remote history of life upon the earth if we interpret aright the present facts of nature and especially of embryology viewed in the light of the theory of evolution. Consider for a moment what a wonderful event this was, what an extraordinary variation; what an epoch it marked in the history of life on our planet! Instead of the individual cells resulting from the divisions of their ancestors separating to the remote ends of the earth and fighting the battles of life each single one by and for itself and unaided, by a remarkable variation they band together as it were into a highly organized society of cells wherein they fight together for the common good against all the rest of the world and divide up the work among them; truly a most remarkable thing. If an army of men is highly organized as compared with a mob, surely such a multicellular organism is infinitely more highly organized as compared with a host of entirely separate cells leading isolated existences. And just as in the beginning of this variation it took time and many tedious processes for the original cell to divide and for its two descendants to divide and so on until by multiplication and differentiation of its parts the mature organism, so called, is formed; just so when one of the cells of this organism which have specialized in the function of reproduction, starts under favorable circumstances to produce a new organism, that new organism must be built up cell upon cell and differentiation upon differentiation, even as its parent organism was before it, until it too has become completely constructed and is ready to take its place in the world as a mature organism and repeat the cycle anew.

Thus, in the most general terms, so far as we can at present conjecture, multicellular organisms arose and are reproduced upon the earth. Such an organism is the human being. It starts its existence as a single cell, this single cell divides into two cells, each of these into two more, and so on; and as the cells multiply they become differentiated—*i. e.*, develop some of their functions to a very high degree of specialization at a more or less complete sacrifice of other functions which, however little developed, are probably never absolutely lost but lie dormant as long as the cell exists. Thus we have the various tissues of the body, each one composed of a group of similar cells having a similar function. But the cells in a given tissue are not all absolutely similar, though they may eventually pass through similar stages of evolution. Take epithelial tissue for example. It is generally composed of several more or less definite strata of cells. Those on top are the mature epithelial cells which have reached the highest degree of specialization in the special func-

tions the epithelium is intended to perform; they serve their purpose for a time and die and are cast off, their place being taken by others from below. And as we go from the surface of the epithelium we find the cells of each successive stratum less and less differentiated, having less and less of the characters of a mature epithelial cell; until those at the bottom, next to the basement-membrane, are scarcely differentiated at all, relatively speaking. The lowest cells keep dividing and push those above them to the surface to replace the uppermost layer as it wears off; and as the lower cells near the surface they become more and more specialized, until finally when they reach the surface they are completely formed, serve their purpose a while, die, and are replaced by others from below. Just as the entire organism arose from the repeated division of its cells, just so each living tissue that helps to constitute it arises from the division of its component cells; and many of the tissues not only arise but are maintained against wear and tear by repeated cell-divisions throughout the life of the organism. Those which are subjected to the greatest destruction have the mose active power of regeneration, viz., epithelial and connective tissue cells and the cells of the blood, and these in general are the least highly organized and specialized; those, on the other hand, which are not so subject to destruction have far less power of regeneration, viz., muscle cells and nerve cells, and these are the most highly specialized. But all tissues have the power of regeneration to a certain extent, and especially epithelial tissues. An epithelium is an army of cells marching to battle with the external world, and neither the battle nor the march ever ceases during the life of the organism. It is a continuous procession of reinforcements from the basement membrane to the surface, and as the old mature cells on the surface succumb in the conflict, those from below fill the gap and continue the battle in the interests of the organism. And as the young recruits develop at the bottom and march forward to battle at the surface, they become more and more thoroughly trained in the work of an epithelial soldier and their other cellular functions wane and atrophy.

Thus the young cells of a tissue—*e. g.*, an epithelial tissue—are not highly differentiated, comparatively speaking. Is it strange, then, if a cell in the lower layers of an epithelial tissue fails, in its progress upward to the surface of the epithelium, to pass through precisely the same process of differentiation that its predecessors have passed through; if it never becomes quite normal, mature epithelial cell, never fulfills all the functions it would have fulfilled as a typical cell of the tissue to which it belongs; if it fails to become quite so highly differentiated as an epithelial cell as it should become and retains instead some of its other cellular functions and capabilities in excess—its function of rapid multiplication, its capability of living a more or less separate existence even after becoming accidentally detached from its original site and conveyed by blood or lymph streams to other and far distant tissues? Is it so very strange that a cell whose ancestors some time in the past lived separate and independent existences, and had all their cellular functions developed equally to a low degree and none of them highly specialized—is it strange that the descendants of such ancestors should revert slightly toward their ancestral condition and, failing to complete the typical evolution and specialization of an epithelial cell, should still show a tendency to lead a roving and somewhat independent existence? In fact, can we not say that the strange thing is not that we sometimes find atypical and aberrant epithelial cells which instead of acting like normal or ordinary epithelial cells, revert somewhat to an ancestral condition and result in what we call tumors—that this is not the strange thing, but rather is it not far more strange that this partial and aberrant reversion does not happen more often? Is it not more strange that countless billions of epithelial cells go through their complex course of specialization and metamorphosis normally, as they progress upwards from basement-membrane to epithelial surface, than that a few single cells now and then should become abnormal and fail to attain so high a specialization? We find a similar process occurring in the development of whole organs, and similar failures. Most hands and feet have five fingers and five toes, their development being by a process of differentiation and specialization of simpler parts having more general functions. Yet we occasionally find supernumary fingers and toes, and we explain the condition by saying that the development of the hand or foot is incomplete or imperfect, the result of a partial atavistic reversion to a vertebrate ancestor with more than five bones homologous with human fingers. And when we find a child with six fingers we do not hold up our hands in scientific despair because we cannot find some parasite or injury or embryonic cells included where they do not belong or what not to account for the abnormality. No, we realize that the development of the mature organism is an extremely complicated and delicate process, and are not oversurprised if some detail of the work is incompletely executed. But let a single unlucky cell in an epithelial tissue, which also has a complicated history of development and specialization to recapitulate during its metamorphosis from youth to maturity—let such a single cell fall short of its complete development, remain in a condition somewhat approaching that of its

original ancestors, multiply rapidly as an independent cell and produce a tumor, and we are completely mystified; we conjure up all kinds of theories to account for the mishap, and are not content to consider that the cell had a very complicated part to perform and might well have failed in it for very trifling reasons. We expect too much of cells. Because most cells carry out their extremely delicate functions in the body with a fair degree of completeness and accuracy, we expect them all to do it all the time, and look for absolute perfection, and are surprised when one fails and try to find some gross cause to account for it. Cannot we grant that the same hidden process that can cause an incomplete development—an aberrant atavistic reversion—in an entire organ is competent to produce it in a single cell occasionally? I cannot see why not. To my mind a tumor—whether epithelial, connective tissue, muscular, cartilaginous, or of whatever tissue it may be—is the result of an aberrant atavistic reversion of a cell which, being the descendant of cells leading solitary existences and having all the physiological functions necessary to life developed equally though in slight degrees, finds itself belonging to a many-celled organism wherein its part is to become highly specialized in some particular function to the sacrifice of its other inherent functions; and which for some reason fails to completely fulfill the difficult part assigned to it, becomes only partly specialized, and never perfectly performs its appropriate duties, but on the other hand retains some of its more general capabilities as a living cell—viz., its powers of rapid multiplication, of living away from its ordinary environment in the body so that it can be transplanted to an entirely different tissue and yet live and multiply rapidly; and its nature being changed, its metabolic products will necessarily be altered and may become toxic to the other cells of the organism.

Thus considered, a tumor is due to a cell failing for some reason to develop and specialize completely and normally as the cells of its tissue usually do. This failure of development may arise spontaneously like other hereditary atavisms, although in this case of course it is not a true atavism, or return to an ancestral form, but merely an approximation to that form; on the other hand, it is reasonable to suppose that influences from without that change the environment of cells might under conceivable circumstances influence their development and leave it incomplete. Any unusual influence might possibly excite such an aberrant form of development if the predisposition exists—the inclusion of a group of cells in a tissue to which they do not belong would perhaps be especially likely to influence it. Injuries might be an exciting cause, or long continued mechanical irritation. Possibly parasites might, though it would seem strange they should confine their effects to so small an area, because many tumors probably originate in a single aberrant cell and represent its progeny, and all are sharply localized in their origin. If injuries ever cause tumors it must be generally as an exciting cause only, because such injuries are practically universal, and if they were able alone to produce tumors we should all have them. When tumors occur there must be a predisposition and they can occur spontaneously; outside influences may possibly excite them. Such at least would be expected to be the nature of tumors if the point of view I am elaborating is correct.

A tumor, then, is a growth occurring in a multicellular organism and due to one or more cells in the tissue in which the tumor originates failing to complete the cycle of development which is normal for the cells of that tissue, i. e., failing to develop typically from a relatively undifferentiated to a highly specialized cell; consequently never completely acquiring the highly specialized functions of the mature cells of the tissue and hence not serving its purpose to the organism; and, on the other hand, retaining its more general functions to an abnormal extent and constituting a more independent and self-reliant cell than its fellows, multiplying more rapidly and more versatile in adapting itself to changed environments; with a changed metabolism and hence perhaps excreting products which are decidedly toxic to the organism. These are the main characteristics of a tumor cell; everything else is more or less a matter of detail.

Such being a tumor, naturally anything which exerts an unfavorable influence upon the cells of the body—be the influence nervous, mechanical, or anything else—might be inclined to cause it or at least to excite it. It would seem natural to suppose that embryonic inclusion of cells of one tissue in another tissue would be especially likely to cause it. It would seem likely that in one especially predisposed to it an injury might possibly excite it. But it would seem strange indeed if a parasite could be so localized in its attack; rather the aberrant tissue-cell is itself the parasite. Disturbances of innervation might also have an influence upon the cells and cause them to fail in their complete development. But it would seem that if such is the nature of tumors predisposition, hereditary or acquired, would be an important factor—if not indeed the most important factor—and that tumors would be mostly spontaneous—at least not referable to any tangible and recognizable external influence. Bodily deformities as cleft-palate, harelip, polyactylism, etc., which are regarded as aberrant atavistic reversions, or in other words, lack of complete development of organs from a state resembling the ancestral to the normal state of the mature organism—these bodily deformities, I say, often seem to be influenced in their

occurrence by heredity. Why should not cell deformities, which in their essential nature seem on analysis to be similar to these bodily deformities, i. e., the cells, show lack of complete development from a state more ancestral to the normal mature state—why should not there be transmitted an hereditary predisposition toward the occurrence of these cell deformities also? It is sometimes said that civilization increases the number of tumors; if so, it would not be unexpected, considering tumors as the result of incomplete cellular development. For civilization means increased specialization and increased tension not only of the entire organism, but probably of each individual cell as well; and nothing would seem more likely on general principles to cause cells to break down under the strain and fail to complete their development, i. e., perhaps show the peculiarities of tumor cells.

The human body, then, originally developed from a single cell with no high specialization of function, but with all the physiological functions in a low degree of development. In the course of the evolution of the human body the descendants of this cell banded together to form a many-celled organism and became differentiated into the tissues and highly specialized to perform the functions of the tissues, each cell as it became highly specialized in one or more physiological functions losing its capacity more or less in the other functions that pertain to a primitive cell. In fact, this is the essence of development in the embryo: multiplication of cells and their specialization in some functions to the more or less complete exclusion of their other functions. And it does not stop in the embryo, but continues throughout the life of the organism, especially in the constant regeneration of each tissue that is regenerated. It is continuously going on in practically every tissue of the body—this specialization of tissue cells. And when one of these cells fails to specialize in one or more physiological functions so much as it ought and retains the rest of its physiological functions more than it ought, it injures the organism in two ways: (1) it fails to fulfill its positive functions in the tissue to which it belongs; (2) it multiplies with abnormal rapidity, crowds its neighboring cells, perhaps penetrates its basement membrane if it is an epithelial cell and invades the neighboring tissues and strangles them as it were, grows so rapidly and in so disorderly a fashion, that the blood-vessels which, in response to some stimulus, grow into the tumor mass cannot keep pace with it. The result is, masses of the tumor cells break down from lack of nourishment, etc., and decompose, poisoning the whole system of the organism; and finally some of the cells resulting from the division of the first aberrant cell (which seems to transmit its peculiarities to its progeny) are carried away by the blood or lymph stream and deposited in other regions of the body and there, by virtue of their abnormally versatile power of adaptation to environment, settle down and repeat the process as metastatic tumors. In these and other ways the tumor cells exert their more or less disastrous influence upon the organism. And it is not strange that cells so changed from the other cells of the body should react differently to various influences, e. g., that the toxines of Bacillus prodigiosus which are harmless to normal cells should be destructive to sarcomatous tumor cells.

Thus I have attempted to apply some of the accepted principles of biology to the human being, and more especially to the occurrence of tumors in the human organism. I have not tried to explain the fundamental nature of tumors, but merely to emphasize their biological peculiarities, and to bring them into line with other and better understood biological phenomena. Considering the mysterious character of tumors and their importance in medicine, they should be investigated from every possible point of view, and it has always seemed to me that the point of view I have taken here—which might be called the biological point of view—has been neglected. I would show that a tumor is not a new development, a new biological departure or variation from normal cell properties, but simply an incomplete development of a highly specialized cell; comparable to polydactylism or cleft-plate, which are not new developments, but the remains of old ones, incompletely metamorphosed into the normal condition. Furthermore, this incomplete development is due to a predisposing cause—the predisposition of everything human to fall short of absolute perfection—which predisposing cause may, with respect to tumors, be more strongly operative in some individuals than in others from hereditary or acquired peculiarities, constituting a form of instability; it may conceivably be due to a variety of exciting causes—nervous, chemical, mechanical, etc.; and lastly, and probably most frequently, it may be spontaneous—*i. e.*, due to exciting causes which we cannot appreciate or measure, and which are intimately bound up in the mechanism of cell development, heredity, and variation; in a word, in the fundamental mysteries of living matter and of life.

If such be the nature of tumors, we cannot hope to understand their causes completely until the cytologists are able to tell us more about the essential mechanism of the cell in development and heredity. Then, when we know just precisely how the normal cell attains its usual development, we shall be in a better position to understand why this development sometimes is abnormal. In the meantime, as physicians, we can do little more for the prevention of tumors than maintain good hygienic conditions, so that the cells of the body may pursue their various courses of

specialization to the best advantage, and have the least excuse for deviating from the normal. And if we know of any cells misplaced embryologically or otherwise, we should be on the safe side in removing them if practicable. So much for prophylaxis. When, on the other hand, tumors have once started in the body, it would seem the logical thing to do, from this point of view, to remove them surgically when practicable; because they seem to be strictly limited in extent at the start, probably very often to a single cell and its progeny. When complete surgical removal is impossible or impracticable, we should regard the tumor cells as parasites hostile to the organism and differing in nature from the other cells of the body, and the problem becomes essentially similar to that involved in other parasitic diseases. Perhaps we may be able to find some antitoxines, or increase the opsonins in the blood of patients suffering from tumors. Only in the case of tumor cells the resemblance is so close between the cells of the body and the hostile parasites that the difficulty will be to destroy the latter without injuring the former. Still, there is a difference, and there should be a chance of finding some reagent which will destroy the one without attacking the other. The toxin of Bacillus prodigiosus seems under certain conditions to approach this result in the case of sarcoma cells. Let us hope that something can be found to act similarly for other parasitic tumor-cells.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

PRELIMINARY REMARKS ON TAKING THE CHAIR.

By J. RIDDLE GOFFE, M.D.,

President of the Society.

JUST three years ago, at the inauguration ceremonies of your President, Dr. Stearns, we were in the throes of amalgamation, and I, as President of the State Medical Association, was invited to be present and explain the attitude of that organization toward amalgamation, and the prospect of the Association doing its part toward the final accomplishment. The two organizations had passed through years of rivalry, opposition and enmity; rancor and bitterness had burned deep into the hearts of not a few in either camp.

The Constitution and By-Laws of the Association had not been framed in such a manner as to permit it easily to carry out the preliminary requirements of amalgamation, so that the fundamental difficulties as well as the personal feeling were difficult to overcome. However, at that time, with my knowledge of the situation and my confidence in the legal proceedings prescribed by our lawyers, I felt justified in assuring the County Society that the Association would so compass the situation that the expressed will of the majority would be carried through to completion and amalgamation secured.

I recall now with what doubtful misgivings my avowal was received by this Society. But with the strong combined support of the leading spirits in the Association I was able to carry out the project and make good my promise. Amalgamation not only of the State Organization followed, but of all the County Societies and Associations in all their ramifications throughout the entire State.

What has been the result? Personal animosities have vanished like dew before the morning sun; no Achilles has sulked in his tent and no combination along the old lines of cleavage has shown its head as a stumbling block in the way.

It is an exhilarating thought to me that perhaps my elevation to the Presidency, coming as it has so spontaneously and unanimously, is meant as an outward expression of the fact that we have become a permanently united and harmonious body. Rest asured that I am not unmindful of the great honor you have conferred upon me. I accept it not only with a grateful heart, but with a full appreciation of the obligation of service the position imposes.

Do not infer that I flatter myself that I am come as an Angel of Peace to usher in the Millennium. No Angel of Peace, nor War, can accomplish that in a medical society. But I do know that we now have a splendid system of organization, the machinery of which responds to the requirements in our home Society and also affords a ready instrument for defensive or aggressive action at Albany. By means of the "Medical Directory" and the NEW YORK STATE JOURNAL OF MEDICINE, the organization throughout the State is made compact; and the mutual interests and interdependence of the constituent societies are kept alive and responsive. A new light has come to us, and organization in our ranks is the demand of the hour. "To cease to fear our fellows and learn to depend on them, to do away with competition and build up coöperation is our one necessity." This I feel we are learning more and more every day and putting into practice.

To speak more intimately of our domestic affairs, I wish to say that the gentlemen whom I have asked to serve on the various committees have responded cordially with assurance of their readiness to do their work. The duties of the several committees are distinct and clear, and I desire to give notice now that I and the Society will hold them to a sharp responsibility.

In comparing our Society with those of our sister counties throughout the State, I find that our percentage of membership based on the whole number of practicing physicians in the county is far below that of most of the counties. The County Medical Society is the official representative organization of the county, and practically every physician should be therein recorded.

It is there he should find his level and have his rating. If he is worthy to practice medicine in the county, he is worthy of membership in the Society. There are many physicians in New York County who would benefit the Society by their memberships—they ought to be with us—and there are many physicians in the county who would be greatly benefited by membership in the Society—and they ought to be with us. Let the greatest good to the greatest number be our shibboleth!

It would seem to be a simple proposition for each member to bring in one new member during the year; and to that end I have asked the Secretary to send out with the folders this month an application blank. May I ask each one of you to see that it gets into the hands of a man that you can recommend for membership. I am sure that every one here to-night will see that that is done.

A larger membership will give us increased representation in the House of Delegates at Albany, and in the American Medical Association, it will add also to our treasury, and we can use the money profitably to carry on the work of the legal department. We have been criticised somewhat for taking the fines that come from convictions in courts, and we all feel that we would like to avoid this if it were a possible thing. Most cordial relations have been established with the District Attorney and his office, and also with the Police Department. It is our hope and expectation that we may now shift a large part of this work upon the shoulders of these two city Departments and secure sentences of imprisonment instead of fines. The permanent effect of such sentences would be more far reaching. A thousand additional members of our Society, through their dues, would aid vastly in securing this desired end. To further this project I have taken the responsibility of appointing a special committee, whose duty will be to select and solicit new members.

The new medical laws of the State are going to make it easy to put the specious medical quacks and the advertising medical institutes on the run, and a vigorous campaign against them is now being instituted.

Mr. Champe S. Andrews, because of his practical retirement from professional work, has resigned as counsel. As you have doubtless noticed on the folder the Comitia has secured in his place the law firm of Whitman and Vandiver. Mr. Vandiver is with us to-night and will be glad to meet you at the close of the session, and you will be pleased to know him.

And so we seem to start the New Year under fair skies, amid smooth seas and a favoring breeze. With the cordial coöperation of each and every member of the Society, I feel confident that the year 1908 will mark time with the most advanced progress of thought and endeavor and be reckoned with the successful years of this time-honored society.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.*

By JAMES J. WALSH, M.D.,
NEW YORK.

WILLIAM McCLELLAND.†

WILLIAM McCLELLAND, the first President of the Medical Society of the State of New York, was born in the Shire of Galloway in Scotland, in the year 1769. He received his medical education at Edinburgh, and immediately afterwards came to America and began his professional career in Albany. His talents and his medical attainments secured for him a large practice, and his position in his profession was deservedly eminent. His early advantages had been better than this country at that time afforded, and hence the position that education controls was acceded to him by his colleagues. In matters pertaining to the advancement of his profession, Dr. McClelland took an active part, and as he was present at the first meeting of the Medical Society of the County of Albany, so he continued his attendance with regularity until the close of his life. At the first meeting of the Medical Society of the State of New York in 1807, he was the delegate from Albany, and was elected the first president of that body. This distinction was at once an evidence of his popularity among his colleagues and a tribute to the high estimation in which they held his scientific attainments. He proved an excellent presiding officer and later an active member.

In January, 1811, Dr. McClelland formed a partnership with Dr. William Bay, who had a few months previously returned to Albany to reside; but his social habits had led him into an extreme of living, not uncommon in those days, and that tended to shorten his life. He died on the 29th of January, 1812, having just completed the forty-third year of his age.

NICHOLAS ROMAYNE.

Of Dr. Nicholas Romayne, who was elected the second President of the Society, and re-elected for two successive terms, the most diverse views have been expressed by his contemporaries, and it is hard for the modern biographer to say just where the truth lies. In the following sketch we have simply attempted to present the opinions of different writers and

*This is the beginning of the "Lives of Officers of the Medical Society of the State of New York," which will be published at intervals during the year. It is probable that descendants of some of the men whose lives are sketched may be in possession of further interesting details. The author will be glad to receive any addenda which may be incorporated in the republication of these memoirs.

†From *Albany Medical Annals* and Biographies by Willard. This volume is really the Annals of the Medical Society of the County of Albany, 1806 to 1851.

at the same time to furnish a reasonably connected account of Dr. Romayne's rather diversified career. He was quite a popular man with the masses. He was often unpopular with the profession. He was a man of very strong intellectuality and vigorous personality, and his three terms as president enabled him to shape the future course of the Medical Society of the State of New York to no small degree. As we publish certain of his annual addresses before the Society, these too should be consulted, in order to obtain a proper idea of the man.

A contemporary biographer thus sums up his career:

Nicholas Romayne, M.D., was born in the City of New York in September, 1756, and obtained his elementary education at Hackensack in New Jersey, under the instruction of Dr. Peter Wilson, the late Professor of Languages in Columbia College. About the commencement of the Revolutionary War he went abroad, and completed his medical studies in Edinburgh. He also visited the continent, and spent two years in Paris. Upon his return to New York he commenced his professional career. He was advantageously known as an able private lecturer on many branches of medical science, and it is with pleasure that I bear witness to his efficient instrumentality in the foundation of the College of Physicians and Surgeons. He was its first President, and gave instruction in that institution on Anatomy and the Institutes of Medicine. His address, as President, delivered at the first opening of the College in November, 1807, is an honorable speciment of his diversified attainments and talent. (A quotation from it will be found at the end of this notice.) He died in New York in 1817.

When Dr. Romayne first returned from Europe, after finishing his studies, the British army was still in possession of the City of New York; and being a firm friend to the cause and liberties of his country, he declined going into the city, although he might have done so without any suspicion of his patriotism, as peace was approaching, and it was known that the army would of course soon depart. He therefore remained about two years at the house of a friend in Philadelphia, where, by the charms of his conversation, agreeable manners, and regular conduct, he was esteemed an excellent companion. Here he entered into a respectable share of practice, and had he resolved to make that city his permanent residence, there was no reason to doubt of his complete and successful establishment; for to an uncommonly fine person he added the more weighty considerations of fine talents and great attention to his patients. But a matrimonial engagement, which he had contracted before leaving New York for Europe, determined him to take up his residence in that city, which he did immediately after it was abandoned by the British. "He would have been," says one who knew him well, "the most eminent medical man in New York, had he confined himself to his profession; but unfortunately he engaged in trade and other speculations, which drew him off from his profession and involved him in embarrassments which were highly detrimental to him." On his last visit to Europe he was admitted as a licentiate of the Royal College of Physicians in Edinburgh, a compliment which, it is believed, had never before been paid to any American.

The following interesting notices concerning the professional services of Dr. Romayne, are extracted from a communication made by Dr. Mitchell:

He returned from Europe when I was a young student, before the termination of the Revolutionary War; probably during the year 1782. His arrival excited considerable conversation both here and in Philadelphia; insomuch that my curiosity was awakened to see him. He was reported to have improved his opportunities with singular diligence. This was, I supposed, the fact, for he had visited Paris, Leyden, London and Edinburgh; at the latter of which places he went through the course of study required by the statutes of the university, and published a dissertation in Latin, according to the usage, on the formation of purulent matter, "De Generatione Puris." It was said of him, that he composed it himself, without the aid of a "grinder," or hireling writer or translator. Besides the knowledge of his own, or the English, tongue, he had attained more classical learning than the greater part of the members of the profession acquire. He could speak Low Dutch and French fluently. The circle of his acquaintance embraced most of the respectable citizens. He was endowed with a goodly and healthy frame, and was exceedingly industrious; wherefore, he manifested a strong desire to rise and become conspicuous in the world.

He accordingly very soon displayed his knowledge of the human body by giving private lectures on its anatomy, which were then very instructive to those who attended. For, though the course was by no means complete, it was valuable as far as it extended.

It is not surprising, then, to find that as soon as the British withdrew from New York and the citizens began to try to evoke order from the chaos that had been during the war, Dr. Romayne was one of those entrusted with the organization of educational affairs. To quote from Dr. Hosack's discourse on the opening of Rutgers Medical College in New York, 1807:

Very soon after the enemy had withdrawn from the city in 1783, the exiled inhabitants returned, and the constituted authorities made it the seat of State government. One of their early acts was the revision of the charter that had been granted during the provincial administration to King's College. Among other alterations rendered necessary by the change of circumstances, was the appointment of a new board of trustees. Of these Dr. Romayne was one of the persons nominated in the law.

He had, no doubt, imbibed high expectations from this new situation. But they do not appear to have been realized to any considerable degree. It pleased the trustees to constitute a Faculty of Physic, by the appointment of professors. The place of trustee held by Dr. Romayne was incompatible with that of professor. This restricted his activity, and he soon became impatient of the restraint. He had qualified himself for a teacher, but was now unemployed to lecture upon any branch of his profession. His situation became irksome on another account. His superior attainments in literature and medicine elevated him with high notions, and filled him with contemptuous notions of some who had been less fortunate in education than himself. He could not carry points as he wished, and the adoption of some measures to which he was opposed, induced displeasure and coolness, and finally led him, after some years, to resign.

The first Faculty of Professors having performed but small service, Dr. Romayne exercised his talents as a private teacher, and so assiduous and laborious was he, that he gave instructions on almost all the branches of professional knowledge. Anatomy, practice of physic, chemistry and botany, were taught by this extraordinary man; and with such success, that he drew hearers from distant places, even from Canada. After his separation from Columbia College, he found it expedient to procure academic honors, and more especially diplomas from some other seminary.

Dr. Romayne, from a variety of circumstances, being now, as it were, under the bar of the profession, discontinued teaching, and some time after made another

visit to Europe; during which he posted up the arrears of information, and modernized himself by the men he saw, and the institutions he examined.

There was not, however, much for him to do for several years after his return. At length opportunities offered of making him, by rapid steps, a most active and conspicuous member of the profession. In 1806 an act was passed for incorporating medical societies for the Commonwealth and its respective counties. By a sudden and singular change of sentiment, Dr. Romayne was called from his retirement, and elected the first president of the society for the city and county of New York, on the 1st of July in that year.

During the succeeding winter, on the resignation of the place of State delegate by the gentleman who held it, Dr. Romayne was chosen the delegate to the State Medical Society in Albany. After taking his seat in the central body, he was promoted to the presidency of that association also; and by such advances did he rise to honor.

The sway he had attained did not terminate here. The act herein before mentioned, for providing a College of Physicians and Surgeons, had been torpid or dormant ever since its passage. The day was approaching when the regents of the University were to act under its provisions. Dr. Romayne found a great deal of business in medical matters and otherwise to occupy him at the seat of government. Among other things, the solicitation of a charter for the aforesaid purposes, employed him in the most satisfactory manner. Though he was assisted by numerous and powerful supporters, he may be considered as the leading agent on the occasion; and the person, probably, without whose urgent and pressing instances the work would not have been completed. He was rewarded for his services by being selected as the first president of the new institution in 1807.

An excellent illustration of Dr. Romayne's eloquence, and at the same time a quotation that is of historic interest as showing how soon we Americans began to think and to say that we were among the most enterprising people on earth, is to be found in the following taken from "An Address delivered at the Commencement of the Lectures in the College of Physicians and Surgeons in the City of New York by Nicholas Romayne, M. D."*

"The white people of these United States have always manifested a love for learning equal to their brethren in other parts of the world. Some European writers have supposed that we have degenerated from the vigor of mind possessed by our forefathers. But the chief who presides over these States with so much wisdom, moderation and justice, has, in his philosophical tracts, vindicated the character of his countrymen with all that zeal, with which he is accustomed to support their rights and interests. The inventive and active genius of our people has appeared in navigation, and many of the mechanic arts. In that kind of philosophy which applies immediately to the convenience and comfort of man, some of our citizens have risen to the highest rank. In painting, which of all arts requires the greatest power of genius, they have acquired considerable celebrity. In the science of politics they stand unrivalled, exhibiting to the world an illustrious instance of a numerous and widely scattered people, self-governed, and advancing with unexampled rapidity in national wealth and national happiness."

Dr. Romayne's personal character was thus summed up by an intimate friend, Dr. McLeod:

Dr. Romayne was a man of strong mind, well cultivated and much improved by reading, by the society of learned men, and by travelling. I knew him in health and in the midst of disease; in affluence and in adversity. He had much self-command, though naturally of powerful passions, and very tender sensibilities. Bereaved of all his children in their infancy, he could not endure the recollection of their endearment. On the last evening of his life he gave testimony to a near friend of his respect for the scriptures.

WILLIAM WILSON.

Of Dr. William Wilson, the third president of the society, only the scantiest possible information seems obtainable at the present day. He was the delegate from Columbia County, and first presented his credentials at the meeting in February, 1810. He very soon began to take part in the official life of the society, for he is named among the censors for the succeeding year. Dr. Nicholas Romayne, the president of the society, was absent from that meeting, though he sent his anniversary address. As the first president had been from Albany, and the second from New York, it seemed only proper that another up State man should be chosen, and the lot fell upon Dr. Wilson. His anniversary address, as president, the next year begins with an apology for his want of talents properly to fulfill the duty imposed upon him, and the address which follows is rather general and commonplace. The following year Dr. Wilson served on the Committee of Correspondence. This was in 1813. In 1814 he was elected a permanent member. I have not been able to find his name subsequently in the rather meagre transactions of these early meetings, and it seems not unlikely that the only reason for this would be that he was prevented from coming by sickness and death. All of the ex-presidents of the society continued to be interested and to occupy positions of honor and labor during their lives, especially at this period, when the number of members was as yet small.

(To be continued.)

"I have known many men injured by too much exercise and harmed by too much recreation, but I can recall no instance, in my own personal experience, of injury resulting from too much study. I do not deny the possibility, but I consider the probability so remote that words of caution are uncalled for. Such exercise as you need you can secure in simple and inexpensive ways."—*Willis G. Tucker, M.D. Address Delivered at the Opening of the Seventy-seventh Session of the Albany Medical College.*

*Published by order of the College and printed by Collins & Perkins, Printers to the College of Physicians and Surgeons, 1808. (Copy in the library of the New York Academy of Medicine.)

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Editorials.

A NEW JERSEY PROVISION FOR ANATOMIC STUDY.

THE State of New Jersey has just placed upon its statute books a law (Chap. 249, Laws of 1907) providing for anatomic and pathologic study, which for its simplicity and far-reaching importance is most commendable.

It provides that any three or more physicians who desire to associate themselves together for such study for the advancement of medical or surgical science may become a corporate body by filing a certificate in the county where the studies are to be caried on and in the office of the Secretary of State. The simple act of filing such a certificate of intention constitutes the body a corporation having all the corporate powers under the laws of the State.

The law then provides that all public officials having charge of dead human bodies requiring burial at public expense must notify any such association or its agents when bodies come into their possession or control, and shall deliver without fee such bodies to such association to be used within the State for the advancement of medical and surgical science. The law also provides for the equal distribution of bodies in counties where there are two such associations.

It goes still further. In order that there shall be no obstacle placed in the way of the benefits accruing from this law, it is also provided that where any such association has applied for bodies in any county, no such bodies shall be removed from the county without the association having the opportunity to receive them, and neglect or refusal to obey the terms of this law on the part of those having charge of such bodies shall be punishable by a fine of not less than ten dollars or more than one hundred dollars.

Such a law as this encourages the study of anatomy, pathology and surgery, and provides means for such study which should be taken advantage of by many earnest students and investigators. It also reflects additional luster upon a State which already is distinguished for the effectiveness of its laws.

LIFE INSURANCE INTERESTS.

WHILE we look askance at the methods of some of the life insurance companies and, indeed, discover that many engage in practices which are actually fraudulent, we cannot lose signt of the immense service which these organizations render to the public. Life insurance is a well recognized and approved business, without any more philanthropy in it than any other business has; and we should be glad that as a business it is a success. That it fails often to place an adequate value upon the services of physicians is an error which we believe time will correct. It is not the fact that it provides a means by which we can insure our families against the contingencies of the future, or that it contributes a certain amount of money to the medical profession for passing judgment on applicants for insurance, that we desire to comment upon; but it is its indirect service to the whole people that should not be lost sight of.

The life insurance companies are doing much to interest men in their own lives and in the lives of their families; and anything which accomplishes that is of salutary influence. They are a powerful and practical agency for reminding people of matters of health and longevity. Men with bad habits and excesses are refused insurance, and such refusals have a good educational effect. Plant in a man's heart a deep regret that he has lived unwisely and he becomes a torch-bearer to warn others away from his

unwisdom. The insurance companies also desire as examiners the competent men of the community, the effect of this being that wholesome competition and examination ensue.

There still remains for these organizations to combine in a concerted action to secure better general health conditions. Just as the fire insurance companies combine in the support of the salvage corps, and in watchfulness over the efficiency of the municipal fire departments, so the life insurance interests have an opportunity as a clear business proposition to join hand in hand with the medical profession and sanitarians in the great movements which are in progress for the improvement of the public health. If in inhibiting the development of epidemics the medical profession is taking bread from itself, this could not be said of the life insurance interests. They can as a matter of plain business policy give every aid to medicine in its philanthropic efforts. The life insurance companies could wisely take the same interest and lend aid in the work of health departments as the fire insurance companies do in the work of fire departments. No single financial interest should be more deeply concerned for the public health.

THE TREATMENT OF FUNCTIONAL NERVOUS DISEASES.

NOTWITHSTANDING the progress which has been made in the treatment of many of the well understood infective diseases, it can also be said that the treatment of the less well understood functional nervous diseases has been advanced with almost equal pace. This list includes those vague neuroses and psychoses which have eluded the pathologist's inquiries into their nature, and which have been most thoughtfully and successfully studied by the clinicians. The treatment of these diseases never was upon a satisfactory basis, while they were regarded as vague "possessions" of some diabolic influence on the part of the patient nor while they were attacked by the armamentarium of the apothecary, nor while they were regarded as no disease at all because the pathologico-anatomical basis could not be discovered. The victory over these maladies belongs to the clinicians who discovered what lines of treatment were of value before they understood the essence of the disease.

Joseph Collins,* in a recent article, makes the statement that nervous diseases, contrary to the general tradition, yield more uniformly to treatment than any other class of diseases of comparable nature and severity. Nor is a correct diagnosis necessary for the successful treatment of many neuroses. While this is not in abrogation of the necessity for correct diagnosis, still it has a very practical bearing upon the results secured by faith curists, Christian scientists, shrines, systems, osteopaths, and charlatans innumerable. What these people have been able to do without diagnosis has been decidedly suggestive and helpful to the science of medicine. Pretense and fraud have taught medicine some valuable lessons.

Collins says that it is not alone in the so-called functional diseases, such as the neuroses and psychoneuroses, that moral treatment is efficacious: it may truthfully be said that in the organic diseases, aside from those caused by syphilis, it is far more efficacious than medicine. Yet how little is heard of it in the schools, when compared with the countless words that have been said and written about the innumerable substances which are remedies in tabes, in myelitis, in disseminated sclerosis, and in epilepsy. In these, as in all nervous diseases, drugs alone are of meager worth. The treatment which has proven successful is along hygienic lines—psychic and physical. Collins is opposed to the claim that no one but the neurologist can treat nervous diseases: the general practitioner should study the proper manner of treating them with the same care that he studies infant feeding or the treatment of typhoid.

These patients are sick in every sense of the word, and are entitled to better treatment than being told that there is nothing the matter with them. The restoration of the general health by removing the cause of the illness and the correction of violations of physical and psychic hygiene is the line of treatment to be pursued. But these unfortunately make demands upon the time and patience of the physician which many are unwilling to give. However, with the reorganization of therapeutics, in teaching and in practice, the physician will learn that he, as well as the surgeon, must give himself as a part of his treatment.

*Am. Jour. of the Med. Sciences, February, 1908.

ACCIDENTS IN THE CITY DECREASE.

SINCE the Public Service Commission has been in office the number of accidents in New York has shown a decided tendency to decrease. That this is due to the efforts on the part of the Commission to safeguard the life and limbs of the public seems quite evident, for the work which they have done has been of a practical character with this object in view. That other causes may have played some part in the improvement of the statistics is also possible, but even had they not been operative, there have been made by the Commission enough changes in the management of public conveyances wholly to account for the good results. They believe that this protection of the public from physical injury is one of the most important problems with which they have to deal, and they have given it much study. Accidents are being scientifically classified with a view to collecting working statistics in order to be able to decide upon the most effective means of preventing them.

The total number of accidents reported monthly is as follows: August, 5,812; September, 5,244; October, 4,866; November, 4,037; December, 3,993; January, 3,921. There were 28,130 accidents, of which number 1,335 are classified as serious, and 332 as fatal. This decrease in the number of accidents is taking place along with an increase in the amount of traffic.

It is a salutary sign when street railroad companies are made to observe certain speed limits, adopt more rigid inspections of rolling stock and machinery, and overhaul their cars and put them in better condition. It is also noteworthy that safety devices are receiving consideration which was never before shown them.

FOOD OR CONFECTION?

THE Dairy and Food Commission of Pennsylvania has made an examination of some eighty-two "breakfast foods," and found that practically all of these much advertised cereal products are good and wholesome. They are made of crude materials, which in the grain are so cheap that there is no temptation to adulteration. The frivolous imputation that we are eating saw dust breakfast food and shredded whisk broom, is not substantiated. This commission does show, however, that these advertised foods are very expensive; many of them are short weight; and even at the best, pound for pound, compared with the simple unadvertised cereals, their cost is entirely disproportionate to their value.

The chemist who made the investigations reports that the cost of these products is low if they are regarded as confections to please the taste, but very high if they are regarded as substitutes for the ordinary domestic cereals. While mush, oatmeal, wheaten grits, and rice were good enough for us at one time, it is not to be denied that modern manufacturers have put these same cereals through processes which have added a modicum to their palatability and a maximum to their cost. It is, moreover, much in their favor that, instead of being shoveled out of a bin, they come to us in cleanly sealed packages.

VIVISECTION AGAIN.

UPON this subject the *New York Times*, February 16, 1908, editorially says:

> Antagonism that rests on a conviction that all vivisection is only the useless as well as the wicked infliction of torture upon helpless animals asks for restriction as a first step toward abolition, and every concession to its demands will invite the hasty presentation of new ones. The regulation of vivisection must not be intrusted to those who would destroy it, to those so blinded by sentimentality that they can deny the enormous debts owed by both medicine and surgery to this form of investigation. The task is one to be performed, when and as necessary, by the very men who are denounced, and they are no more likely than any other sane and decent person to countenance the real evils and abuses that are among the remote possibilities of vivisection.

The *New York Law Journal*, February 20, 1908, says:

> We concur in the position of the *Times* that regulations of this sort had better be left to the persons who practice vivisection. Our own observation leads us to believe that no class of men will take greater pains, make greater personal sacrifices and undergo greater personal privation to mitigate the sufferings of the lower animals as well as humanity than physicians and earnest scientists.

These comments represent the sentiment of the thoughtful element of the community.

All honor to him who has served faithfully and well, who has studied the histories, idiosyncrasies and temperaments of his patients, and has advised and comforted them through the dark hours of affliction. His riper knowledge, which comes from a school without books—the school of experience—can never be gainsaid, nor his place usurped in the hearts and minds of right-thinking men.—*S. MacCuen Smith.*

Observations.

ON THE FUTURE FIELDS OF MEDICAL ACTIVITY.

During the evolutionary and eliminative progress of medicine there will always be an important mission for the doctor. He will have less and less to do with the care of the sick and more and more with the prevention of sickness. As the relative proportion of doctors becomes less, the importance of the individual doctor will become greater. One physician as sanitary commissioner at the head of a city can prevent an epidemic of typhoid fever which would demand the activities of a thousand physicians once it were started. The one physician, exercising the preventive function, is to be the important man, not only as the community adviser, but as the family and individual adviser as well. Common sense and the present tendency of scientific work declare that it is better to exercise endeavors to prevent disease than to cure it. It is cheaper to keep one man constantly on guard to prevent the spark from striking the tinder, than to summon a thousand in the hour of distress to save the burning citadel.

The fields of activity of the medical profession are destined to be, in national and state councils and executive offices, including teachers, safeguarding the health of the people; in the more intimate relations with the public in county and municipal health offices, and in the personal relation of family physician, consultant and specialist.

* * *

That the people of this great country are to have a national board of health, there is no doubt. It may be deferred, but it is inevitable. Its field will be an enormous one. The supervision of the foods produced and purveyed to the people, the healthfulness of trades and occupations, the cleanliness of the great waterways, child labor, the safeguarding of the young, the physical fitness of immigrants, the instruction of the people in the care of health, and the keeping of vital statistics, are but a few of the governmental duties which are now neglected for want of a national department of health. Such a department should also frame laws for regulating the practice of medicine. The educational requirements should be uniform and should have national supervision. The doctor whose house is on the state line should have just as good standing in his kitchen as in his parlor.

The value of a national board of health can never be known until historians look back upon the times when the country was without it. Such a branch of the government, with the support of congress and the coöperation of state boards of health, would have in its power to wipe out typhoid fever, yellow fever, and malaria, and reduce enormously the mortality from tuberculosis. It should have, aside from the intrinsic merits of the case, representation upon the cabinet of the president. The counsel of a wise sanitarian would be of inestimable value to the departments of state, agriculture, of the interior, of war, of the army and navy—in fact to every department. Within a year past the President himself has set on foot measures to minimize the large amount of tuberculosis among the federal employes of Washington. There was no department to which this important work properly belonged.

* * *

In the several states the field of endeavor for the departments of health is very great. Gradually they are growing up to their opportunities. As they demonstrate what can be done, the people give them more money and a large scope. Some states have efficient and growing boards of health and accomplish much. Those states which have not yet awakened to the value of such work suffer sadly for their negligence.

The municipal and county departments of health are naturally the most appreciated. It is because they are nearest the people. All municipalities are constantly increasing their efficiency and the field of their work. The City of New York has added to the work of its health department the function of having inspectors at the farms where the city's milk supply is produced. This is a natural outcome of the work of inspecting milk as it comes into the city. It has already been pointed out that, inasmuch as this milk comes from six different states, which supply several hundred other municipalities, if each sent inspectors to the sources of supply there would be an overlapping of inspectors, which can only be corrected by federal supervision. The work of these municipal health departments is undergoing a steady evolution. They conduct bureaus of vital statistics, inspect buildings, factories, schools, etc., supervise cases of contagious diseases; conduct hospitals and clinical laboratories for diagnosis; manufacture antitoxins for the poor; give courses of instruction on health and hygiene; send nurses to care for and instruct the sick; provide food for consumptives; furnish medical advice and proper food for infants in summer; and in a thousand other ways contribute to the health and comfort of the people. While the functions of the other governmental departments in our cities remain about fixed, the power and scope of the activities of the department of health in every well governed and thoughtful community is being steadily augmented.

* * *

One of the great needs in our system of medical education is to train men to meet these new conditions. No college in our country has a course in hygiene and sanitation worthy of the name. Doctors are to be trained to fill the important positions, arising on every hand, in sanitation— municipal, state and national. Preventive medicine is the thing. The need of specially equipped men is becoming urgent. The first

school in this country to train men as sanitarians will mark an epoch.

These signs of an advancing civilization are cited to show the fields of activity and usefulness which are inevitably developing for the medical man. He is destined to be more and more of a voice and a hand in the multifarious functions of government.

Items.

EDITED BY

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SOUR MILK VERSUS OLD AGE.—Metchnikoff is still hot upon the trail of old age—not abusing the old gentleman, but as one who, having exorcised his decrepitude, would beguile him into long and pleasanter hours. According to the present indications, sour milk is to be the chief beguiler. This is one of the impressive themes of Metchnikoff's new work entitled, "The Prolongation of Life," which comes as a sequel to "The Nature of Man." The idea that the intestinal canal is the all-important factor in human deterioration is still uppermost; and especially is the lower bowel, harboring as it does a host of inimicable bacteria, held responsible for the too early arrival of the Seventh Age. With what interest do we read that the baobab tree of Cape Verde lives to the gnarly old age of 5,000 odd years, while the Californian sequoia and the cypress of Oaxaca equal or even exceed that age? These instances Metchnikoff makes use of, to show that there are cases in which there is no such thing as natural death. And so, having argued Death up into a corner for one line of life, he bids him put on more pleasing robes for us all and come forth as the expected guest at the end of the feast. For the instinct of death must eventually come to take its proper place beside the instinct of life. "If," to use his own words, "it be true that our precocious and unhappy old age is due to the poisoning of the tissues (the greater portion of the poisoning coming from the large intestine inhabited by numberless microbes) it is clear that the agents which arrest intestinal putrefaction must at the time postpone and ameliorate old age. This theoretical view is confirmed by the collection of facts regarding races which live chiefly upon sour milk and among whom great ages are common."

The idea is simplicity itself. We cannot for a moment dispute its general principle. We may only regret that we shall not see the fulfillment of its promise, for the offending intestine is still with us; nor is it clear just what course we should pursue to start it on its way toward becoming a vestigular organ. Moreover, the cultivation of the sour milk taste, in most of us, will require much struggle and privation. On the grounds of our duty to posterity, however, this argument of Metchnikoff's makes it clear that we must sometime begin to adapt our palates to an acidulous diet. For the unborn generations, our sympathy! For ourselves, we shall be neglecting our duty if we defer too long a systematic cultivation of the sour milk habit.

FOLIA NEURO-BIOLOGICA.—The first number of this new periodical has just been issued bearing the date of November, 1907. If it meets with the success which it should, it is destined to be a valuable addition to neurological literature. According to its preface it "will try to centralize the international neuro-biological literature, scattered over the organs of anatomy, physiology, zoology, biochemistry, pathology, the periodicals on psychiatry and neurology, many papers belonging to medicine in general, treatises, reports of societies, etc." The effort will be made to give as complete a survey as possible of the new contributions in the whole domain of neurobiology in extenso and in extracts. Sufficient space will be provided for original communications while articles will be published in the four congress languages.

The editor is Dr. E. Hekma, of Groningen, and with him are associated such illustrious neurologists as Apathy, Bethe, Ramon y Cajal, Dejerine, Edinger, Flenchsig, van Gehuchten, Golgi, Halliburton, Luciana, Marinesco, Münsterberg, Retzius, Tschermak, Verworn and Ziehen. We wish the undertaking all success and sincerely trust that its future numbers will maintain the high standard of excellence displayed by the first issue.

AS TO RESIGNING FROM THE PROFESSION.—According to the newspapers, a certain physician of Buffalo, together with his wife, who has for many years served him in the capacity of professional assistant, resigned from the practice of medicine. The occurrence might well pass unnoticed, were it not for the very unusual reasons which led up to it; for neither fulness of years, nor failing health, nor any other common disability induced the doctor to take leave of the profession. To his own mind, a lofty purpose urged him to this sacrifice—after twenty-five years of successful practice. In his proclamation to the public, he speaks as follows: "Left to his own judgment, the doctor would not drug you, but you have forced him to educate himself in those subtle devices that eventually mislead you, and often, himself as well." The doctor's decision is essentially his own affair, nor would we show such lack of consideration as to take issue with him in the matter. Yet to one inclined to ruminate upon things in general, it must appear that this is engaging the wind-mill with a very long drawn out lance. Drugs were the doctor's skeleton in the closet; but notice how sacred he kept the closet for over a quarter of a century! Drugs are among the most venerable traditions of the profession—many of them venerable to the extent of senility; many of them presented to us directly from the hand of necromancy;

many of them still revered for virtues reputed to them by mediæval mysticism, and all of them too little understood. Our discourse is almost unlimited concerning them, while our knowledge is startlingly finite. And yet notwithstanding all this, unhappy patient, we must drug you just the same because in your credulity you still demand some nauseous potion or some rank decoction. If it does you any good, why we'll do it again, and for that matter mark it q. l. h. if that seems to do you even more good. That's a plain duty—but not our whole duty, for it is scarcely right that our patients should know more about the drugs we employ than we do ourselves. Still this is the case in the majority of instances, as the patients take the medicine and we don't. Surely then this is not the day for resignations, when there is so much unknown but not unknowable. Dissatisfaction there may be and well; but it counsels ill and to no good purpose if it bids one retreat. This is bad enough in any line; but imagine the sorry figure of one in full flight before the pharmacœpeal hosts, especially when he has been keeping steady company with them for the best part of twenty-five years.

The International Congress on Tuberculosis will be held at Washington, D. C., September 21 to October 12, 1908. This Congress meets once in three years; it has never met in America, and after 1908 will not meet in this country for many years to come. The Congress will put the people of this country in the relation of host to the leaders of this movement in all parts of the world. It will carry on, for three weeks, public discussions of the tuberculosis problem, led by the most eminent authorities on this subject, in this and other countries. Official delegates will be present from nearly all civilized countries. There will be a course of special lectures to which all members of the Congress and the general public are invited. The Congress will be divided into seven sections, giving ample scope for participation of both scientific and lay members. There will be a great Tuberculosis Exposition, in which one can see what is going on, the world around, in the campaign against tuberculosis. There will be clinics and demonstrations throughout the whole period of three weeks, giving medical and lay delegates object lessons on the causes and prevention of tuberculosis.

The Federal Government is interested. There are nine departments in the United States Government, and seven of them will participate in the Congress.

There are 46 States, and every State has its own committee. Thirty-seven of these State committees are at work. In thirty of these States the Governors have expressed their interest in the Congress, and many of them have given most explicit instructions asking all the municipalities and other local governments, and the voluntary agencies, to combine for the purpose of securing to the State the utmost possible benefit from this International Congress.

Foreign countries are interested. The following countries have been heard from and will be represented: Great Britain (including her more important provinces and colonies), France, Spain, Italy, Germany, Switzerland, Holland, Belgium, Denmark, Sweden, Norway, Russia, Austria, Hungary, Bulgaria, Greece, Argentine, Brazil, Uruguay, Chile, Colombia, Ecuador, Guatemala, Peru, Venezuela, Porto Rico, Cuba, Hawaii, Japan. The office of the Secretary-General is 714 Colorado Bldg., Washington, D. C. The published transactions are valuable and important. The transactions of the last Congress are published in three volumes. The proceedings of this Congress will require four volumes. These are free to all members of the Congress who have paid their membership fee ($5.00). The cost of the Congress will far exceed the revenue derived from fees. This cost will be provided for by a special Committee of the National Association for the Study and Prevention of Tuberculosis, which will invest a large sum in the project. It is hoped that the American membership will number ten thousand persons. There are two classes of members: active members, who pay a fee of $5.00; and associate members, who pay a fee of $2.00, and have all the privileges of membership, except the right to vote and to receive the printed volumes.

A meeting of the Executive Committee of the New York State Committee on the International Congress was held in the New York Academy of Medicine Saturday, January 11th. The Committee outlined a plan for the enlargement of its membership and for stimulating interest in the objects of the Congress in all parts of the State. The membership of this Committee is as follows: Dr. Alfred Meyer, New York City, Chairman; Dr. H. D. Pease, Albany, Secretary; Dr. Thomas Darlington, New York; Hon. Homer Folks, New York; Hon. Robert W. Hebberd, New York; Dr. Veranus A. Moore, Ithaca; and Dr. J. H. Pryor, Buffalo.

Hodgkins Fund Prize.—In October, 1891, Thomas George Hodgkins, Esquire, of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted to "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man."

In the futherance of the donor's wishes, the Smithsonian Institution has from time to time offered prizes, awarded medals, made grants for investigations, and issued publications.

In connection with the approaching International Congress on Tuberculosis, which will be held in Washington, September 21, to October 12, 1908, a prize of $1,500 is offered for the best

treatise that may be submitted to that Congress "On the Relation of Atmospheric Air to Tuberculosis."

The treatise may be written in English, French, German, Spanish or Italian. They will be examined and the prize awarded by a Committee appointed by the Secretary of the Smithsonian Institution in conjunction with the officers of the International Congress on Tuberculosis. The right is reserved to award no prize if in the judgment of the Committee no contribution is offered of sufficient merit to warrant such action. The Smithsonian Institution reserves the right to publish the treatise to which the prize is awarded. Further information, if desired by persons intending to become competitors, will be furnished on application to Charles D. Walcott, Secretary, Smithsonian Institution, Washington, D. C.

FIFTH PAN-AMERICAN MEDICAL CONGRESS.—The next Pan-American Medical Congress will be held in Guatemala, Central America, the 5th, 6th, 7th, 8th and 10th of August, 1908. It must not be thought that Guatemala is an undesirable place at that season. August is the time of the year called the *cunicula,* when, although hot, there is but little rain. The heat of Guatemala does not compare, however, with that of our own states, as it is situated on a plateau which is comparatively cool. The trip down from New Orleans or from New York by steamer to Porto Barrios is an agreeable one. The trip to the Congress and back will be in the hands of the Chairman of the Transportation Committee. Excursions can also be made in connection with this Congress to Mexico or the various West Indian Islands. These excursions will be in the hands of Thomas Cook & Co., or anyone who chooses to organize one. There will be no charge for transportation in the Republic of Guatemala.

The Government and the people of the Republic of Guatemala, as well as the National Committee of the Fifth Pan-American Medical Congress, are actively endeavoring to do all in their power to make this meeting a great success. The International Executive Commission consists of Dr. Charles A. Reed, President; Dr. A. Van Der Veer, Vice-President, and Ramon Guiteras, Secretary, 75 West 55th Street, New York, U. S. A.

THE RED CROSS.—Attention is called to the following resolutions adopted by the Executive Committee of the American National Red Cross:

Whereas, By international agreement in the Treaty of Geneva, 1864, and the revised Treaty of Geneva, 1906, "the emblem of the Red Cross on a white ground and the words Red Cross or Geneva Cross" were adopted to designate the personnel protected by this convention, and

Whereas, The Treaty further provides (Article 23) that "the emblem of the Red Cross on a white ground and the words Red Cross or Geneva Cross can only be used, whether in time of peace or war, to protect or designate sanitary formations and establishments, the personnel and material protected by this convention," and

Whereas, The American National Red Cross comes under the regulations of this Treaty according to Article 10, "volunteer aid societies, duly recognized and authorized by their respective Governments," such recognition and authority having been conferred upon the American National Red Cross in the charter granted by Congress, January 5, 1905, Sec. 2, "The corporation hereby created is designated as the organization which is authorized to act in matters of relief under said Treaty," and, furthermore,

Whereas, In the Revised Treaty of Geneva, 1906, in Article 27, it is provided that "the signatory powers whose legislation should not now be adequate, engage to take or recommend to their legislatures such measures as may be necessary to prevent the use by private persons or by societies other than those upon which this convention confers the right thereto of the emblem or name of the Red Cross or Geneva Cross,"

Be it Resolved, That the Executive Committee of the American National Red Cross requests that all hospitals, health departments and like institutions kindly desist from the use of the Red Cross, created for the special purpose mentioned above, and suggests that for it should be substituted some other insignia, such as a green St. Andrew's cross on a white ground, to be named the "Hospital Cross," and used to designate all hospitals (save such as are under the medical department of the Army and Navy and the authorized volunteer aid society of the Government), all health departments and like institutions, and, further,

Be it Resolved, That the Executive Committee of the American National Red Cross likewise requests that all individuals or business firms and corporations who employ the Geneva Red Cross for business purposes, kindly desist from such use, gradually withdrawing its employment and substituting some other distinguishing mark.

THE HINDOO HEALER.—On February 12th and 13th there appeared in the city of Rome, New York, another of those medical fakirs known as the "Hindoo Healer." His name seems to be S. M. Ismail. A very successful prosecution was instituted by the Oneida County Medical Society, which resulted in promptly driving this charlatan out of the neighborhood. Special mention is made in the JOURNAL of this issue of this particular quack, as it has been suggested that he might appear in other counties of the State and attempt to establish himself. Though a warrant was issued for his arrest, the proceeding was withdrawn upon his written agreement that he "at once discontinue the practice of medicine in and will also remove from the County of Oneida." His advertisements and press notices which precede his arrival are sufficient to secure his conviction under Chapter 344 of the Laws of 1907.

MEDICINE AND THE UNIVERSITY.—A notable address is that of Prof. W. H. Welch delivered at the convocation exercises of the University of Chicago, in December last. In its main theme it deals with the undoubted advantages derived by the medical college, which is a corporate part of a university. These advantages are so obvious that they need no rehearsing. But in one part of his discourse he strikes a relatively new note, bearing particularly upon the practices and theories of medical education, a theme which unquestionably will be more heard of in the future. Dr. Welch believes that the medical student should have greater latitude of choice in the subjects to be pursued, and that this choice

should extend to the amount of study to be devoted to the various subjects and the order in which they are to be taken. A minimum requirement for the principal branches is recommended, while at the same time ample opportunity would be left for a considerable range of choice in other subjects. The Harvard Medical School has adopted a system of electives in its fourth year which has been in successful operation for several years. Other schools have followed a similar plan, and Johns Hopkins this year introduced a large number of elective courses to be offered in all of the four years. That the plan should have such exponents as these speaks volumes for its general excellence.

One objection to be raised against it, however, is the present inflexibility of the State Board Examiners who seem rather stubbornly to insist upon rigid qualifications for all applicants. The evil of the present system may be tersely expressed when we say that the State Board is more significant to the student than his subject. But this, at most, is only a transitory obstacle which, perforce, must give way to a better order of things.

When the Court Fixes the Fee.—The following quotation culled from a French medical journal makes cheerful and pleasant reading: "A decision rendered September 23d by a commercial court of Berlin may be instructive as to the compensation granted to Prussian physicians. Dr. L. was commissioned by the court to examine an employe dismissed on account of his health. After several examinations, followed by numerous reports, our confreree put in a claim for $3.45. The court found the bill too large and reduced it to $1.50 on the ground that the doctor had only worked three hours, and that a wage of 50 cents per hour was sufficient remuneration."

Our French contemporary finds further solace in the fact that during the last twenty years the number of physicians in Europe has increased about 50 per cent., while the fee ordinary has decreased by nearly the same figure, and the total population remained just about the same. A cheerful outlook for our Trans-Atlantic brethren! It might well put us in sympathetic mood were it not for the fact that, according to his calculation, a similar tendency is developing among us with astonishing rapidity.

"The Conquest of Cancer."—Saleeby's "Conquest of Cancer" is a multiplication table of words. Add it, subtract it, work it by the rule of three and it will invariably give the same results—in mellifluous torrents—words, words, words. But worse than that it is wrong to the hilt. It is wrong because its title is essentially false; because it is presented to a credulous public in popular book-form; because its thesis is trivial and its claims unequivocal; but, above and beyond all, because it will lull into treacherous inactivity the crying needs of no small number of early carcinoma cases.

It is a contribution to human suffering and not, as the author would have us believe, to the cause of human life. It is to be regretted that one of the most distinguished of the New York daily papers devoted an entire page to review this sensational publication.

Saleeby seems to be impressed with the idea that he is destined to play the rôle of a Boswell to a relatively unknown Johnson, to wit, a Dr. Beard of Edinburgh, whose entirely hypothetical and as yet unconfirmed argument as to the destructive effect of trypsin upon the so-called trophoblastic tissue of embryonic life, forms the slim nucleus about which the book is written.

American Association for Cancer Research.—The first regular meeting of this new society was held in New York November 15, 1907, at which time a constitution was adopted and the following officers were elected: President, James Ewing, New York; Vice-President, F. B. Mallory, Cambridge; Secretary, Harvey R. Gaylord, Buffalo. The next meeting will be held at Buffalo in the spring of 1908.

Physician's Protective Association.—Some two hundred physicians of greater Boston met and formally organized an association of the above name, which partakes of the nature of a union. A new scale of prices was adopted and subsequently given out to the newspapers. There seems to be a good deal of snap left in the Greater Hub still, and besides, it appears to be just about as hard to collect there as in some other places.

Florence Nightingale Honored.—Having attained her eighty-eighth year, Miss Florence Nightingale is now living in great seclusion, being visited only by members of the family and close friends. Her name has become a household word because of her unparalleled services during the Crimean War. King Edward recently conferred upon her the Order of Merit. This order was instituted by the king as a means of recognition of distinguished services to art or science. Up to the present, there are but twenty upon whom this honor has been bestowed, and Miss Nightingale is the only woman in that number.

Neurological Hospital for New York.—The Commissioner of Public Charities has established, on Blackwell's Island, a new institution to be known as the Hospital for Nervous Diseases of New York. This is the first public institution of its kind in this country. At present the capacity of the hospital is 250 beds, but additional buildings are now in course of construction for the further accommodation of 100 patients. The attending staff will be divided into ten distinct services, each service having a senior attending physician and two assistants. Each service, moreover, will be continuous and perma-

nent. Laboratories for diagnostic and therapeutical research will be provided for the staff. The medical board comprises the following well-known neurologists: Dr. L. Pierce Clark, President; Dr. E. L. Hunt, Secretary; Dr. Smith Ely Jelliffe, Dr. Francis A. Scratchley, Dr. Pearce Bailey, Dr. Joseph Fraenkel, Dr. William B. Pritchard, Dr. J. Ramsey Hunt, Dr. Greame Hammond and Dr. Leszynski. The consultants are: Dr. C. L. Dana, Dr. E. D. Fisher, Dr. George W. Jacoby, Dr. B. Sachs, Dr. Joseph Collins, Dr. Frederick Peterson and Dr. M. Allen Starr.

TUBERCULOSIS EXHIBIT IN UTICA, NEW YORK.—During the week of December 2d, the State Board of Health held a tuberculosis exhibit, its object being to assist the State Charities Aid Association in their efforts to instruct the public in matters pertaining to this disease, and to spread abroad a clear knowledge of the manner in which tuberculosis is disseminated. More of this kind of demonstration and educational effort is needed in all of our crowded cities.

CITY HOSPITAL, NEW YORK.—Examination for Internes will be held on March 27 and 28 in New York City. The City Hospital has a large general service with about 800 beds, comprising all branches of medicine, and the length of service is 18 months. All applications for the position should be addressed to the Chairman of the Examination Committee, Dr. Smith Ely Jelliffe, 64 West 56th Street, New York.

SHIP'S NURSES.—One of the great transatlantic steamship lines has added trained nurses to the medical personnel of its vessels. This opens a sea career for the trained nurse. Undoubtedly other lines will do the same, and the nurse will become as indispensable an adjunct to the first-class passenger vessels as the ship's doctor.

ANTIPYRETICS.

How many of our boasted and much-used antipyretics act simply like an increased dose of the toxin, by depressing the vital resistance and preventing the temperature reaction? I have no hesitation in naming two—aconite and veratrum—and expressing grave suspicions of a third, namely, the whole group of coal-tar products. The man who gives aconite or veratrum in a case of pneumonia, typhoid, or appendicitis is pouring a second poison into the body of his unfortunate patient to suppress the resistance which it makes against the first. They make the patient more comfortable and the doctor much easier in his mind for the time being, but what of the ultimate outcome? They lower the temperature, slow the pulse, but it is much after the same fashion that a blow on the head with a club will quiet the struggles of a man resisting arrest, or a dose of opium will relieve the fatigue of a soldier on the march.—WOODS HUTCHINSON, *Monthly Cyclopedia,* Jan., 1908.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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ERYTHEMA NODOSUM.

Erythema nodosum can no longer be classed among rheumatic affections, says Symes, but must be classed among the acute infectious fevers of a specific nature. In 125 cases he found 20 per cent. in the first decade of life, 40.8 per cent. in the second, and 22.4 in the third. The youngest patient was 3 years of age and the oldest 68. The majority of cases of acute rheumatism occur in the second, third and fourth decade of life. Acute rheumatism occurs more frequently in men than in women, while erythema nodosum is three times as frequent in women. The occurrence of both diseases in the same patient is said by the author to be infrequent. The articular changes of erythema nodosum much resemble those of subacute rheumatism, or of gout or gonorrheal rheumatism. The painful symptoms are not relieved by the salicylates. Symes calls attention to the long duration of the prodromal symptoms which continue from one to four weeks, and to the facts that a relapse is rare, that a second attack is an exception, and that convalescence may be accompanied by considerable anemia and malaise.—*Lancet,* Jan. 26, 1907; *Zentralblatt für Innere Medizin,* No. 47, 1907.

THE FUNCTIONAL INDEPENDENCE OF THE ISLANDS OF LANGERHANS.

Lazarus reports that the administration of phoridzin or of adrenalin to guinea-pigs for months, aside from the glycosuria, caused a slow progressive cachexia and emaciation, together with a considerable amount of hypertrophy of the pancreas and adrenals. The enlargement of the pancreas consisted of an apparently regularly disseminated hypertrophy and hyperplasia of the islands of Langerhans. These facts speak for the functional and anatomic independence of these islands of Langerhans, and for the reasonability of the assumption that they are very considerable factors in the regulation of sugar metabolism.—*Muenchener medizinische Wochenschrift,* 1907, No. 45.

INFLUENCE OF DILATED STOMACH ON THE HEART.

Spillman and Perrin report the case of a 22-year old girl with dilated stomach, which, when distented with fluid, so increased the sounds of

an hypertrophied heart with aortic insufficience that they could be heard at some distance, and even awakened the patient in her sleep. Relief was obtained for the patient by having her supper some time before retiring, for otherwise the condition was extremely annoying to her.—*Zentralblatt für Innere Medizin,* 1907, No. 50.

SCARLET FEVER.

The observation of 832 cases of scarlet fever is sufficient to give weight to the opinions of a competent observer. The analysis of these cases, by W. N. Barlow, medical superintendent of the Booth Corporation Infectious Hospital, is published in the *Practitioner* for December, 1907, and is interesting to ponder.

It is the opinion of the author that scarlet fever is not carried in the clothes of persons who have merely come in contact with the disease. If it were, considering the opportunities of conveying infection, one ought to have direct proof if it every day. As a matter of fact, however, it is possible to trace the infection in only a small proportion of cases. In many cases one is almost compelled to admit that the disease has arisen *de novo.*

The presence or absence of complications in scarlet fever does not by any means depend on the severity of the attack, but in almost equal degree upon the condition of the patient when attacked, and in a less degree, upon the age of the patient. The older patient is less liable to complications, while a delicate child is liable to complications even with a very mild attack.

The author expresses his opinion that a fever hospital is not a suitable place for the treatment of very mild cases of scarlet fever if there is the slightest chance of isolating the patients at home for a few days. These mild cases are, in his opinion, only infectious for a few days. Moreover, it is only a step from the mild cases to those in which the diagnosis is doubtful, and it is very dangerous to these latter patients to place them in a fever hospital.

The diagnosis of scarlet fever is not always the simple affair which many appear to think it is, and in the author's experience he has found that the mistake in diagnosis most often made is that too much attention is paid to the presence of a rash and the character of such rash. Scarlet fever is a disease with *three* main characteristics —a definite rash, a definite sore throat, and a definite condition of the tongue; but it must be remembered that every sore throat is not scarlet fever, every strawberry tongue is not scarlet fever, and, above all, every erythematous rash is not scarlet fever, nor, indeed, is every scarlet fever rash erythematous. These three signs must be considered in relation to, and in conjunction with, one another.

Mild cases require no treatment beyond an abundance of fresh air, and a mild disinfecting throat spray. For otorrhea with profuse discharge, best results were found to follow irrigation of the ear with boracic solution, and the subsequent filling up of the ear with boracic powder. When the discharge was slight the ear was irrigated with a solution of hydrogen peroxide, and then three drops of absolute alcohol were dropped in, being allowed to remain about a minute. For nephritis with blood and scanty urine, the patient was put on milk diet, with diuretics, diaphoretics, loin poultices, and free purgation. When the flow of urine was well established, iron was prescribed. Occasionally the albumen in the urine was very persistent, and, after a thorough trial of the usual methods of treatment and severe dieting, the patients were allowed up and put on full diet, with the result that the albuminuria ceased. It is a most important matter that the physical condition of scarlet fever patients should be improved as much as possible, because in so doing, the liability to the complications which so often accompany the convalescent stage of the disease is thereby minimized.

The author's opinion as to the length of the infected period in especially the mild cases is sufficiently radical to meet with opposition by many; but his ideas appeal to the reviewer as noteworthy in their common sense. His opinion is that in some instances infection lasts only a few days. He would not hesitate a moment in discharging some cases in ten days or a fortnight, were it not that if any untoward event happened, the blame would be laid, however unreasonably, on his shoulders, owing to the present state of medical and therefore public opinion. On the other hand, some cases remain infective for months, and it is the author's opinion that in these cases, the nose and the naso-pharynx are the sites where the infection lingers. The author has repeatedly observed that children with adenoids and big tonsils, even after having been kept in the hospital for 12 or 14 weeks, have been the source of return cases.

CLINICAL STUDY OF RED BLOOD CELLS.

Some new and instructive facts regarding the red blood corpuscles have been recently presented by Rollin, who claims that by observation of the size and amount of filling of the cells we may in many cases arrive at conclusions concerning gastric acidity which could be learned otherwise only by examination of the stomach contents.

In hyperacidity, without foci of inflammation in the body, we find in fresh unstained blood specimens when the stomach is fasting, that the red cells are very nearly equally filled and approach in diameter the maximum physiological limit. With decrease of acidity, the size of the red cells is less, and more of the small forms appear, while simultaneously the resistence of the red cells to mechanical insult is less. As the number of the cells does not increase, anemia results from their decrease in size. In uncomplicated hyperacidity and in many cases of subacidity and anacidity, the blood pictures as

described is very plain. It is only doubtful in cases of gastric atony, increased waste of plasma through extensive inflammatory processes, and with the existence of anemias of a destructive or degenerative nature.—*Berliner klinische Wochenschrift,* 1907, No. 36.

THE OPHTHALMO-REACTION OF CALMETTE.

One further aid of apparent great importance in the diagnosis of tuberculosis is the so-called "opthalmo-reaction of Calmette" which was reported in *La Presse Médicale* on June 19, 1907, and which is described by Sydney Stephenson in the *British Medical Journal* for October 19, 1907. Within the brief time to the present, this diagnostic aid has become widely recognized and applied by medical scientists.

Calmette's method of diagnosing tubercle is one of almost incredible simplicity. The plan is to place a drop of a 1 per cent. watery solution of dried tuberculin in the eye of the patient. In case the subject is healthy, there is no reaction. On the other hand, in the tuberculous subject from the third hour onward, the eye to which the tuberculin is applied becomes reddened, and in the course of several hours shows all the appearances of a more or less pronounced attack of muco-purulent inflammation of the conjunctiva. The maximum reaction is seen within six or seven hours after the application of the tuberculin. All traces of inflammation disappear within two or three days. Investigators report that the plan is free from danger, and that it causes the patient scarcely any discomfort.

In conclusion it should be added, that, according to Calmette, neither ordinary tuberculin nor Koch's older tuberculin should be employed in the test, since their contained glycerine is apt to irritate the conjunctiva and thus mask any proper reaction. Calmette advises one part of dried tuberculin, precipitated by alcohol and dissolved in 100 parts of sterilized water. Of this liquid he places one or two drops in the eye to be tested. This tuberculin is prepared in two forms: (1) as dry tuberculin in small glass phials to which ten drops of water are added; and (2) as a solution in hermetically sealed glass tubes ready for immediate use. The price of neither preparation is prohibitive. The manifold advantages of this procedure as compared with the injection of tuberculin are self evident.

NORMAL DIFFERENCES IN PHYSICAL SIGNS IN THE TWO LUNGS.

The frequent difference of physical signs on the two sides of the lungs has often been noted, but it is a knowledge of this fact that makes especially interesting the examination made by Seufferheld to determine these points in 120 cases in the clinic of Gerhadt in Jena. In 75 per cent. of these cases the right apex was lower than the left. Still more frequently the expiration over the right apex was more prolonged and harsher, sometimes approaching a bronchial type, In one-fifth of the cases there was bronchophony over the right apex. The most careful examination, including use of the Roentgen rays, showed that these individuals, with very few exceptions, had no lung disorder. The author attributes the difference in physical signs entirely to anatomical relationships, and warns against errors in clinical diagnosis because of them.—*Beitraege zur Klinik der Tuberkulose,* No. 1, 1907.

MECKEL'S DIVERTICULUM IN TYPHOID.

The existence of Meckel's diverticulum is especially dangerous in a patient with typhoid fever. The disease shows a predilection for that organ. The mucous membrane of the diverticulum is rich in lymphoid tissue, and is also poorly nourished, which factors lead readily to perforation. The perforation takes place usually in the third or fourth week of the disease.—*Progrès Mèdicale,* Vol. III, No. 33.

CHRONIC PROSTATITIS.

Virghi analyzes 163 cases of chronic prostatitis which he has treated, and comes to interesting conclusions which vary in some particulars from those of other authors. The conclusions are:

1. Chronic prostatitis is always a mild toxic infection of the prostate with the colon bacillus.
2. Hypertrophy of the prostate is the sequence of chronic prostatitis, being a more advanced stage of the same condition. Patients with chronic prostatitis may consider themselves as destined to prostatic hypertrophy.
3. Prostatic hypertrophy is of microbic origin; there are no aseptic prostatides.
4. The infection causes a slow sclerotic process in the smooth muscle fibres of the stroma, which extends into the circular fibres of the neck of the bladder.
5. The functional disturbances of urination and of retention in their forms are caused by this sclerosis, and their slow onset is dependent upon the slow advance of the sclerosis.
6. Massage of the prostate, as well as the prostatic part of the urethra at the neck of the bladder, is the only active and effective method of treatment if the sclerosis is not too extensive and complete.
7. Prostatic hypertrophy is more frequent than is recognized. It is advisable with every case of difficulty of urination in the male to investigate the condition of the prostate.—*Gazz. degli ospedali,* 1907, No. 8; *Zentralblatt für innere Medizin,* 1907, No. 21.

"There is such a thing as physical morality and the preservation of health should be considered a sacred duty. Persons who treat their bodies as they please and trangress rules of personal hygiene of which they should have a definite understanding are physical sinners, and they are not only committing a crime against themselves, but often against their dependents and future generations."—*Pyle: A Manual of Personal Hygiene.*

SURGERY.

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BRAIN SURGERY.

Charles A. Ballance makes a strong plea for more persistent effort on the part of surgeons to diagnose and attempt to cure intracranial disorders. Action should follow only provisional diagnosis, when danger attends delay; thus lives can be saved, and diagnosis become more perfect. Even when an expected intracranial tumor is not found at operation, increased intracranial pressure always present is certainly relieved. He classifies six conditions calling for intracranial intervention.

1. Diseased and displaced bone, which conditions should be dealt with before mischief has arisen.

2. Effused blood. He recommends lumbar puncture to relieve intracranial pressure in apoplexy, as the only feasible operation. Intradural hemorrhage, arachnoid hematocele, are conditions remediable by operation, and he cites several cases to support this claim. He calls attention to intradural hemorrhage occurring in the new born from pressure on the skull during delivery, and quotes Cushing as supporting his views and reporting several such cases, which he has cured by surgical operation. Such extravasations are usually unilateral, are accompanied by bulging fontanels, without pulsation, convulsions, unilateral palsy, irregular respiration, slow pulse, a stable pupil on the side of the hemorrhage, fever, inability to take nourishment, and frequently death; or, if not fatal, cerebral palsies, epilepsy and other nervous disorders.

3. Concerning meningeal inflammations, he makes some very important statements. In meningitis serosa he mentions fever, slow pulse, vomiting and drowsiness as symptoms, and advises lumbar puncture. Hydrocephalus interna he considers difficult to treat successfully. Two procedures alone are recommended.

(1) Intradural drainage, allowing the fluid to escape into the subdural space.

(2) Ligation of both carotids (internal) arresting secretion from choriod plexus.

In diffused suppurating meningitis, he uses suppression of source of infection, free exit to suppurative exudate and appropriate antitoxin. The operation provides a free bilateral opening and should allow the pus to escape from the subarachnoid space; in conjunction with this he opens the spinal theca, thus permitting irrigation from the cranial to the spinal cavity. In tubercular meningitis, he advises opening not only the subdural, but the subarachnoid where the disease usually lies.

4. In abscess of brain, he lays great stress upon incising through stem of mushroom-like formation of the abscess—the stem consisting of more resistant cortex; the body consisting of less resistant white matter; the fibrous walls of this stalk present a ready-made channel for drainage. This natural inflammatory channel is not likely to be obstructed by flowing together of liquid substance of the brain, by which the efficiency of all forms of artificial drainage is impaired.

5. Epileptiform neuralgia of the fifth nerve. Here division of second and third divisions of the fifth nerve is the operation of choice. This operation is simple, devoid of risk of hemorrhage; of opening intradural space, and of anesthesia of cornea. The one objection is in the late recurrence, due to reuniting of a few fine filaments, although he blocked the foraminaovale and rotendum with gold leaf. Recurrences are also reported by Abbe and Cushing who fill foramina with rubber made soft by heating. To close perfectly these foramina, he says we must seek something more effectual than rubber and gold leaf.

6. Tumors of brain. He advises operation, where localized and accessible, and gives as his reason for doing so, the brilliant results that have followed some enucleations, and the fact that even though tumor be not found at operation, the decompressive operation in many cases entirely relieves the patient of agonizing headaches, and distressing vomiting, and saves his sight. Of late, increase of knowledge has led to greater precision in diagnosis, and to a nearer approach to scientific certainty and exactitude in operating. —*The Lancet,* December 21, 1907.

TREATMENT OF FRACTURES OF THE NECK OF THE FEMUR.

John B. Walker speaks very favorably of the Whitman treatment of fracture of the neck of the femur. He has employed this method in treating 16 cases. He recommends where possible the use of Bardenheuer's method of longitudinal and lateral traction. An anesthetic is necessary, for it is undoubtedly best to separate carefully or unlock the fragments where impaction is present, for the desire is to bring the fractured surfaces in exact contact with each other, so that as little callous as possible will result. In the Whitman method under anesthesia a plaster bandage is applied to foot, leg, thigh, pelvis and abdomen, while the leg is held in a position of abduction of about 45 degrees to the normal limit. Three assistants are necessary, one for each leg and one to hold shoulders and trunk against traction, when extension is needed. The plaster is made comfortable by first placing folded

cotton batting or sheet wadding over all bony prominences, and over this a flannel bandage, carefully adjusted, free from wrinkles.

Of the writer's cases, four are completely recovered with absence of deformity, pain and discomfort; and with freedom of motion and ability to resume their regular work. Five other patients, under treatment only four months, are up and walking on crutches. The remaining cases are of less than two months' duration.

In no case has the patient suffered any harmful effect from plaster. After application of plaster, patients could move without pain, and help themselves without pain.

He advises early gymnastic movements, active rather than passive, and prohibits all weight bearing upon the fracture for from three to four months.—*Annals of Surgery,* January, 1907.

FRACTURE OF THE CARPAL SCAPHOID.

William A. Downes reports seven cases of fracture of the carpal scaphoid, from a thorough study of which he arrives at the following conclusions:

1. That simple fracture of the carpal scaphoid is caused by a fall of moderate height (3 and 7 feet in his series) on the extended hand.

2. That owing to the resemblance this condition bears to a sprained wrist, it is very apt to be overlooked.

3. The two most characteristic symptoms are exquisite tenderness just below and to the dorsal side of the radial styloid in the anatomical snuff-box, with the wrist slightly flexed and adducted; and pain on extension of wrist.

4. Treatment is immobilization of wrist for 3 to 4 weeks; at which time union will take place if fractured surfaces are in contact.

5. Proper treatment and the amount of separation of the fragments will determine the final result.

6. If there is dislocation or considerable displacement of a fragment, which cannot be corrected, one or both fragments should be removed. Radiographs are essential in the proper conduct of this class of fractures.—*Annals of Surgery,* January, 1908.

GASTRECTOMY.

B. G. A. Moynihan reports a successful case of complete gastrectomy.

The patient, aged 43, was operated upon on May 31st. On opening abdomen, the stomach was found to be small in size, with walls of great thickness and solidity. Gastro-enterostomy was impossible, as a complete gastrectomy was performed in preference to a jejunostomy or duodenostomy. His method is interesting and instructive. He removed with the stomach the coronary glands. Beginning at the coronary arteries which he ligated first, he freed the stomach from its upper attachments, ligating arteries at their origin, and dissecting free the pylorus. The duodenum was then severed between clamps. The distal end of duodenum having been closed by a continuous catgut suture, and a double layer of Pagenstecher. The gastrohepatic omentum was divided one or two inches from stomach, so that all glands were left attached to stomach. The stomach now free, hung pendulous from the esophagus. Then strongly flexing patient's neck, the esophagus was pulled down until at least ¾ of an inch of it was visible below the diaphragm.

The anastomosis of esophagus to jejunum was accomplished as follows: The jejunum was brought up through mesocolon, and a point eight inches beyond its origin selected for anastomosis; this was laid transversely along a line behind the esophagus. Anchor sutures were introduced between the posterior surface of the jejunum ¾ inch from its mesenteric attachment and the esophagus. In front of these a continuous suture was introduced. In front of this then a small opening was made into esophagus and into jejunum and the whole length of incision closed with continuous through and through suture of Pagenstecher thread. This opening was enlarged little by little, and with each enlargement the edges were sutured by the same continuous stitch.

This sequence of a small incision, then stitches was continued until the esophagus and jejunum were completely united. The striking feature of this procedure is the advantage of using the stomach as an instrument of traction upon the esophagus, which is thus held in a fixed position until the suture lines are practically complete. For it is only when the last small incision is made that the stomach is freed from the esophagus. This technical principle which has solved the greatest of all difficulties in complete gastrectomy, is certainly applicable to other operations. This patient was kept in bed 18 days; on the 22d day was sent to a convalescent hospital, having gained 10 pounds. Three months later he had gained considerable weight, was able to eat all foods.

Moynihan quotes Fenwick as stating that 14 per cent. of all patients dying from carcinoma of the stomach, show no extension of the disease beyond the stomach, and says that both of his cases were of atrophic form where malignancy was of a low type and so of this class.—*Lancet,* December, 1907.

E. H. F.

A man may deliberately murder his wife by a series of exactions and wrongs; he may bring to his own home disease as the result of his own impure life, and deliberately infect his own wife with a disease that is now annually sending many thousands of women to the operating-table for surgical treatment of the most serious nature and which is causing the death of thousands of pure, innocent and unsuspicious wives; and yet the law makes it a crime for the physician who treats the husband to warn the wife by a single suggestion, adjudges the husband as acting within his marital rights, and in Chicago sent a man to the penitentiary for a series of years who dared to call attention in printed form to such a fact,—*Dr. Sylvanus Stall, before the National Purity Federation, Am. Jour. of Eugenics, Sept.,* 1907.

THERAPEUTICS.

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THE TREATMENT OF ANGINA PECTORIS.

In *Wiener Klinische Wochenschrift* (Nov. 14) Dr. J. Pawinski treats the above subject. He considers that there is no doubt that changes in the coronary arteries, especially induration and calcification, are the cause of the condition, as set forth by English clinicians 150 years ago; but it is to be noted that only such changes as cause narrowing of the vessel lumen, with restriction of blood supply, will cause stenocardia. So there may be great disparity between the grade of pathological change and the severity of symptoms, considerable lesions being often attended by slight stenocardia, or even none at all, and vice versa.

Whence this disproportion? The following circumstances are concerned:

1. The degree of excitability of the nervous apparatus of the heart and of brain centers.

2. The localization of the pathological changes. Certain parts of the heart muscle predispose more, others less, to the origin of angina pectoris. The difference seems to be due in part to the existence or not of anastomosis between the ramifications of the coronaries, but in part to the existence of nerve supply of greater or lesser importance in the given region.

3. The intensity of the pathological changes in consequence of the lessened blood supply to the heart muscle. Numerous, far advanced, degenerations (myocarditis fibrosa), occasion chiefly dyspnea, but, when of high degree, usually exclude stenocardia.

Although angina pectoris is a vascular disease, the relation to disturbances of innervation and to changes in the heart muscle permit the assertion that, in the beginning, the disease is more nervous (angiospasm) than vascular, and only later assumes the characteristics of a degeneration.

In the first stage of the disease, the symptoms concern chiefly disturbances on the part of the nervous system. The patient complains of pain at the middle or upper part of the sternum only during exercise in the open air, sometimes only with rapid walking, and especially up-hill. Then he is compelled to stand still for a moment, in order to be able to continue without pain for some distance without resting. If the case is uncomplicated, the area of the heart's dulness, and also its sounds, may remain entirely normal. In similar cases the angina is regarded as a cardiac nurosis. But frequently there occurs now or a little later symptoms of digestive disturbance, which convince the patient that his disease is essentially a gastric disorder. What advice is here to be given? The first point is of psychical influence. The patient, anxious about his condition, must be reassured and nothing said, as so often occurs, about "hardening of the arteries of the heart." Such inconsiderate speech oftentimes disturbs a patient for his life-time, depresses him and robs him of all hope of recovery. He should be directed as to dietetic and hygienic rules, the use of tobacco and spirits forbidden, and bromides ordered if needed. If increased arterial tension is present, then, aside from a diet having a prevalence of milk and vegetables, iodine preparations are indicated; but they should be begun with small doses and always with regard to individual susceptibility. The intolerance to iodine in these cases is often very great, just the oposite of the marked tolerance seen in syphilitics.

If the angina pectoris begins suddenly, the patient after use of bromides, morphine or other anodyne, is to rest for a few days, preferably in bed. Such a rest will sometimes guard the patient against recurrence for months or even years. Should there be excessive irritability of the nervous system, light hydriatic measures are useful. For the same object, as well as for tonic effect upon the vascular system, carbonic acid baths may be used, beginning with the weaker baths and having careful regard for the vascular tension. With considerable hypertension, the author holds these baths to be contraindicated.

When the digestive tract and liver are disturbed, mineral waters are useful, their eliminative action lessening the attacks and influencing favorably the nutrition of heart muscle and the activity of kidneys. The author would caution patients, returning from a place of cure, against the excitement and fatigue occasioned by stopping for sight seeing in the large cities, and holds such factors, with the attendant irregular living, often responsible for relapse.

The duration of the first stage varies. It may be short, ending in sudden death, or by more frequent attacks passing into the second stage; for the most part, however, especially by ordering the mode of life so as avoid emotions and daily cares, the first stage may continue for months or even years. Recovery may also occur as a result of cicatrization at the point where the narrowed coronary had supplied blood scantily. Improvement or recovery may also occur through establishment of collateral circulation.

The second stage is marked by the occurrence of pain, not only with rapid walking, but also with slow exercise, sometimes at home during complete rest, sometimes even in bed by change of position. Presumptively, the sclerotic coronary changes increase, and in the heart muscle many centers of degeneration occur, whether fatty, anemic or fibrous. In this stage, whatever increases the resistance in the peripheral circulation, or increases the work of the heart in any way, may cause pain more or less severe, or induce a stenocardic attack. Also the deleterious

influence of nervous excitement, emotions, and digestive disturbance becomes very evident. It must be noted that many cases now begin to show dyspnea. In many cases after the attack, especially when severe, increase of the heart's dulness in transverse diameter is noted, which may continue for days. Evidences of beginning heart weakness may be seen, as moist râles in bases of lungs, enlargement of liver, slight albuminuria, and systolic murmur at the apex. The arterial tension may now be normal or diminished (hypotension). Under such conditions prolonged rest in bed, with digitalis, serves to improve the circulation and lessen the attacks of stenocardia. As regards iodides, they must be used cautiously with lessened heart activity and reduced vascular tension, especially when general nutrition also begins to suffer.

In the third stage, angina pectoris is more a disease of the heart muscle than of the blood vessels. Of first importance is the dyspnea, the pain now assuming an inferior role. The attacks usually begin with short, mild pain, followed by dyspnea. The circulation shows marked signs of failure of cardiac energy; lower pulse tension, dilation of the heart, marked enlargement of liver, moist râles in the lungs, albumin and casts in urine, transudation into pleuræ and peritoneal cavity, etc. The attacks now occur without evident cause, and are very frequent at night, accompanied by dry râles like those of asthma. In some cases the attack lasts only a very short time, and ends in pulmonary edema, frequently threatening life. In this stage are indicated digitalis, strophanthus, and theobromine, combined with general stimulants, as caffeine and camphor. It must be said that cases having had angina pectoris previous to the occurrence of symptoms of degeneration of the heart muscle, present an unfavorable prognosis.

In treatment during the attack, first of all the patient must be allowed to assume the posture that he instinctively selects. In extremely severe cases the lying position, or standing upright with leaning against some object, will be selected. Many patients prevent the attacks, or lessen their intensity, by warming the bedroom or bedclothing. To the most useful remedies, especially in cases with increased vascular tension, belong the nitrites, whose value depends upon their vasodilator property. Nitroglycerine holds first place among them, though some patients are better served by inhalation of amyl nitrite, or by sodium nitrite. These are to be used in moderate doses. Sometimes quinine, 0.30 gm. (5 grains), will shorten an attack. Some recommend antipyrin, phenacetin and similar drugs, but these must be used with caution, especially in cases with heart weakness, for fear of collapse.

If the remedies named do not alleviate the pain, morphine is to be employed, 0.01-0.015 gm. (gr. 1-6 to ¼). This drug need not be avoided when the pulse is good and rhythmic, but when the working capacity of the heart is doubtful, it is well to precede its use by caffeine or camphor. Should the stenocardic attack be caused by digestive disturbance, with flatulence, regular evacuations must first of all be secured, preferably by irrigation when prompt result is needed. Drastics must be avoided, as frequent evacuations with straining may not only increase the attacks, but also cause heart exhaustion.

In conclusion, the author refers to the factor of self-help, which the organism renders in many cases. This comes about through valvular defects, chiefly mitral and aortic, and mostly functional in character. Thereby the work of certain parts of the heart is lessened, while that of other parts is increased. As an end result, the blood supply to the coronaries becomes more regular and complete, the nutrition of the cardiac muscle fibres better, and there occurs hypertrophy of the left ventricle.

OBSTETRICS

EDITED BY

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INDICATIONS FOR CESAREAN SECTION.

Canton reports 25 cases of Cesarean section which he performed with no maternal death. His indications for the operation are as follows: In narrow pelvis with a diameter less than 7.5 cm. and a normally developed living child, Cesarean section is indicated. In contracted pelvis with a diameter of more than 7.5 cm. and a fully developed living child, the operation may be chosen in every case in which the disproportion of the fetal head and the pelvis is such as to prevent engagement of the head after hours of vigorous uterine contractions. Under similar conditions, with a diameter above 7.5 cm., where a choice between Cesarean section and symphyseotomy obtains, Canton prefers the former as offering a better prognosis for both mother and child. Without committing himself definitely concerning Cesarean section and subcutaneous pubiotomy in the foregoing class of cases, he thinks the former holds out a better prospect for the child, while the latter is better in the interest of the mother. In the presence of infection pubiotomy should be done.

In contraction of the pelvis with a diameter above 7.5 cm., and the same conditions obtaining as above mentioned, he prefers Cesarean section to version combined with Walcher's position as being more favorable to both mother and child.

In deciding between premature delivery and hysterotomy he performs the former if it is desired to avoid all risk for the mother; but if she so elects in the interest of the child, the second method is adopted, provided it will not seriously compromise the mother's chances.

In cases of severe eclampsia he prefers accouchment forcé with Bossi's dilator, which effects delivery as quickly as Cesarean section. Cesarean section is not, as a rule, justifiable in uterine hemorrhages; yet in cases of premature separation of a normally placed placenta, in a primipara near term, with a live infant, choice may be made between hysterotomy and accouchment forcé.

Conservative Cesarean section is contraindicated in all cases of infection, in disease of the heart, cancer of the uterus, in large fibroma, and in all growths, such as the hydatidiform mole, which may invade the uterine wall and compromise the life of the mother.—*Ann. de gynec. et obstet.*, Par., Sept., 1907.

EXPERIMENTS IN THE HYPEREMIC TREATMENT OF INFECTED PUBIOTOMY WOUNDS.

Offergeld's experiments anent the treatment of infected pubiotomy wounds proved that injury of the vagina is one of the most dangerous complications encountered in the performance of pubiotomy. It permits immediate infection of the soft parts and of the bone by the vaginal bacterial flora, giving rise to severe septic manifestations.

The use of various polyvalent sera met with scant success in these cases, whereas timely employment of venous hyperemia not only prevented the latent infection from becoming active, but effected a localization of the diseased process followed by recovery, even in cases in which symptoms of septic osteomyelitis had appeared.

Only in those cases in which the infection has not become general by transmission through the blood will venous hyperemia be found effective. This would exclude all cases presenting a clinical picture of pyemia, and those in which the infection has extended beyond the immediately surrounding lymph channels.—*Monats. f. Geb. u. Gyn.*, Berl., Dec., 1907.

THE ETIOLOGY OF HYPEREMESIS GRAVIDARUM.

Winter would restrict the term hyperemesis gravidarum to that form of vomiting in pregnancy which results solely from the implantation and growth of the ovum, and is not the result of any extraneous causes which may occur as well in the nongravid state.

According to Kaltenbach and Ahlfeld, this is a reflex neurosis which borders on the hysterical and is due to the highly susceptible psychic state of the pregnant woman. The assertion made by Kaltenbach in 1891 that fatal cases of hyperemesis gravidarum present no constant or marked changes in any of the organs has been disproven, however, by the reports of various authors, as well as by a case by the author, in which fatty degeneration of the central portions of the liver lobules and of the renal epithelium presented, associated with ecchymoses. Winter concludes therefrom that the theory of toxemia in hyperemesis is as fully proven as that of neurosis; he is of the opinion that hyperemesis begins as a reflex neurosis, and if not cured in this stage, may be followed by impairment of the functional activity of the liver and kidneys, resulting in retention of toxins of pregnancy which may terminate in fatal intoxication.

Following the line of treatment suggested by the etiology, he employs the usual remedies during the first or neurotic stage, administers liberal amounts of food and large quantities of water (¾ liters in 24 hours) preferably per rectum, the latter to maintain the function of the liver and kidneys. The patient usually gains in weight and strength and frequently the first symptoms of intoxication disappear. In the author's case the rectum failed to absorb more than 500 to 600 c.c., after the first 8 to 10 days, and one or two days later symptoms of intoxication appeared which soon terminated fatally.

As soon as intoxication develops, interruption of pregnancy should be considered. If an accurate method of testing the functional activity of the liver could be had, we would have a means for indicating the proper moment when artificial abortion should be induced.

Winter considers body weight of minor importance, since cases of hyperemesis do not present an actual inanition, the loss in weight being due to the reduction of water in the tissues from the hypersecretion of the salivary glands and the gastric mucous membrane.—*Zentrlbl. f. Gyn.*, Nov. 30, 1907.

PATHOLOGY.

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CHRONIC CYSTIC MASTITIS.

In this paper by John Speese, of Philadelphia, he remarks that additional information in regard to this disease has been derived from the studies of Greenough and Hartley and Warren.

The changes which occur in a normal breast at the time it undergoes involution may be regarded as physiological, but it requires only a slight impetus in such an organ to cause abnormalities which may bring about a grave pathological lesion.

Warren has given the name "abnormal involution" to the series of changes which predispose to the disease, and this deviation from the normal has been studied by Greenough and Hartley.—*Jour. Medical Research*, 1903.

They believe that the increase of connective tissue and the cystic changes, which result in the ducts and acini from obstruction by this thickened tissue, are not as important as the effect this process has on the breast epithelium. The lat-

ter, by reason of the cysts formed, becomes even more unstable than it is normally, and tends to undergo extensive proliferation. In many cases the proliferation may be considered a benign process, but in others, about 12 per cent. to 16 per cent. of the cases, the epithelial hyperplasia is of such a degree that malignant degeneration can be diagnosticated. The disease is common (13 per cent. of all breast diseases) and two types, occurring with equal frequency, are described.

(1) Those in which the changes are distinctly cystic. (2) The proliferative group, in which the epithelium of the cysts is hyperplastic. Histologically, the proliferative class is further subdivided into (*a*) where epithelial proliferation occurs in the acini, (*b*) those showing distinct papillæ in the cysts, (*c*) the formation of adenomatous areas.

Malignant degeneration is most apt to occur in the adenomatous areas and the carcinoma is usually of the glandular type.

In most cases the greater part of the breast is involved, the cysts vary in size from a pin-point to an egg. The disease is usually found in women approaching the menopause, but it is not uncommon in young women. The mass often causes pain, the nipple is sometimes inverted, but the skin is never adherent. The axilliary glands are sometimes enlarged, but the hardness is not so marked as in secondary carcinoma and the enlargement is not progressive. Removal of the indurated areas is indicated.—*Univ. Penn. Medical Bull.*, January, 1908.

THE CHEMISTRY OF THE LIVER IN ACUTE YELLOW ATROPHY.

H. Gideon Wells says that idiopathic acute yellow atrophy offers us the most striking example of intra-vitam autolysis of tissues that occurs in human pathology, excelling even pneumonia in interest, because in the latter it is merely an inflammatory exudate that is digested, whereas in acute yellow atrophy the liver tissue itself is destroyed, and often as much as three-quarters of the entire parenchyma is removed by autolysis within a few days.

The writer remarks that chemical studies of the liver in true acute yellow atrophy are extremely few in number, and of these but one or two have been made since the studies of Kossel and Fischer furnished improved methods for the isolation of monamino and diamino acids.

The case was a typical one, occurring in a young man aged twenty years. The autopsy was performed a few hours after death, and the entire liver obtained in a fresh condition.

From the liver were isolated and identified the following amino acids: Histidin, lysin, tyrosin, leucin, glycocoll, alanin, prolin, glutaminic acid, aspartic acid. These were found free in extracts of the liver, and probably represent products of the autolysis of liver cells, although the amount of soluble non-protein nitrogen present in the extracts was so large as to suggest that there must be some other source for these substances. Small quantities of free proteoses and peptones, and of xanthin and hypoxanthin, were also found in the extracts.

In the insoluble proteins of the liver the proportion of diamino acids was decreased slightly as compared with normal livers. The proportion of protein phosphorus was increased, probably because of active regenerative proliferation, while the sulphur was normal in amount. Iron was increased because of the large quantity of blood in the liver and the hematogenous pigmentation of the liver cells. Gelatigenous material was increased, both absolutely and relatively, because of the loss of parenchyma and the proliferation of the stroma. The proportion of water to solids was much increased, there having been a loss of over two-thirds of the entire parenchymatous elements of the liver.

The amount of fat and cholesterin was not far from that normal for the liver. The total amount of lecithin was very greatly reduced, not only as to the actual amount present, but also in its relation to the other constituents of the liver.—*Jour. of Experimental Medicine,* November 16, 1907.

CERTAIN BACTERIAL INFECTIONS OF THE URINARY TRACT IN CHILDHOOD.

Charles R. Box classifies the infections of the urinary tract in children as, (1) descending infections, (2) ascending infections, (3) infections by contiguity. Only the first two classes are considered.

Descending infection is synonymous with infection carried by the blood stream. The writer gives examples of diseases liable to cause a descending infection, such as infective emboli causing renal infarction, miliary tuberculosis, the bacilluria of typhoid fever, and the occurrence of pyelitis or of transitory incontinence of urine in such diseases as measles, scarlet fever, diphtheria and smallpox. In many of the cases of bacilluria associated with typhoid fever, scarlet fever, measles and diphtheria, the organism present has been found to be the bacillus coli communis.

While there is clinical evidence that the urinary tract may be the site of a descending infection, it is questionable whether the common invasion in childhood is really of this character. The body can dispose of enormous numbers of injected bacilli without their appearing in the urine. When they do appear, the time of their appearance and the substances which appear with them lead to the presumption of renal damage.

Clinically, in cases of bacilluria, the organisms appear in the urine, even when freshly voided, in enormous numbers, and it is quite

the exception to obtain any definite evidence of renal damage in the form of casts or blood.

These facts lead to the suspicion that the common cause of bacilluria is due to an ascending infection.

The writer thinks that ascending infections in childhood are much more common than is ordinarily supposed. After mentioning the possible channels through which the infection might reach the kidney, he decides that the ureter must be looked upon as the common highway of infection. There is no doubt that in children the commonest infection of the urinary tract is that which is due to the colon bacillus. Although the disease may occur in males, it is much more common in females, which is strong corroborative evidence of its ascending character, for the shortness of the female urethra and the proximity of its orifice to the anus render infection easy.

The facts bearing on ascending infection have recently been emphasized by H. Lenhartz, who, investigating the cause and incidence of pyelitis in the adult, found that 66 out of 80 cases were due to the colon bacillus, and that males were rarely infected. The colon bacillus grows by preference in alkaline, or just neutral media, but can also grow in acid urine. It does not decompose urea, and does not give rise to ammoniacal products. In colon cystitis and colon pyelitis the inflammation is as a rule of a very superficial or catarrhal nature. Lastly, the organism is motile, and so may, without the assistance of urinary stagnation, make its way into the pelvis of the kidney.

Clinically, infection of the urinary passages in childhood may manifest itself as pyelitis, cystitis or incontinuence of urine without obtrusive evidence of local inflammation.—*Lancet,* January 11, 1908.

ON THE RELATIONSHIP OF CANCER CELLS TO THE DEVELOPMENT OF CANCER.

J. E. Slavin-Moore and C. E. Walker of the Cancer Research Laboratories, University of Liverpool, while working with mouse tumors of exceptional virulence, subjected portions of these tumors to the action of liquid air for from twenty to thirty minutes. They were then at once introduced into healthy mice and also into mice wherein tumors of the same strain were already growing, the presumption being that in these circumstances the tumor cells would be destroyed by the action of the liquid air and consequently that they would multiply no further. It was found, however, that in some cases new tumors were produced.

From these observations it is clear that exposure to liquid air at a temperature of about 195 degrees does not necessarily destroy the potentiality of the substance of a mouse tumor to produce fresh tumors of the same kind in mice into which such frozen tumor substance has been grafted.

If the cells of the tumor graft are killed by the liquid air, then the development of mouse cancer after such exposure, indicates not merely that the growth of similar tumors is independent of the integrity of the "cancer cells," but also that the new tissues are not necessarily formed from the implanted cells at all, but may arise from the cells of the new host in response to some stimulus introduced along with the frozen material and quite independent of the integrity of the so-called "cancer cells."

It is well known that a number of bacteria are not killed by this temperature, but on the other hand it is not yet certain that the cells of the tumor are killed by this exposure, particularly as the seeds of some plants and trypanosomes are said to survive it. —*Lancet.,* Jan. 25, 1908.

CHANGES IN THE BILE OCCURRING IN SOME INFECTIOUS DISEASES.

Helen Baldwin, working in Herter's laboratory, says that the causes of gall-stone formation were but little understood until it was recognized by Budd, by Bristowe and by Naunyn, that most of the cholesterin in the bile was derived not from the blood, but from the degeneration of the epithelium lining the gall-bladder and the biliary passages, and that the formation of cholesterin gall-stones is due to a local affection of the mucous membranes rather than to any constitutional disturbance.

225 specimens of bile were examined. Normal bile is dark green, dark brown, or reddish brown in color, and neutral or slightly alkaline in reaction. The viscidity is due to the presence of a nucleo-proteid and not to mucus. No free cholesterin is present. Whatever sediment is present is made up of granular epithelial debris.

In the 225 specimens examined, 72 showed definite morbid changes in the bile. In 17 there were evidences of an early stage of cholecystitis, 14 contained bilirubin calcium calculi, and 44 contained free cholesterin. Leucocytes were found in 7 specimens and blood in 2. In this series of cases, 51 of the patients died of some infectious disease, and in 17 there were characteristic changes noted in the bile. The bile is lighter in color than normal, generally acid, but may be alkaline. The percentage of solids is about normal, and the percentage of cholesterin a little above normal. The bile appears purulent, but this is due to the presence of desquamated epithelial cells, no leucocytes being present.

Another type of bile which would seem to be a later stage of that just described was found in 12 of the specimens.

The bile has the appearance of soft, dark mud, and is filled with brown particles. The sediment is found to contain degenerated epithelial cells and amorphous granular masses, stained yellow, which give a marked reaction for cholesterin. The total solids are increased, and the cholesterin markedly increased. The reaction varies. Solitary cholesterin crystals were found in the bile in 14 of the specimens. A degenera-

tion of the epithelial cells lining the gall-bladder, characterized by a deposit of cholesterin in fine points or granules, may occur while the cells are still attached to the mucous membrane.

Bile pigment alone or associated with but little cholesterin was found in 15 of the cases. The bile pigment is chiefly bilirubin calcium. It was noted in any acute case, and with one exception it occurred in patients over 50. The reaction of the bile was neutral or acid, and this suggested that the acid reaction leads to the precipitation of bilirubin calcium.

The wall of the gall-bladder was examined in 29 of the cases having acute infectious diseases, and in 12 of them there was found a recent inflammation. In regard to the cholesterin content of the bile, it was found that in an early stage of cholecystitis, with free drainage and slight disintegration of the epithelial cells, the cholesterin is only slightly increased. When there is obstruction, and the bile is filled with masses of disintegrated epithelium, the cholesterin is markedly increased. It was also noted that some degree of cholecystitis is a common complication of typhoid fever, pneumonia and of suppuration in other parts of the body.—*Journal of Biological Chemistry,* Feb., 1908.

HISTORY OF MEDICINE.

OUR FOREFATHERS' KNOWLEDGE.

A striking feature of the "History of the Medical Society of the State of New York," which has been appearing serially in the NEW YORK STATE JOURNAL OF MEDICINE, and is now published in book form, is the fact that a great amount of medical knowledge which we are prone to think of as originating in recent years was possessed by our forebears in medicine of the early part of the nineteenth century. In the chapter on the prize essays of the society attention is called to the fact that of the first seven essays not one is without great interest at the present time. One would be apt to think that medical matters discussed almost a century ago would have very little practical significance for the physician of the present. We are prone to assume that there has been so much development in medicine that we have been set far beyond the thoughts of that earlier time, especially in matters of treatment and knowledge of the cause of disease.

This proves not to be the case, however; on the contrary, many of the subjects discussed are now of the most intense interest, and are frequently brought up in medical society meetings of the present day. The first essay was a dissertation on the "Remote and Proximate Causes of Phthisis Pulmonalis." We might expect that at least in this the notions would be old-fashioned. The author argues, however, that consumption is not due to cold, but is due to dust-laden air of various kinds. In an editorial in *The Journal* last year attention was directed to the high death rate from tuberculosis in the metal polishing trades. This same increased mortality was noted at the beginning of the nineteenth century. The remark is made that people who work in the needle-grinding and scythe-grinding industries scarcely ever survive their fortieth year, and that their special affection of the lungs, which is accompanied by spitting of blood, with decline in flesh and strength, was known as "grinders' rot." On the other hand, boatmen, watermen, sailors and gardeners are said to be immune to the disease, and domestic animals which live outside present the same immunity, while the cow is reported to be particularly subject to consumption. The whole tenor of this article would seem to stamp it as belonging to the beginning of the twentieth and not to the beginning of the nineteenth century.

The second essay had for its subject the "Treatment of Typhus Fever." At that time typhus and typhoid fevers had not been differentiated. In spite of this lack of knowledge, that would seem to promise such a dearth of suggestiveness for present-day therapeutics, the essay is very interesting, especially in its references to cold water treatment. The writer quotes with approval Dr. Currie's experiences (in Edinburgh) with cold water and cold air. Definite rules for the use of cold water in fevers were given; it was not to be used either externally or internally in the cold phase of a paroxysm of fever. It was also never to be used when the patient was in a perspiration. When the surface of the skin was hot and dry, however, cold water was advised in any sort of fever, provided patients were not in an exhausted condition. Though it is usually said that the thermometer came into use much later than this time, this essayist discusses the Fahrenheit temperatures of the patients.

The third essay was on the "Therapeutic Uses of Iodin." We have enthusiastic advocates of the wonderful value of iodin to-day, but none of them is any more enthusiastic than was this writer of the first quarter of the nineteenth century. He recommended beginning with small doses, but considered that the dose should be increased up to physiologic tolerance. He distinguished, however, between physiologic and poisonous effects. Iodin internally and externally was recommended in all glandular affections and in most of the conditions in which we now use either iodin itself or the iodid of potassium, or sodium, for their so-called alterative effect. The essayist mentions a number of cases in which enormous doses of the tincture of iodin and of the iodid of potassium were taken daily without bad effect. He does not recommend these huge doses, however, and in general, in reading his essay, one would be much more apt to think the writer a rather conservative professor at a postgraduate school of the last decade,

and not a simple physician of almost a century ago.

Probably the most interesting of the essays is the fifth. Its title is "The Influence of Trades, Professions and Occupations in the United States on the Production of Disease." The author discusses the question of overcrowding in the tenement house districts of New York City quite in the same terms as they would be discussed by a sanitarian of the present. He asks: "Can we expect men who live thus to be orderly and sober, or women to be cleanly and domestic? In such situations during the summer months diarrhea and dysentery are rife, and among children fatal. Scrofula in come of its protean forms is frequently met with, and they form the lurking places where smallpox, measles and scarlet fever lie covered under the ashes, or when circumstances are favorable blaze up into sudden fury."

Perhaps the most striking portion of this article on occupation and disease consists of a review of the manufacture and consumption of quack medicines, and it is interesting to note that the writer was evidently persuaded, as we are now, that the newspaper press of the country was responsible for the conditions. His expressions are worth recalling because they so completely anticipate the most modern views in this matter. He says: "There is an evil which has of late years become of excessive magnitude, and which is daily increasing—the consumption of quack medicines. Aided by the immense circulation of a cheap press, many of these nostrums have obtained a sale that exceeds belief. Few patients among the lower classes now apply to a physician, who have not previously aggravated their complaints by swallowing members of these pretended species, and a late resident of the city hospital has informed me that he has met with many cases of derangement and irritation of the mucous membrane of the stomach and bowels, caused solely by the drastic articles which enter into their composition. Formed in most instances of irritating ingredients, and directed to be taken in immense doses, and as infallible remedies in all cases, the mischief which they do is incalculable, and unless some stop be put to the evil by law or by an enlightened public opinion, it will soon claim an unenviable pre-eminence as a cause of public ill health." *This was written in* 1836!

Those who are inclined to think that it is only in recent times that American medical men have made thoughtful advances in science, or have endeavored to correct professional and other medical abuses do not know that the early history of medicine in this country is full of the efforts of earnest men to bring about progress in medicine and the uplift of professional dignity. Nothing is so chastening to the self-sufficient complacency of the present generation with regard to its medical progress as to learn how much was done and known in the past, and how little of real advance there is in certain phases of medicine. It is a good thing to hark back occasionally, for to do so will make us more conservative and less ready to jump to hasty conclusions regarding the knowledge of the past and the present.—*Journal of the American Medical Association,* February 8, 1908, p. 454.

Obituary.

TRIBUTE TO DR. H. P. LOOMIS.

There has passed from among us one whose death will be keenly felt by many physicians throughout the land, one whose brilliant career was cut short in the prime and vigor of his manhood.

Few who have ever met "Harry" Loomis, as his father often spoke of him when referring to his son's branch of the teaching during his lectures, but must feel the loss of such a bright man, teacher and student. In the laboratory and lecture-room he elucidated with such simplicity and clearness the object he had in view that few could fail to grasp his meaning; and, if appealed to outside the amphitheater for further enlightenment, he was always willing, even at the loss of valuable time, to listen and make the subject plain to the enquirer.

He died of pneumonia so suddenly that few knew of his illness. Truly the loss to the medical profession of one possessing such high attainments must be felt with profound sorrow and regret. He was gifted with the gentle touch and kind word combined with a sunny nature and charitable disposition which make up the true gentleman, and cause those to whom he ministered both in and out of the hospital to appreciate his presence. Like his father his works live after him, and will help to recall the many pleasant hours spent in the old university by those who sat with attentive ear in the amphitheater and laboratory, listening to him who was vanquished by a malady that he so often helped others successfully combat.

"To die is landing on some silent shore
Where billows never break nor tempests roar."

S. NELSON IRWIN, M. D.

New Books

Diseases of the Intestines and Peritoneum. By Prof. Dr. Hermann Nothnagel. Edited, with Additions, by H. D. Rolleston, M.A., M.D., F.R.C.P. *Second Edition, Thoroughly Revised.* Authorized Translation from the German, under the Editorial Supervision of Alfred Stengel, M.D. Philadelphia, London, W. B. Saunders Co., 1907. (*Nothnagel's Practice.*)

As a thoroughly scientific and up-to-date work the volume under consideration must be regarded. Its place in the library of medicine is distinctly one of reference, and for study.

As in the book of this series devoted to diseases of the stomach, the Editorial Notes, so freely interspersed, contain a very large proportion of that which is of real practical value.

The completeness of the treatise would render reference to other works along the same lines scarcely necessary, were one engaged in preparing a paper or lecture upon any of its contained subjects.

The chapters devoted to the discussion of bacteria, bacilli, etc., the part covering invagination, the detailed description of the various forms of peritonitis, etc., and last but not least, the several plates vividly presenting the hyperperistaltic movements of the various portions of the intestinal tract, should receive special attention.

The volume is one which should have a place upon the shelves of every physician engaged in the practice of internal medicine. H. W. LINCOLN.

A PRACTITIONER'S HANDBOOK OF MATERIA MEDICA AND THERAPEUTICS: Based upon Established actions and the Indications in Small Doses: To Which is Added Some Pharmaceutical Data and the Most Important Therapeutic Developments of Sectarian Medicine as Explained Along Rational Lines. By Thos. S. Blair, M.D. Phil., The Medical Council (c. 1907).

One cannot help admiring the modesty with which Dr. T. S. Blair sends forth this book to the medical world. To select from the great mass of writings on Material Medica of the sectarian schools, only that which is of known value is a task of the greatest magnitude, and is not to be undertaken by the faint-hearted. To accomplish this would form work for more than one man and even for more than one generation of men. Dr. Blair makes no pretense that his work is complete, but sends it out with the hope that it may stir up some attention to the use of certain remedies belonging to, or introduced by, the sectarian schools.

That the homeopath and the eclectics have some things of undoubted value in their materia medica may be admitted by any regular, the greatest difficulty being to select the really valuable from so much of doubtful, or of no value. This applies not only to the articles mentioned but to the mode of selection and preparation.

One of our great clinicians of the present day lately said that the physicians should be skeptical in regard to the pharmacopœia. Might we not improve on that, by saying that the physician should know his pharmacopœia better?

A certain amount of skepticism is bound to follow a better knowledge of the pharmacopœia, and it is only by a more extended and more intimate acquaintance with it that the useless or doubtful matter can be eliminated. But to remain a skeptic without a more complete study of it, is liable to lead to ignorance regarding the few great medicines that are good, as well as of the large number that are doubtful.

No man can say that the number of really good remedies is limited to those that *he* is cognizant of; and our author's aim is to add to those already well known, some others taken from the sectarian schools, the value of which he himself can vouch for.

If anyone reads the literature of the homeopathic or eclectic schools and admires the wonderful faith that they have in the *indicated remedy,* and further if such a one wishes and sighs for a return of that age of faith in drugs that seems hard to resuscitate, then to such a one this book will prove of value. But he must study it without prejudice on the one hand, and on the other he must avoid enthusiasm.

It is just probable that the author himself has failed on this point and has imbibed more than a mere trifle of that enthusiasm that pervades homeopathic materia medica. For instance he advises the use of Cypripedium, "Ladyslipper," for those children who are wakeful at night, and yet not ill, and want to laugh and play." Those of us that have good memories can remember the other Lady's slipper, that was in evidence when, instead of obeying the gentle request to "cuddle doon" we preferred a pillow fight. Again is it prejudice that prevents one from accepting what is said about the value of Avena Sativa? It is indicated in neurasthenia, occipital headache, where phosphates are deficient in the tissues, in the prostration of brain workers, sexual neurasthenia, local and temporary paralysis. Or in regard to what is said about the internal use of small doses of arnica. "Its known value in paralysis is of the optic nerve, its action on the sphincters in restoring the ability to control the urine and feces." Enthusiasm and vagueness are also apparent in his description of Echinacea. He has used it largely and esteems it most highly. But with the modern methods of blood examinations at hand one may be permitted to ask, What is meant by "blood deprivation when due to autoinfection of an acute type, of progressive blood taints due to non-elimination or the slow development of toxins."

Dr. Blair frankly admits the imperfections of his book and hopes to improve it in a second edition. In doing so, if it is permitted to make suggestions (and he asks for them) he might add some references to clinical work showing authority for some of the statements made in regard to Echinacea and others equally wonderful. Space for this could be made by omitting all mention of a few things such as Condurango treatment for cancer of the stomach, the Cineraria treatment for Cataract, and some others, if they are really, as he says, exploded and out of date. He might also omit all reference to high potencies and dilutions in the text, having disposed of them in the introduction. He might also revise the paragraph on Ergot. The presence of vaso-motor nerves in the arteries of the brain is still a matter of doubt (Howell, 1905). The vessels leading to the brain are very subject to dilators, but not contractors (Sollman, 1901). Ergot is not recommended for cerebral hæmorrhage by Oppenheim, nor by Tooth in Albutt's System.

Nevertheless, his book is an honest effort to overcome prejudice, and, in an age of compromise and allowances, it will do some little good to help in the good work of Unity in the profession. PETER SCOTT.

MODERN MEDICINE; its Theory and Practice, in original Contributions by American and Foreign Authors. Edited by WILLIAM OSLER, M.D., assisted by THOMAS MCCRAE, M.D. Volume II. Infectious Diseases. Philadelphia and New York, Lea Brothers & Co., 1907.

This book has the stamp of excellence from title-page to "finis." The name Osler is a guarantee for work up-to-date and of the best quality. The collaborators he has summoned to his aid are men of similar type, and their product is a fine reflex of the accomplishments in medicine.

It is a twentieth century product. It is practical, and states distinctly the basis on which the knowledge rests. There is more of the satisfaction which abounded in years past. Clinical observation and procedure founded on laboratory demonstration and carefully analyzed hospital records make up the essence of the work. The practitioner of medicine must favor it if he would have an effective armament and an ever present reliable counselor.

Infectious Diseases is the general topic, with an elaborate introduction on their general character and productice agents. The author of the introduction is Ludwig Hektoen, M.D., and his directness, lucid style and logical statement attest his skill as observer and professor. The chapter is an entertaining as well as an instructive pronouncement on a technical subject. Its completeness is astonishing.

Thomas McCrae, M.D., devotes the next five chapters to the best exposition of Typhoid Fever we have read. He views it from all sides, and, while insisting that it is general infection with the bacillus typhosus, maintains that it is a protean disease, whether considered in its clinical, its pathological or its bacteriological aspects. He calls attention to the value of isolation of typhoid bacilli from the blood for diagnostic purposes; one cubic centimeter only is required, which can be obtained without much discomfort to the patient. The bacilli are found in the blood very early.

Again we must remark the high order and thoroughness of this dissertation. It is a judicial survey of the whole subject. We might examine the entire volume, and speak of McCrae's elaborate chapters on Typhus and Relapsing Fevers; Councilman's chapters on Smallpox and Chickenpox; Dock's on Vaccination; McCollom's on Scarlet Fever and Diphtheria; Ruhrah's on Whooping Cough and Mumps; Lord's on Influenza; Welman's on Dengue; Koplik's on Epidemic Cerebrospinal Meningitis; Ander's on Erysipelas; Musser's and Morris' chapters on Lobar Pneumonia; Pearce's on Toxemia and Pyemia; Poynton's on Acute Rheumatism; Dunbar's on Asiatic Cholera; Carroll's on Yellow Fever; Calvert's on the Plague, and Shiga's on Bacillary Dysentery: we would be attempting a review of a very remarkable review. We will content ourselves with a formal presentment to our readers of

well-tried friends, with the assurance that the delightful association through these papers will be inspiring, lasting, remunerating and incomparable.

H. A. Fairbairn.

The Practical Medicine Series. Vol. VIII. Materia Medica and Therapeutics; Preventive Medicine; Climatology; Forensic Medicine. Series 1906. Chic., The Year Book Publishers [c. 1906].

This series of works is especially designed to furnish to the busy practitioner a brief but fairly comprehensive review of the progress of medicine in its several departments.

The subjects specially treated in this volume are noted in the title. Materia Medica and Therapeutics comprise rather more than half of the subject matter. The articles on drugs deal almost exclusively with the newer remedies; and give the pith of the most recent current literature concerning the same. In a few instances, the names of well-known drugs occur, but almost always in relation to new methods of administration, or of new indications for use.

Under the head of therapy, among others, brief and interesting articles on hyperemia, electrotherapy, hydrotherapy, psychotherapy, and serum therapy, may be mentioned.

The section on Preventive Medicine gives a resumé of various measures advocated or adopted by scientists, Boards of Health, etc., to diminish or prevent the spread of disease. This is, of course, mainly concerned with the acute contagious and infectious diseases; but also includes miscellaneous sanitary measures for the care of the public health.

The section on climatology is almost exclusively devoted to the consideration of the effect of various climates on tuberculosis. And the article on Forensic Medicine gives brief notice to several interesting and instructive cases decided by the courts during the past year.

References to the original articles are regularly given; and an index of subjects and another of authors completes the volume. It is a valuable reference book, and should be in the library of every progressive physician.

J. E. B.

Practical Materia Medica for Nurses, With an Appendix Containing Poisons and Their Antidotes, with Poison Emergencies; Mineral Waters; Weights and Measures; Dose-List; and a Glossary of the Terms Used in Materia Medica and Therapeutics. By Emily A. M. Stony. *Third Edition, Thoroughly Revised.* Phil.: Lond., W. B. Saunders Co., 1906. 300 pp., 8vo. Price: Cloth, $1.50 net.

The author gives an account of the source, action and uses of all the important drugs in the Pharmacopœia and most of those that are not important; also the symptoms and treatment of the different kinds of poisoning. An alphabetical arrangement makes it convenient for ready reference. It certainly contains all that a nurse can reasonably be expected to know of materia medica.

E. E. C.

The Elements of the Science of Nutrition. By Graham Lusk, Ph.D., M.A., F.R.S., (Edin.). Phil.: Lond., W. B. Saunders Co., 1906. Front., 326 pp. 8vo. Price: Cloth, $2.50 net.

In a small volume Dr. Lusk has succeeded in incorporating the history of the science of nutrition from its beginnings up to the present day. The subject is remarkable well handled throughout. Excellent judgment is shown in the selection of material and the rejection of the superfluous. The facts included are of such fundamental importance to the practice of medicine that the book deserves wide recognition. There is no other book of exactly the same kind, although by the perusal of many different volumes about all the included facts are to be obtained. Very little hitherto unpublished work is included and this is a distinct advantage, for the reader is not asked to accept a mass of data that has not undergone critical study by those able to undertake such a task. The author is apparently convinced of the strength of Chittenden's contentions in favor of a low proteid intake; contrary opinions are, however, cited. He takes decided issue with Chittenden's views on the advisability of lowering our total intake of nutrients. The lay press and public have accepted these teachings of Chittenden's as proven, but a perusal of this excellent book of Lusk's would show them that the earlier workers—Liebig, the Voits, Rubner, Atwater and many others using accurate methods of study—arrived at the conclusion that in the main the average diets determined by statistical study were entirely justified.

Dudley Roberts.

Biographic Clinics. Volume IV. Essays concerning the Influence of visual Function, pathologic and physiologic, upon the Health of Patients. By George M. Gould, M.D. Phil., P. Blakiston's Son & Co., 1906. 375 pp. 8vo. Price: Cloth, $1.00 net.

Volume IV of Biographic Clinics is a continuation of studies of the health, or rather the ill health, of literary men. However, before beginning the sketches, two chapters are devoted to eyestrain. The first chapter relates the progress which has been made in the acceptance of the fact that visual defects frequently cause many ailments. The second considers the factors which produce eyestrain. Balzac is the first patient on the list. The Bibliography of his works, from 1829 to 1849, enumerates 319 titles. "For the greater part of these twenty years, the man actually worked from 16 to 20 hours a day." Are we to wonder why he suffered?

Several of the chapters following consider the sufferings of Tchaikovsky, Flaubert, Lafcadio Hearn, and Berlioz.

J. W. I.

A Text-Book Upon the Pathogenic Bacteria for Students of Medicine and Physicians. By Joseph McFarlane, M.D. *Fifth Edition, Thoroughly Revised.* Philadelphia and London, W. B. Saunders Co., 1906.

In this new edition the scope of the book has been considerably extended, much new material has been added, and the chapters upon infection and immunity have been entirely rewritten.

The work does not pretend to deal with the subject of parasitology as a whole, but takes up only such bacteria as can be proven pathogenic by the lesions or toxins which they engender.

In Part I. the classification and biology of bacteria are considered. The chapters on infection and Ehrlich's "side-chain theory" are particularly clear and concise. Ordinary staining methods are given a chapter by themselves while special stains like Neisser's, etc., will be found under the particular micro-organism in question. Methods of sterilization and disinfection are given and also full directions for making the various kinds of culture media.

Short chapters on the bacteriology of air, water, soil and food are given and also the determination of the value of antiseptics, germicides and disinfectants.

In Part II. the specific diseases and their bacteria are taken up: acute local infective diseases, subacute or chronic local infective diseases, the toxemias, bacteremias, and lastly, miscellaneous diseases such as symptomatic anthrax, malignant edema, gaseous edema and proteus infection. The work covers a wide field of research, copious foot-notes being added showing the original sources of information, while at the end of the volume will be found a complete bibliographical index. The book is well adapted and can be highly recommended not only for the medical student but also for the practitioner of medicine.

A. M.

Prevalent Diseases of the Eye: A Reference Handbook, Especially Adapted to the Needs of the General Practitioner and the Medical Student. By Samuel Theobald, M.D. Philadelphia and London, W.,

B. Saunders Co., 1906. Col. front., iv, 551 pp., 10 colored plates. 8vo. Price: Cloth, $4.50.

The purpose of this work is to familiarize the general practitioner with some of the more common diseases of the eye. No attempt is made to teach the use of the opthalmoscope nor to consider abstruse questions in optics. The greater part of the book is devoted to the diagnosis and treatment of external diseases of the eye, conditions which can be determined by inspection without special instruments.

The chapter on Glaucoma ought to be read by every doctor, whether he is interested in ophthalmology or not. The first paragraph contains so much practical wisdom, it well deserves to be quoted.

"Of all the diseases of the eye there is none that it is more important the general practitioner should be able to diagnosticate than glaucoma, for it is an affection that frequently runs so rapid a course that failure to recognize it, and to employ promptly the proper remedial measures, may result, in a few days, in irreparable blindness.

"It is not a disease, however, which, if it can be avoided, he should undertake to treat, since its proper management calls for the skill of the trained specialist."

Physicians frequently overlook the fact that, in certain cases, young persons, even though distant vision be normal, may suffer from weakness of accommodation, and therefore need convex glasses for near work the same as presbyopes. N. L. NORTH.

THE PRACTICAL MEDICINE SERIES, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under Editorial Charge of GUSTAVUS P. HEAD, M.D. Volume II. General Surgery, Edited by JOHN B. MURPHY, A.M., M.D., LL.D. Series 1907. Chicago. The Year Book Publishers. [c. 1907].

This work has already received our favorable criticism. This particular volume is given up to general surgery, and contains an extraordinary amount of surgical literature condensed in a small book. Dr. Murphy in his introductory remarks says that surgical patients are demanding better results from the surgeon; the eradication of symptoms is exacted after surgical operations as well as the extirpation of the foci of disease. He calls attention to Coffey's statistics, showing that the mortality from appendicitis in large hospitals is still too great. This is clearly the result of the delay in the patient's appearance for operation. Dr. Murphy surely goes beyond the limit of legal possibilities when he says that it seems that the time for legal recognition of and punishment for delay in diagnosis and operation for appendicitis is due, and that unless the profession awakens to its shortcomings an enactment will soon be placed on our statute books. While such delays are much to be deplored the remedy does not lie in the State inflicting punishment upon the guilty doctor. So long as the State licenses unqualified men such errors of practice must be expected. The State cannot bestow its blessing and privilege to practice upon an incompetent and then punish him for being incompetent. Dr. Murphy has taken hold of the wrong end of the trouble.

The distinguished editor of this work is again wrong when he says that the percentage of bad results in the treatment of fractures is increasing. The percentage of bad results in the treatment of fractures is decreasing. We are *recognizing* more bad results, that's all. Results which once would have been declared satisfactory are now regarded as bad. Our improved knowledge of fractures, due to the X-Ray, has positively improved the treatment, and at the same time it has made us less easily satisfied with results.

This work abstracts the important recent communications on surgery in a masterly manner and with practical surgical judgment. Surgeons may take pride in the notable and high-class contributions which are being made to the literature of surgery. This volume is of great value to whomever wishes to be up-to-date in this subject. J. P. W.

THE PRACTICAL MEDICINE SERIES, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery, Under General Editorial Charge of GUSTAVUS P. HEAD, M.D. Volume 3, The Eye, Ear, and Throat, Edited by CASEY A. WOOD, C.M., M.D., D.C.L., ALBERT H. ANDREWS, M.D., GUSTAVUS P. HEAD, M.D. Series, 1907. Chicago, The Year Book Publishers (c. 1907). 353 pp., 16 pl., 1 col. pl. 12mo.

Volume 3 of the Practical Medicine Series is devoted to the Eye, Ear, Nose and Throat, and contains a resumé of the literature of 1906 upon the diseases of those organs. The limits of the volume, of course, preclude the possibility of mentioning all of the really valuable articles which were contributed during the year. But the process of selection has, as usual, been well performed, so that the most important papers from the standpoint of novelty or originality have been abstracted. The book is of such size that it can be conveniently carried about, thus enabling one in the lesure moments of travel to cull from its pages a general review of the progress of Ophthalmology, Otology, Rhinology, and Laryngology during the preceding year. CHAS. N. COX.

THE DISEASES OF THE NOSE, THROAT, AND EAR. By CHARLES PREVOST GRAYSON, A.M., M.D. *Second Edition, Revised and Enlarged.* Philadelphia, New York, Lea Bros. & Co., 1906. ix, 17-532 pp., 5 pl., 10 col. pl. 8vo.

In the second edition of Grayson's well-known treatise, the work has been revised and brought well up to date. By a judicious re-arrangement of the text, some new sections have been added without increasing the size of the volume; notably those on Submucous resection of the nasal septum, and Paraffine Prosthesis. And the number of engravings and plates has been considerably increased.

The semi-diagrammatic illustrations of Laurens, which are reproductions from his recent work on the Surgery of the Nose, Throat and Ear, are very artistic and instructive, carrying to the mind quick and ineffaceable impressions of Anatomical landmarks and surgical procedures.

The chapter on the diseases of the Accessory Cavities of the Nose has been greatly enlarged and practically rewritten since the former edition.

In the radical operation for Chronic Maxillary Antrum suppuration, after the opening through the Canine fossa has been made, the author makes the Counter-opening through the middle meatus, instead of through the inferior meatus, even for diagnostic purposes.

In Cancer of the Larynx, Prof. Grayson reiterates the dictum of the former edition, that "Treatment is, of course, exclusively surgical, and is only rational and of more than transient benefit when it effects the total extirpation of the growth, together with a judicious amount of the peri-neoplastic zone of healthy tissue."

A crowning feature of the work is the masterly attention given to general conditions of the system in the treatment of local diseases. CHAS. A. COX.

OPHTHALMIA NEONATORUM: With Especial Reference to Its Causation and Prevention. By SYDNEY STEPHENSON, M.B., C.M. London, G. Pulman & Sons, 1907. 258 pp. 8vo.

This work, being the Middlemore Prize Essay of the British Medical Association, 1907, is of the highest standing.

The subject is treated in a most exhaustive manner. Endless almost has been the Author's research, and tireless his effort in the compilation and preparation of tables and comparisons.

The Etiology, Prophylaxis, Diagnosis, Treatment and Prognosis, each receive most careful attention, and for the purpose of reference certainly the work is invaluable. The author's summing up of the subject, while it brings out nothing radically new, yet is extremely rational and temperate.

His conclusions being that this disease is always due

to infection, most frequently gonorrheal, but in a small percentage of cases from other micro-organisms, and therefore being in every case of germ origin, is preventable.

That in all institutions Credé's methods should be used, and in private practice, when for any reason it is not used, the utmost watchfulness for signs of infection should be maintained, and active measures at once inaugurated when necessary.

He gives first place to silver nitrate in his treatment, but also speaks well of Argyrol, especially as it is non-irritating, and much easier of administration by the family or nurse.

Of course, great stress is laid on absolute cleanliness and the use of antiseptics, both as prophylactic and remedial measures. NELSON L. NORTH.

A TEXT-BOOK OF CLINICAL ANATOMY: for Students and Practitioners. By DANIEL N. EISENDRATH, A.B., M.D. *Second Edition, Thoroughly Revised.* Philadelphia, London, W. B. Saunders Co., 1907. 533 pp. 8vo. Price, cloth, $5.00 net.

The second edition of this work is a tribute to the author which has been duly acknowledged by a thorough revision, and the addition of a number of valuable illustrations.

The author's aim to translate anatomical facts into their clinical values has been amply realized and the subject has received such a practical exposition that the dry facts of anatomy are clothed with living interest. And this, after all, is the secret of stimulating the student's interest and the surety of ready assimilation; for what the student feels he can utilize, that he will remember.

Special mention should be made of the outline studies of the Surface Anatomy which are particularly helpful and emphasize the large number of anatomical facts which may be identified and studied on the living subject.

The illustrations are excellent and a clear index helps to make the work attractive.

The publishers are to be congratulated upon the style and general arrangement of the book.

WILLIAM FRANCIS CAMPBELL.

PSYCHOLOGY APPLIED TO MEDICINE: Introductory Studies. By DAVID W. WELLS, M.D., of Boston. Philadelphia, F. A. Davis Co., 1907. xiv, 141 pp., 12mo. Price: Cloth, $1.50 net.

This trim booklet is put forth as a treatment of the subject "in an elementary way" for "medical students" and a "class of the laity." Familiar illustrations of phenomena are utilized. Hypnotism, clairvoyance, etc., occupy over half the little volume—he is something of a hypnotist himself. Vision is the only one of the senses to receive much elucidation. The pain, temperature and stereognostic senses do not appear to be mentioned. Perhaps the information that he does give can be accepted as of real worth to the homeo-school with which the author is connected, and not amiss for that considerable class the mystic-sodden laity of Boston.

AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. NEWMAN DORLAND. Containing the Pronunciation and Definition of All the Principal Terms Used in Medicine and the Kindred Sciences, Along with over 60 Extensive Tables. *Fifth Edition, Revised and Enlarged.* Philadelphia and London, W. B. Saunders Co., 1907. 578 pp. 32 mo. Price: Flexible Leather, $1.00.

This little book measures four by six and one-half inches, and is but an inch and an eighth in thickness, so it may rightly be termed a "pocket" dictionary. Its light weight and flexible leather binding add further to its attractiveness. The vocabulary seems to be complete and up to date, though the definitions necessarily are brief. Compact tables of weights and measures, doses, etc., have been added, "serving to group correlated facts in a convenient form for quick consultation." Without hesitation this pocket medical dictionary may be declared to be the best in its special class. H.

THE PERPETUAL VISITING AND POCKET REFERENCE BOOK. Including Information in Emergencies, From Standard Authors. St. Louis, J. H. Chambers & Co., 1907. 24 pp., 52 l, nar. 12mo. Price: Cloth, 50 cents.

As the title indicates, this is a visiting and pocket reference book. Of more value, we should think, to the country practitioner with a limited practice, than to any other. A line or two at the foot of each page is occupied by some diagnostic or therapeutic aphorism, with an occasional definition of a medical term for variety's sake. The therapeutic hints are mostly to the effect that Dioviburnia, Germiletum and Neurosins are "most efficient," that in conjunctivitis Palpebrine "invariably cures," etc., and frequently you are admonished, "Don't be a therapeutic coward." In a season of prosperity the Dios Chemical Company, the manufacturers of these therapeutic preparations, should distribute this little book *gratuitously* as advertising literature. Surely, times be hard!

HEART-DISEASE AND BLOOD-PRESSURE: A Practical Consideration of Theory and Treatment. By LOUIS FAUGERES BISHOP, A.M., M.D. *Second Edition.* New York, E. B. Treat & Co., 1907. 120 pp., 12mo. Price: Cloth, $1.00.

In this little book is given a brief but suggestive survey of our knowledge of the relations of high blood pressure to disease. Particularly interesting is the account of the author's theory of a tone-maintaining function of the brain, excessive and prolonged stimulation of which produces a condition which he calls hypertonia chronica vasorum. This condition he believes is the primary condition more often than is generally supposed in chronic nephritis and arteriosclerosis.

E. E. C.

CHEMICAL PATHOLOGY: Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By HARRY GIDEON WELLS, Ph.D., M.D. Philadelphia, London., W. B. Saunders Co., 1907. 549 pp., 8vo. Price: Cloth, $3.25 net.

This is an unusually interesting book containing twenty-two chapters of pithy material upon a subject of growing importance to both medical students and practitioners.

The following subjects are considered: three chapters on cell-chemistry, physics, and enzymes; a chapter on the chemistry of bacteria and their products; and another of similar nature upon animal parasites. The next four chapters are devoted to the chemistry of immunity. Then follows a chapter on the chemistry of inflammation, and two upon blood and lymph. These are succeeded by chapters on calcification, pathologic pigmentations, and the chemistry of tumors. Chapter eighteen considers pathologic conditions due to metabolic abnormalities, and the remaining four chapters take up gastro-intestinal auto-intoxications, the pathological chemistry of ductless glands, uric-acid metabolism and gout, and diabetes.

The subject of physiological and pathological chemistry stands to-day where normal and pathological histology stood twenty years ago. There is a general awakening to the importance of the relation of chemistry to structure and function; and the work of Wells is admirably calculated to aid students, and physicians who cannot, in the nature of things, spend a great deal of time in the chemical laboratories and hospitals. The style is clear and the typography excellent. J. M. VAN COTT.

Among all the fine arts, one of the finest is that of painting the cheeks with health.

There is no wealth but life. That country is the richest which nourishes the greatest number of noble and happy human beings.

The maximum of Life can only be reached by the maximum of Virtue.—*Ruskin.*

Medical Society of the State of New York.

SCIENTIFIC SESSION.

DISCUSSIONS.

ANNUAL MEETING, JANUARY, 1908

COUNTY LABORATORIES AND THEIR USES.

DR. O. J. HALLENBECK, of Canandaigua, N. Y., read a paper with the above title, for which see page 66.

Discussion.

DR. R. P. BUSH, of Horseheads, said that owing to the example set by the county to which Dr. Hallenbeck referred, the county of Chemung had started a similar movement and that a bill would be introduced into the Legislature shortly which would give the supervisors of his county power to employ a county bacteriologist. He desired to know whether that bill affecting the one county should be pushed, or whether it should not be substituted by a bill of a general nature giving the supervisors of any and all counties the power to employ their own individual bacteriologist. He wished to know the sentiment of the State Society in favor of such a bill.

DR. H. SCHOONMAKER, of Clifton Springs, stated that he had visited the laboratory described in the paper and that in every way it was complete and efficient. He referred to the uplifting effect upon the profession of that county that the laboratory exerted, and believed that it created a better scientific atmosphere. In conclusion, he said that it is manifest that this movement has been the means of disseminating medical and scientific knowledge among the people.

DR. A. JACOBI, of New York, declared this to be a paper which did not require a lengthy discussion; that every legislator should have a copy of Dr. Hallenbeck's paper, and that he did not believe that any one of them would be able to resist the recommendations and appeals embodied therein. He moved that a resolution be framed with that end in view. This was seconded by Dr. A. Vander Veer. Dr. W. R. Townsend stated that he would frame the desired resolution.

DR. J. O. STRANAHAN, of Rome, reported that in a conversation with Dr. Totten he had been shown a copy of a bill which is soon to be introduced that included the sentiments expressed by Dr. Jacobi and which he believed would meet all the requirements.

DR. W. R. TOWNSEND framed the following resolution: Resolved, that the Council be required to see that the paper of Dr. Hallenbeck be printed at an early date and that copies be sent to each member of the Senate and Assembly of the State of New York together with resolutions endorsing the paper.

DR. R. P. BUSH, of Horseheads, N. Y., thought that this was well but that it did not go far enough; he believed that the Society should take immediate action in the matter and endorse a general bill. He moved that, "The committee on legislation be instructed to use its influence in the passage of a law for the establishment of a laboratory and the office of bacteriologist for each county." Dr. W. R. Townsend accepted the amendment.

DR. F. C. CURTIS, of Albany, referred to the value of the paper as twofold: first, it furnishes an example for other counties of the State; second, it showed that a body of men had gotten together, decided upon a definite purpose and carried it out. He said, in conclusion, that there is nothing that the county societies or the State Society can fail to accomplish provided that it be sane and reasonable.

The resolution, with its amendment by Dr. Bush, was voted upon and carried.

THE SEQUENCE OF THE PATHOLOGIC CHANGES IN APPENDICEAL PERITONITIS.

DR. E. MCD. STANTON, of Schenectady, N. Y., read a paper with the above title, for which see page 123.

Discussion.

DR. A. J. OCHSNER, of Chicago, said that he had looked forward to the exposition of the living pathology of this condition in a large number of cases. He thought the paper as read so complete that it must stand as a basis of our knowledge of the pathology of acute appendicitis. Eight years ago, he stated, he brought out the then heretical proposition that the distribution of the infection and the consequent mortality depended not upon the disease, but upon its distribution caused by peristalsis. He thought, then, that it was possible to limit the infection, provided that the peristaltic action could be stopped, and for this purpose he used gastric lavage, withdrawing all food except that given by rectum, and that more for the benefit of the friends than of the patient. The administration of calomel or salines, or even abdominal examinations, were followed by a lightening up of the symptoms. All this showed that if advantage was taken of the anatomical relations, and they were not disturbed by catharsis, the prognosis would be far more favorable. He stated that he believed the superiority of the treatment to be conclusively demonstrated.

DR. W. G. MACDONALD, of Albany, discussed the paper adversely, and stated that he did not believe that any chronological sequence of pathology or symptoms exists in any disease.

DR. J. C. MUNRO, of Boston, commended the paper highly and said that he thought the pathology could be identified day by day.

DR. SKINNER said that the paper coincided with his own observations upon non-operated cases. He disagreed with Dr. Macdonald, and referred to the chronological cycle of various functions, notably the pulse, respiration and menstruation. He continued that in cases of peritonitis treated by the opium method the bowels usually moved on or about the tenth day.

DR. A. D. LAKE, of Gowanda, stated that he was exceedingly pleased with Dr. Stanton's paper, inasmuch as it recalled the early teachings of Alonzo Clark. He said that it seemed good to hear a surgeon say, "Don't operate immediately, but wait."

DR. BUTLER recalled his own case of appendicitis, then called typhilitis. He stated that he was kept under the influence of opiates for six weeks. He had a local abscess which later ruptured into the bladder and the pus discharged into the urine. In his own experience he said that the percentage of recoveries was one hundred.

DR. A. VANDER VEER, of Albany, asked whether or not the process was progressive as to the number of attacks and requested the history of second and third attacks. He, too, recalled the early teaching of Alonzo Clark, forty years ago, as being similar to the modern Ochsner treatment. But he still believed that in gangrenous appendicitis with perforation the patient's salvation lay in immediate operation.

DR. STRANAHAN referred to one hundred cases which came under his care in which the so-called Ochsner treatment was employed with one hundred per cent. of recoveries. His series included all kinds of cases.

DR. OCHSNER called attention to a paper which he had published some time ago, the sentiments of which still hold good, viz.: That every early case of not more than thirty-six hours' standing should be operated upon, because there is a condition of the peritoneum in which it is still capable of returning to the normal after temporary drainage. But that cases of two, three or four days' standing do not terminate favorably after operation. He advised slow continuous rectal irrigation, if the patient be thirsty, also ten to thirty drops of deodorized tincture of opium by rectum in a nutrient enema. This should be introduced through a soft rubber catheter and propelled by gravity alone. If patient vomits, he advised gastric lavage, and under any and all conditions he advises to withhold every drop of food by mouth.

Dr. Stanton, in reply to Dr. Macdonald, stated that when he began the study of the subject under discussion he, too, did not believe in any definite sequence of pathology, but was thoroughly convinced of it later. He further stated that even in those cases treated by salines a less definite train of pathological processes could be made out. He said that the death-rate upon this Ochsner treatment was less than one-seventh of that following operation on the fourth or fifth day. He concluded by answering Dr. Vander Veer's question that recurrent attacks are more liable to perforation than primary ones.

LEGISLATIVE NOTES.

The following bills of interest to the medical profession have been introduced in the Legislature up to March 1, 1908:

Senate Bills.

To authorize the appointment of a commission to inquire into the local government of the City of New York, with power to investigate the manner of conducting and transacting business in the several departments, board and offices thereof, to suggest legislation with respect thereto, and, in its discretion, to draft a new charter and an administrative code for said city.

Introduced by Mr. Page, ordered printed, and when printed to be committed to the Committee on Affairs of Cities. Int. No. 12, Jan. 1, 1908. Printed Nos. 12, 295, 375.

To authorize the Mount Sinai Alumnæ Association to acquire, accumulate, maintain and apply a pension fund for the benefit of its members.

Introdued by Mr. Saxe, ordered printed, and committed to the Committee on the Judiciary. Int. No. 41, Jan. 7, 1908. Printed No. 41.

To amend the banking law, relative to preferring debts due religious and charitable corporations.

Introduced by Mr. Travis, ordered printed, and committed to the Committee on Banks. Int. No. 61, Jan. 13, 1908. Printed No. 62.

To amend chapter two hundred and ninety-four of the laws of nineteen hundred and two, entitled "An act to provide for the licensing of dogs in cities of the second class, for the care and protection of lost, strayed and homeless dogs, for securing and protecting the rights of the owners thereof, and for the protection of the public," in relation to the destruction of dogs.

Introduced by Mr. Grattan, ordered printed and committted to the Committee on Affairs of Cities. Int. No. 96, Jan. 16, 1908. Printed No. 99.

To amend chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," as amended by chapter eight hundred and sixty of the laws of eighteen hundred and ninety-five, etc., relating to the practice of veterinary medicine.

Introduced by Mr. Ackroyd, ordered printed and committed to the Committee on Public Health. Int. No. 118, Jan. 20, 1908. Printed No. 120.

To amend the public lands law, in relation to sewer through lands of the state reservation at Niagara.

Introduced by Mr. Draper, referred to the Committee on Cities. Int. No. 121, February 19, 1908. Rec. 54. Printed No. 485.

To amend the agricultural law, in relation to the sale of shipment of calves and veal.

Introduced by Mr. Smith, committed to the Committee on Agriculture. Int. No. 158, Jan. 22, 1908. Printed No. 163.

To amend the railroad law, in relation to installing waterclosets on cars of certain steam surface and street railroads and at stations, and providing penalties.

Introduced by Mr. Boyce, committed to the Committee on Railroads. Int. No. 177, Jan. 23, 1908. Printed Nos. 182, 376.

To amend the insurance law, in relation to forms of health and accident policies.

Introduced by Mr. Saxe, committed to the Committee on Insurance. Int. No. 212, Jan. 28, 1908. Printed No. 220.

In relation to Bellevue and allied hospitals in the City of New York.

Introduced by Mr. Sohmer, and committed to the Committee on Affairs of Cities. Int. No. 215, Jan. 29, 1908. Printed No. 226.

To prevent cruelty, by regulating experiments on living animals.

Introduced by Mr. Davis, and committed to the Committee on the Judiciary. Int. No. 258, Feb. 4, 1908. Printed No. 27.

To amend chapter one hundred and ninety-one of the laws of eighteen hundred and sixty nine, entitled "An act in relation to the Homœpathic Medical College of the State of New York in New York City," and chapter five hundred and fifteen of the laws of eighteen hundred and eighty-seven, supplemental thereto, generally.

Introduced by Mr. Agnew, Int. No. 269, Feb. 5, 1908. Committed to the Committee on the Judiciary. Printed No. 292.

Making an appropriation for the quarantine station at Hoffman and Swinburne Islands.

Introduced by Mr. Foelker, and committed to the Committee on Finance. Int. No. 291, Feb. 6, 1908. Printed No. 315.

To amend the public health law by inserting a new article 1, defining optometry and regulating the practice thereof.

Introduced by Mr. Wilcox, and referred to the Committee on Public Health. Int. No. 320, Feb. 10, 1908. Printed No. 347.

To amend the code of civil procedure, in relation to the competency of witnesses.

Introduced by Mr. McCarren, committed to the Committee on Codes. Int. No. 329, Feb. 11, 1908. Printed No. 361.

To amend the insanity law, relative to the duties of the State board of alienists.

Introduced by Mr. Armstrong, and committed to the Committee on the Judiciary. Int. No. 335, Feb. 11, 1908. Printed No. 367.

To amend chapter four hundred and ten of the laws of eighteen hundred and eighty-two, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in relation to compensation of coroners' jurors and providing for the payment thereof.

Introduced by Mr. Sohmer, and committed to the Committee on Affairs of Cities. Int. No. 377, Feb. 17, 1908. Printed No. 421.

To amend an act entitled "An act in relation to agriculture, constituting articles one, two, three, four and five of chapter thirty-three of the general laws," in relation to packages and barrels to be used in the sale of fruit.

Introduced by Mr. Travis, and committed to the Committee on Agriculture. Int. No. 369, Feb. 13, 1908. Printed No. 410.

To prohibit practicing physicians from prescribing patent medicines.

Introduced by Mr. Thompson, committed to the Committee on Public Health. Int. No. 373, Feb. 17, 1908. Printed No. 417.

To amend the public health law, relative to the manufacture and sale of patent or proprietary medicines.

Introduced by Mr. Thompson, and committed to the Committee on Public Health. Int. No. 374, Feb. 17, 1908. Printed No. 418.

To amend chapter four hundred and ten of the laws of 1882, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in relation to inter-

fering with dead bodies by persons other than coroners.

Introduced by Mr. Sohmer, and committed to the Committee on Affairs of Cities. Int. No. 378, Feb. 17, 1908. Printed No. 422.

To amend the code of civil procedure, in relation to qualifications of jurors in the city and county of New York and the county of Kings.

Introduced by Mr. McManus, committed to the Committee on Codes. Int. No. 384, Feb. 17, 1908. Printed No. 428.

To revise and amend chapter four hundred and seventy-nine of the laws of eighteen hundred and ninety-two, entitled "An act to supply the city of Auburn with water," and the several acts amendatory thereof and supplemental thereto.

Introduced by Mr. Wilcox, and committed to the Committee on Affairs of Cities. Int. No. 391, Feb. 17, 1908. Printed No. 444.

To amend the penal code, in relation to the sale of certain drugs without prescription and the prescribing of certain drugs for habitual users of drugs.

Introduced by Mr. Tully, and committed to the Committee on Codes. Int. No. 392, Feb. 17, 1908. Printed No. 435.

To amend the agricultural law, in relation to the adulteration and misbranding of food.

Introduced by Mr. Tully, committed to the Committee on Agriculture. Int. No. 393, Feb. 17, 1908. Printed No. 436.

To amend the public health law, in relation to adulteration and misbranding of foods and drugs.

Introduced by Mr. Tully, committed to the Committee on Public Health. Int. No. 394, Feb. 17, 1908. Printed No. 443.

Making appropriations for the State charitable institutions, the New York State School for the Blind, the Elmira Reformatory, and the Eastern New York Reformatory.

Introduced by Mr. Armstrong, and committed to the Committee on Finance. Int. No. 397, Feb. 17, 1908. Printed No. 439.

To amend chapter one hundred and eighty-two of the laws of eighteen hundred and ninety-two, entitled "'An act to incorporate the city of Mount Vernon," relative to the fees of the health officer, city clerk and corporation counsel.

Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Cities. Int. No. 414, Feb. 19, 1908. Printed No. 465.

Making an appropriation to the Central New York Institution for Deaf-Mutes, at Rome, to enable it to extinguish its debt incurred for the support and education of its deaf and dumb pupils and for the paving of the street fronting its property.

Introduced by Mr. Ackroyd, and committed to the Committee on Finance. Int. No. 419, Feb. 19, 1908. Printed No. 470.

Assembly Bills.

To amend the public health law, relative to the powers and duties of commissioner.

Introduced by Mr. Gluck, and referred to the Committee on Public Health. Int. No. 20, Jan. 6, 1908.

To provide for the keeping of medical and surgical appliances in railroad cars.

Introduced by Mr. Gluck, and referred to the Committee on Railroads. Int. No. 22, Jan. 6, 1908. Printed No. 22.

To compel elevated railroad corporations in the borough of Brooklyn to provide for the comfort of passengers.

Introduced by Mr. Gluck, and referred to the Committee on Railroads. Int. No. 25, Jan. 6, 1908. Printed No. 25.

Amending the penal code, relative to furnishing medical attendance and medicines to persons sick and disabled, to be known as section one hundred and seventy-eight of the penal code.

Introduced by Mr. Cuvillier, and referred to the Committee on Codes. Int. No. 73, Jan. 7, 1908. Printed No. 73.

To amend the banking law relative to preferring debts due religious and charitable corporations.

Introduced by Mr. Lee, and referred to the Committee on Banks. Int. No. 110, Jan. 8, 1908. Printed No. 111.

Relating to evidence in actions for damages for personal injuries.

Introduced by Mr. Wright, and referred to the Committee on the Judiciary. Int. No. 117, Jan. 9, 1908. Printed No. 118.

To authorize the Mount Sinai Alumnæ Association to acquire, accumulate, maintain and apply a pension fund for the benefit of its members.

Introduced by Mr. Bennett, and referred to the Committee on the Judiciary. Int. No. 161, Jan. 14, 1908. Printed No. 163.

To repeal chapter six hundred of the laws of nineteen hundred and seven, entitled "An act to authorize the appointment of a commission to inquire into local government of the city of New York and the charter thereof, and suggest legislation thereon."

Introduced by Mr. Cuvillier, and referred to the Committee on Affairs of Cities. Int. No. 188, Jan. 14, 1908. Printed No. 190.

To amend the agricultural law in relation to the employment of persons having infectious or contagious disease, or who have been exposed to any infectious or contagious disease, in any dairy or creamery where milk is produced for sale or manufactured into an article of food, and to prevent the employment of any such person in connection with the distribution of milk or other dairy products.

Introduced by Mr. Boshart, and referred to the Committee on Agriculture. Int. No. 191, Jan. 15, 1908. Printed No. 194.

To amend the agricultural law, relative to examinations of milk and cream for the butter-fat contained therein and to issuing licenses to applicants for making such test.

Introduced by Mr. Gray, and referred to the Committee on Agriculture. Int. No. 198, Jan. 15, 1908. Printed Nos. 201, 900.

To amend chapter three hundred and forty-four of the laws of nineteen hundred and seven, entitled "An act to regulate the practice of medicine, and to repeal article eight of chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three and acts amendatory thereof," in relation to signs to be used by physicians.

Introduced by Mr. Herrick and referred to the Committee on Public Health. Int. No. 199, Jan. 15, 1908. Printed Nos. 202, 301.

For preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes.

Introduced by Mr. Cuvillier, and referred to the Committee on Public Health. Int. No. 229, Jan. 16, 1908. Printed No. 232.

To prohibit the importation, manufacture for sale, sale, offering for sale, or having in possession with intent to sell within the state, of adulterated, misbranded, poisonous, or deleterious foods, drugs, medicines, liquors, beverages and confections; and regulating the enforcement and providing a penalty for violation thereof.

Introduced by Mr. Glore, and referred to the Committee on Public Health. Int. No. 231, Jan. 16, 1908. Printed No. 234.

To prevent cruelty, by regulating experiments on living animals.

Introduced by Mr. Johnston, and referred to the Committee on the Judiciary. Int. No. 253, Jan. 16, 1908. Printed No. 256.

To amend chapter two hundred and ninety-four of the laws of 1902, entitled "An act to provide for the licensing of dogs in cities of the second class, for the care and protection of lost, strayed and homeless

dogs, for securing and protecting the rights of owners thereof, and for the protection of the public," in relation to the destruction of dogs.

Introduced by Mr. Nolan, and referred to the Committee on Affairs of Cities. Int. No. 260, Jan. 16, 1908. Printed No. 263.

To amend section fourteen of chapter 344 of the laws of 1907, entitled "An act to regulate the practice of medicine, and to repeal article eight of chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three and acts amendatory thereof."

Introduced by Mr. D. C. Robinson, and referred to the Committee on Public Health. Int. No. 265, Jan. 17, 1908. Printed No. 268.

To provide for a commission to confer with the United States government relative to inland waterways in the State of New York and making an appropriation thereof.

Introduced by Mr. Frisbie, and referred to the Committee on Ways and Means. Int. No. 276, Jan. 20, 1908. Printed No. 278.

To amend the public health law by adding a new section, relative to powers of local boards of health, and the state board of health, with reference to water furnished by individuals, copartnerships, and corporations other than municipal corporations for consumption by the inhabitants of municipalities of the State.

Introduced by Mr. Draper, and referred to the Committee on Public Health. Int. No. 284, Jan. 21, 1908. Printed No. 285.

To authorize and provide for the erection and maintenance of an additional public hospital in the city of New York.

Introduced by Mr. Hackett, and referred to the Committee on Affairs of Cities. Int. No. 348, January 23, 1908. Printed No. 353.

To amend the agricultural law, relative to compensation to owners of animals destroyed because of tuberculosis.

Introduced by Mr. Williams, and referred to the Committee on Agriculture. Int. No. 363, Jan. 24, 1908. Printed Nos. 371, 569.

To amend the agricultural law in relation to providing for an additional state appraiser of condemned animals.

Introduced by Mr. G. H. Whitney, and referred to the Committee on Ways and Means. Int. No. 364, Jan. 24, 1908. Printed No. 372.

To amend the labor law, relative to hours of labor of children, minors and women.

Introduced by Mr. Keller, and referred to the Committee on Labor and Industries. Int. No. 402, Jan. 28, 1908. Printed No. 415.

To amend chapter 416 of the laws of 1900, entitled "An act to establish a State hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor," in relation to the qualifications of the superintendent of said hospital.

Introduced by Mr. Shea, and referred to the Committee on the Judiciary. Int. No. 404, Jan. 28, 1908. Printed No. 417.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interest therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters, and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," in regard to the qualifications of commissioners, their appointment and removal and the award of contracts.

Introduced by Mr. J. A. Foley, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 418, Jan. 28, 1908. Printed No. 431.

To amend the Greater New York charter, in relation to providing partial compensation to owners of diseased horses slain by order of the department of health in the city of New York, and providing a penalty for bringing such horses into said city.

Introduced by Mr. Eagleton, and referred to the Committee on Affairs of Cities. Int. No. 424, Jan. 28, 1908. Printed No. 437.

To amend the insanity law, in relation to hospital attorneys.

Introduced by Mr. Hubbs, and referred to the Committee on the Judiciary. Int. No. 432, Jan. 28, 1908. Printed No. 445.

To amend the insurance law, in relation to forms of health and accident policies.

Introduced by Mr. Bennett, and referred to the Committee on Insurance. Int. No. 441, Jan. 29, 1908. Printed No. 462.

To prevent cruelty, by regulating experiments on living animals.

Introduced by Mr. Lee, and referred to the Committee on the Judiciary. Int. No. 449, Jan. 29, 1908. Printed No. 470.

To amend the insanity law, in relation to salaries of certain officers and employees of State hospitals.

Introduced by Mr. Hubbs, and referred to the Committee on Ways and Means. Int. No. 454, Jan. 29, 1908. Printed No. 475.

To amend the agricultural law, in relation to slaughtered animals as food.

Introduced by Mr. Burhyte, and referred to the Committee on Agriculture. Int. No. 482, Jan. 31, 1908. Printed No. 513.

To amend the agricultural law, relative to compensation to owners of animals quarantined or destroyed because of tuberculosis.

Introduced by Mr. Lansing, and referred to the Committee on Ways and Means. Int. No. 500, Feb. 3, 1908. Printed No. 533.

To amend the agricultural law, relative to compensation to owners of animals destroyed because of tuberculosis.

Introduced by Mr. Bashford, and referred to the Committee on Ways and Means. Int. No. 507, Feb. 3, 1908. Printed No. 540.

To amend the agricultural law, in relation to the sale and shipment of calves and veal.

Introduced by Mr. Blue, and referred to the Committee on Agriculture. Int. No. 510, Feb. 3, 1908. Printed No. 543.

To amend the penal code, relative to the sale of opium and morphine.

Introduced by Mr. Volk, and referred to the Committee on Codes. Int. No. 535, Feb. 5, 1908. Printed No. 590.

To amend chapter 661 of the laws of 1893, entitled "An act in relation to the public health, constituting chapter twenty-five of the general laws," as amended by chapter eight hundred and sixty of the laws of eighteen hundred and ninety-five, etc., relating to the practice of veterinary medicine.

Introduced by Mr. Lewis, and referred to the Committee on Public Health. Int. No. 566, Feb. 5, 1908. Printed No. 620.

To amend the code of civil procedure, in relation to the abatement of action.

Introduced by Mr. Liebman, and referred to the Committee on Codes. Int No. 570, Feb. 6, 1906. Printed No. 635.

To amend the agricultural law, relative to appraisal of diseased animals and compensation for animals destroyed.

Introduced by Mr. Gray, and referred to the Committee on Ways and Means. Int. No. 581, Feb. 6, 1908.

Making an appropriation for the quarantine station at Hoffman and Swinburne islands.

Introduced by Mr. Surpless, and referred to the Committee on Ways and Means. Int. No. 600, Feb. 6, 1908. Printed No. 664.

To amend the public heatlh law and the acts amendatory thereof, in relation to the sale, adulteration and branding of drugs, and repealing certain sections of said law.

Introduced by Mr. G. H. Whitney, and referred to the Committee on Public Health. Int. No. 610, Feb. 7, 1908. Printed No. 684.

To amend the insanity law, relative to the duties of the State board of alienists.

Introduced by Mr. Phillips, and referred to the Committee on the Judiciary. Int. No. 616, Feb. 10, 1908. Printed Nos. 695, 958.

Making appropriations for improvements at the Utica State Hospital, the Binghamton State Hospital, the Hudson River State Hospital and the Willard State Hospital.

Introduced by Mr. Phillips, Feb. 10, 1908. Int. No. 617. Referred to the Committee on Ways and Means. Printed No. 696.

To amend the Public Health Law by defining optometry and regulating the practice thereof.

Introduced by Mr. West, and referred to the Committee on Public Health. Int. No. 644, Feb. 11, 1906. Printed No. 727.

To amend chapter 701 of the laws of 1893, entitled "An act to regulate gifts for charitable purposes," relative to the time when the supreme court shall have control over such gifts.

Introduced by Mr. Walters, and referred to the Committee on the Judiciary. Int. No. 650, Feb. 11, 1908. Printed No. 733.

To amend the Greater New York charter, in relation to a deputy commissioner of public charities in the Borough of Queens.

Introduced by Mr. Todd, referred to the Committee on Affairs of Cities. Int. No. 658, Feb. 11, 1908. Printed No. 741.

To amend the code of criminal procedure, in relation to coroner's juries.

Introduced by Mr. Whitley, referred to the Committee on Codes. Int. No. 682, Feb. 12, 1908. Printed No. 780.

To amend the penal code, in relation to a presumption of evidence in certain cases.

Introduced by Mr. Francis, and referred to the Committee on Codes. Int. No. 718, Feb. 13, 1908. Printed No. 822.

Making an appropriation for the New York State Hospital for the care of crippled and deformed children.

Introduced by Mr. B. R. Robinson, and referred to the Committee on Ways and Means. Int. No. 741, Feb. 17, 1908. Printed No. 858.

To revise and amend chapter 479 of the laws of 1892, entitled "An act to supply the city of Auburn with water," and the several acts amendatory and supplemental thereto.

Introduced by Mr. Dudley, and referred to the Committee on Affairs of Cities. Int No. 758, Feb. 18, 1908. Printed No. 880.

To make appropriations for the State charitable institutions, the New York State School for the Blind, the Elmira Reformatory, and the Eastern New York Reformatory.

Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 760, Feb. 18, 1908. Printed No. 882.

To amend chapter 344 of the laws of 1907, entitled "An act to regulate the practice of medicine, and to repeal article eight of chapter six hundred and sixty-one of the laws of 1893 and acts amendatory thereof," in relation to signs to be used by practitioners.

Introduced by Mr. Herrick, and referred to the Committee on Public Health. Int. No. 777, Feb. 19, 1908. Printed No. 907.

To amend chapter 182 of the laws of 1892, entitled "An act to incorporate the city of Mount Vernon," relative to the fees of the health officer, city clerk and corporation counsel.

Introduced by Mr. Wright, and referred to the Committee on Affairs of Cities. Int. No. 798, Feb. 19, 1908. Printed No. 927.

Making an appropriation to the Central New York Institution for Deaf-Mutes at Rome, to enable it to extinguish its debt incurred for the support and education of its deaf and dumb pupils and for the paving of the street fronting its property.

Introduced by Mr. Blue, and referred to the Committee on Ways and Means. Int. No. 820, Feb. 21, 1908. Printed No. 967.

To amend chapter 182 of the laws of 1892, entitled "An act to incorporate the city of Mount Vernon," relative to the fees of the health officer, city clerk and corporation counsel.

Introduced by Mr. Wright, and referred to the Committee on Affairs of Citites. Int. 841, Feb. 21, 1908. Printed No. 988.

To regulate the installation and use of gas-pipes in rooms used or intended to be used for sleeping purposes.

Introduced by Mr. Schmidt, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 876, Feb. 26, 1908. Printed No. 1047.

To amend chapter 410 of the laws of 1882, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in relation to interfering with dead bodies by persons other than coroners. Int. 877, Feb. 26, 1908. Printed No. 1048.

To amend the Greater New York charter, in relation to ambulance surgeons.

Introduced by Mr. Schmidt, and referred to the Committee on Affairs of Cities. Int. No. 878, Feb. 26, 1908. Printed No. 1049.

In relation to Bellevue and allied hospitals in the City of New York.

Introduced by Mr. Schmidt, and referred to the Committee on Affairs of Cities. Int. No. 879, Feb. 26, 1908. Printed No. 1050.

To amend chapter 410 of the laws of 1882, entitled "An act to consolidate into one act and to declare the special and local laws affecting public interests in the city of New York," in relation to compensation of coroners' jurors and providing for the payment thereof.

Introduced by Mr. Schmidt, and referred to the Committee on Affairs of Cities. Int. No. 880, Feb. 26, 1908. Printed No. 1051.

To provide for the appointment of a commission to investigate the pollution of the Hudson River and its tributaries and to make recommendations for preventing the same, and making an appropriation therefor.

Introduced by Mr. Robinson, and referred to the Committee on Ways and Means. Int. No. 888, Feb. 26, 1908. Printed No. 1059.

To amend the Greater New York Charter, in relation to ambulance surgeons.

Introduced by Mr. Sohmer, and committed to the Committee on Affairs of Cities. Int. No. 261, Feb. 4, 1908. Printed No. 280.

To amend chapter 428 of the laws of 1903, entitled "An act to amend chapter 609 of the laws of 1887," entitled "An act to provide and establish a permanent system of sewerage and drainage in the village of White Plains, and in relation to the construction of said system."

Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Villages. Int. No. 454, Feb. 21, 1908. Printed No. 515.

To amend the charter of The Rockefeller Institute for medical research.

Introduced by Mr. Page, and committed to the Committee on the Judiciary. Int. No. 486, Feb. 25, 1908. Printed No. 553.

Making an appropriation for the quarantine station at Hoffman and Swinburne islands.

Introduced by Mr. Foelker, and committed to the Committee on Finance. Int. No. 488, Feb. 26, 1908. Printed No. 559.

To provide for the appointment of a commission to investigate the pollution of the Hudson River and its tributaries and to make recommendations for preventing the same, and making an appropriation therefor.

Introduced by Mr. Travis, and committed to the Committee on Finance. Int. No. 491, Feb. 26, 1908. Printed No. 562.

To legalize, ratify and confirm all acts and proceedings of the board of sewer commissioners and board of trustees of the village of Lancaster, Erie County, relating to the establishment of a sewer system in said village.

Introduced by Mr. Davis, and committed to the Committee on the Judiciary. Int. No. 499, Feb. 26, 1908. Printed No. 570.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

REGULAR MEETING, January 2, 1908.

Scientific Program.

"Anaphylaxis," by Dr. E. R. Rosenau, Director of the Hygienic Laboratory, United States, Washington, D. C.

"Tuberculin in the Diagnosis and Treatment of Tuberculosis," by Dr. E. R. Baldwin, Director of Saranac Laboratory for the Study of Tuberculosis, Saranac Lake, N. Y.

"Use of the Radiograph in the Diagnosis of Tuberculosis, with exhibition of Plates and Slides," by Dr. Arthur F. Holding.

ALLEGANY COUNTY MEDICAL SOCIETY.

The last regular meeting of the Allegany County Medical Society was held at Cuba, N. Y., January 9, 1908.

Doctor Ayres, of Alfred, read a paper in favor of the establishment of a County Bacteriological Laboratory for the County of Allegany, and said the matter had been laid before a committee consisting of Supervisor Crandall, of Alfred; Richerson, of Fillmore, and McIntosh, of Canadea.

Resolutions were passed urging the Senator and Assemblyman representing Allegany to favor a general law enabling the Board of Supervisors to establish and maintain such a laboratory.

A very interesting paper on the "Diagnosis of Broncho-pneumonia" was read by Doctor Lyman, of Fillmore, and one on the treatment by Dr. Witter, of Wellsville.

Discussion was opened by Dr. Young, of Cuba, and many physicians present tok part in the same.

MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

THE ANNUAL MEETING was held at SALAMANCA, N. Y.

Program.

President's Address, Dr. E. M. Coss, Cattaraugus.

"Observations in Great Britain," Dr. Nelson G. Richmond, Fredonia.

"Pericarditis," by Dr. Ira Livermoore, Gowanda.

The following officers were elected for the year 1908: President, Carl S. Tompkins; Vice-President, W. W. Jones; Secretary-Treasurer, Clarence S. Beals; Censors, S. S. Bedient, A. D. Lake, E. Torrey, Chas. Kelley, F. C. Beals.; Delegate to State Society, J. E. K. Moris; Alternate, W. B. Johnston; Historian, A. D. Lake; Legislation Committee, G. W. Winterstein, E. M. Coss, M. C. Hawley; Public Health Committee, Ira W. Livermoore, Jas. A. Taggart, Cassar Smith.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

ANNUAL MEETING was held JANUARY 8, 1908, at POUGHKEEPSIE, N. Y.

Scientific Program.

President's Address, Dr. D. H. MacKenzie.

"Sigmoiditis and Perisigmoiditis," by Dr. James P. Tuttle, of New York.

"Toxæmia and Arterial Tension," by Dr. Charles E. Quimby, of New York.

"Treatment of Puerperal Sepsis, by Dr. James H Burten Shaw, of New York.

"Radical Cure of Hernia. Methods and Results," by Dr. Wm. B. Coley, of New York.

"Lobar Pneumonia, Bacteriology and Pathology," by by Dr. Chas. E. MacPeek.

"Lobar Pneumonia. Symptoms and Signs," by Dr. R. H. Breed.

"Lobar pneumonia Treatment," by Dr.. M. M. Lown. Dr. Wood and Dr. Conklin to discuss.

"Consistency in Aseptic Technique," by Dr. J. E. Sadlier.

"Ophthalmia Neonatorum and its Prevention," by Dr. F. J. Mann.

"The Milk Situation," by Dr. A. L. Peckham. Dr. Cotter and Dr. J. S. Wilson to discuss.

The following resolutions were adopted:

Resolved: That it is for the best interests of the public that the Health Department of this State should furnish free diphtheria and tetanus anti-toxins to all those in this State who need them.

Resolved: That as physicians we use our influence with the individual members of the Legislature from our respective counties towards having sufficient funds for this purpose appropriated by the Legislature.

Resolved: That a copy of these resolutions be sent to the State Commissioner of Health and also published in the NEW YORK STATE JOURNAL OF MEDICINE.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

The regular meeting of the Medical Society of the County of Erie was held in the rooms of the Buffalo Society of Natural Sciences, on January 13, 1908.

President, Dr. Albert H. Briggs, in the chair.

The following candidates for membership were duly elected:

Drs. Charles H. Andrews, Christian L. Suess, Ralph Robinson, Edwin A. Bowerman, Charles Williams Bethune, Lesser Kauffman and Eugene O. Bardwell.

Dr. Henry R. Hopkins, Chairman of the Board of Censors, read a report covering the principal work done by the Censors during the past year. Such report stated that two medical practitioners in the City of Buffalo had been convicted of criminal practice, and as a result were now serving sentences in prison. A third case resulted in barring from examination before the Board of Regents a candidate accused of alleged malpractice since graduation. The report elicited a warm discussion and was finally adopted.

On motion of Dr. Rochester, the delegates from this district were instructed to present the name of Dr. Charles G. Stockton, of Buffalo, for the position of President of the Medical Society of the State of New York.

Considerable routine business was also transacted, after which President Edward Clark was introduced to the Society.

MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

The sixty-first annual meeting was held in Malone on Tuesday, January 14, 1908.

The following officers were elected for the ensuing year: President, Dr. P. F. Dolphin, of Malone; Vice-President, Dr. A. E. Moody, of Dickinson Center; Secretary and Treasurer, Dr. G. M. Abbott, of Saranac Lake; Censor, Dr. C. C. Wembley, of Saranac Lake; Delegate Med. Soc. State of New York, Dr. W. A. Wardner, of St. Regis Falls; Delegate Fourth District Branch, Dr. J. D. Harrigan, of Chateaugay.

A communication was read from the legislative committee of the American Medical Association, containing resolutions favoring the passage of bills now in Congress to pension the widows of Drs. James W. Lazear and James Carroll, who lost their lives by being

inoculated with infected mosquitos during the investigation of the yellow-fever epidemic in 1900. The secretary was instructed to communicate with the Member of Congress from this district and urge him to use his influence for the passage of these bills. The secretary was also directed to instruct the delegate to the State Medical Society to use his influence in the house of delegates to have the "Garnisher" law so amended as to cover physicians' accounts.

The secretary reported that there were several physicians yet practicing in the county who had not signed the "provisional agreement" in regard to life insurance examination fees. He was instructed to again write to each one and get their signatures, if possible, and report at the next semi-annual meeting.

The following papers were read and discussed:

(1) The President's Annual Address.

(2) "The Relation of Pleurisy to Pulmonary Tuberculosis," by Dr. H. S. Goodall, of Stony Wold Sanatorium.

(3) "Adenoids," by Dr. J. A. Grant, of Malone.

Reports of Cases, by Dr. P. F. Dolphin, of Malone, and Dr. G. M. Abbott, of Saranac Lake.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, FEBRUARY 18, 1908.

1. "Blood Transfusion as a Therapeutic Measure," by William Francis Campbell, M.D.

Discussion opened by John C. Cardwell, M.D., and Joshua M. Van Cott, M.D.

2. "The Early Diastolic Heart Sound," by William S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University, Baltimore, Md.

SECTION ON PEDIATRICS.

Scientific Program.

1. Presentation of Cases: Enlarged Thymus—Cured by X-Ray, R. M. Beach, M.D. Case and Specimen of Fœtal Rickets, A. J. Sumner, M.D.

2. Scientific Papers: "Treatment of Pneumonia in Children," Maurice Packard, M.D., Manhattan. "Review of English Pediatric Literature," John F. Crawford, M.D.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, JANUARY 31, 1908.

Program.

Address of the retiring President, Walter Lester Carr, M.D.

Address of the President-Elect, J. Riddle Goffe, M.D.

"The Life and Times of the Great Medical Reformer, Thomas Wakley, M.D., Founder of the London *Lancet*."

A Symposium on the Recent Epidemic of Grippe: (a) The Scourge as it Appeared in Pittsburg, by John A. Lichty, M.D., Pittsburg, Pa. (b) Its course in Baltimore, by C. Hampton Jones, M.D., Assistant Commissioner of Health, Baltimore, Md. (c) In New York, by Thos. Darlington, M.D. (d) The General Features and Peculiar Manifestations, by Alexander Lambert, M.D. (e) Its Course in Children, by Charles Gilmore Kerley, M.D. (f) Some Throat and Sinus Complications, by C. G. Coakley, M. D. (g) The Ear Complications, by Edward B. Dench, M.D. (h) Its Ravages in the Buccal Tissues, by William Carr, M.D.

FEBRUARY 24, 1908.

Scientific Session.

Papers: 1. "A Specific for the Opium Habit as Employed by the American Missionaries in India and China, with Report of Cases and Presentation of Patients," by W. D. Silkworth, M.D., Brooklyn. (By invitation.)

2. "The Nature of Colic and its Pathological Significance," by George Franklin Shiels, M.D.

Discussion by Max Einhorn, M.D., and George Emerson Brewer, M.D.

3. Symposium: "The Immediate vs. Delayed Treatment of Hemorrhage from Rupture or Abortion in Ectopic Pregnancy." (a) "Immediate Treatment," by Hiram N. Vineberg, M.D. (b) "Delayed Treatment," by Hunter Robb, M.D., Cleveland, Ohio. (By invitation.) (c) "My Experience," by Brooks H. Wells, M.D.

Discussion by Drs. Clement Cleveland, Howard C. Taylor, Hermann J. Boldt, Joseph Brettauer, Henry C. Coe and William M. Polk.

ONEIDA COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, JANUARY 14, 1908, UTICA, N. Y.

Papers: "Empyema of the Accessary Sinuses of the Nose," by Dr. T. H. Farrell. "Extra-Genital Chancre," by G. M. Fisher. "Tuberculosis in Cattle" (with specimens), by Dr. W. G. Hollingworth. President's Address, by Dr. Conway A. Frost.

ONONDAGA MEDICAL SOCIETY.

A quarterly meeting was held at the Carnegie Library Building, Syracuse, N. Y., February 11, 1908.

Program.

1. Address, "Relationship Between the County Health Officers' Association and the Medical Profession," by D. M. Totman, M.D.

2. "An Argument for Free Diphtheria Anti-toxine from the Sanitary Standpoint," by John T. Wheeler, M.D., Chatham, N. Y.

3. "Heart Block with a Demonstration of the Bundle of His," by H. D. Senior, M.D.

4. "Pneumonia, with Special Reference to Its Prevalence and Prevention," by John L. Heffron, M.D.

DEATHS.

JOSEPH ANDERSON, M. D., medical inspector of the Health Department of New York City, died at his home January 23, aged 63.

FREDERICK AUGUSTUS BURRALL, M.D., one time surgeon to the Northern Dispensary, attending physician in the Presbyterian and Charity Hospitals and the New York Asylum, who served for a short time in the Navy during the Civil War, died at White Plains, N. Y., January 21, aged 77.

JOSÉ LOPEZ DE VICTORIA, M.D., died at his home in New York City, January 12, from heart disease, after an illness of several months, aged 42.

CHARLES MORRIS KLOCK, M.D., died at his home in St. Johnsville, January 17, after a long illness, aged 50.

FRANCIS MORLEY MICHAEL, M.D., a member of the staff of Manhattan Eye and Ear Hospital, New York City, for four years; oculist to the Binghamton State Hospital, Binghamton City Hospital, St. Mary's Home and St. Joseph's Academy, died at his home in Binghamton, N. Y., January 23, aged 38.

JOHN ORDRONAUX, M.D., a graduate in law from Harvard University in 1852; examiner of recruits in Brooklyn at the outbreak of the Civil War; author of "Hints on Health in Armies," the first American work on military hygiene, and a "Manual for Military Surgeons on the Examination of Recruits and Discharge of Soldiers;" in 1864, assistant surgeon to the Fifteenth Infantry, N. G. S. N. Y.; lecturer on medical jurisprudence in the law school of Columbia College; and professor of medical jurisprudence in Dartmouth Medical School, Hanover, N. H.; the first New York State Commissioner of Lunacy, from 1873 to 1882; an expert on medical jurisprudence, insanity and expert testimony; who was given the degree of LL.D. by Trinity College in 1870, and by Dartmouth College in 1895; died at his home in Glen Head, N. Y., January 20, from cerebral hemorrhage, aged 77.

CHARLES SAMPLE PEEKE, M.D., died suddenly from heart disease, at his home in Rotterdam Junction, N. Y., January 27, aged 43.

WILLIAM STRATFORD, M.D., died at his home in New York City, January 24.

HERBERT N. TANNER, of East Aurora, N. Y., who had been ill since April last, died at the Buffalo General Hospital, January 25, aged 38.

JOHN C. VANDERVEER, M.D., died at his home in Mineola, N. Y., January 18, after a prolonged illness, aged 46.

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles.

PANCREATITIS RESULTING FROM GALL-STONE DISEASE.*

By WILLIAM J. MAYO, M.D.,
Surgeon to St. Mary's Hospital,
ROCHESTER, MINNESOTA.

IN December, 1907, we (W. J. and C. H. Mayo) made a collective investigation of our operative experience in the surgery of the upper abdomen. Among other statistics complied, it was found that in 2,200 operations upon the gall-bladder and biliary passages the pancreas was coincidentally affected 141 times (6 1-10 per cent.) As the total of all pancreatic diseases operated upon was but 168, the interesting fact was brought out that 81 per cent. were due to or accompanied by gall-stones.

In 268 operations upon the common and hepatic ducts, the pancreas showed disease in 18.6 per cent. against 4 45-100 per cent. where the gall-bladder only was involved.

In 124 cases the head of the pancreas showed evidence of inflammation, while in but 17 was the entire organ affected.

The pancreas is the great abdominal salivary gland, and lies in a most protected situation. No other organ in the body which has as valuable a known function, is so little liable to intrinsic disease. Its natural defenses have but a single defect and that is the mechanical association of the main pancreatic duct with the common duct of the liver.

The stomach and duodenum above the common duct of the liver and pancreas, have the same embryological origin from the primitive foregut. These organs are associated in their physiology and pathology, and are concerned in the preparation of food for digestion. The force which correlates their function is chemical through the harmonious action of their secretions rather than nerve impulses. (Starling.)

The control of the pylorus and its output depends upon the rapidity with which the acid chyme is neutralized in the upper duodenum by the pancreatic and biliary secretions. (Pawlow.) The presence of chyme in the upper duodenum stimulates those duodenal secretions upon which the secretory functions of the pancreas depend, while the bile activates the pancreatic juices and adds greatly to their digestive effect.

*Read before the Medical Society of the State of New York, January 29, 1908.

The derivatives of the midgut consist of the intestines which lie between the common duct and the splenic flexure of the colon and are concerned in absorption. The solids are very largely taken up in the small intestines, the fluids which are chiefly from the pancreas and liver mechanically float the solid matter to the iliocecal valve, and enables every part of the mucous membrane to be brought in contact with the intestinal contents. This fluid, now of no further mechanical use, is reabsorbed in the head of the colon.

The storage function of the intestine begins at the splenic flexure, continues to the rectum, and is derived from the primitive hind-gut. The influence of chemical stimulation (Hormones) is the potent one between the beginning of the pyloric end of the stomach and the sigmoid.

In embryology, function is more permanent than form. The small intestine, morphologically, begins at the pylorus but functionally at the common duct; the large intestine at the iliocolic valve, but as a reservoir, at the splenic flexure of the colon. The muscle which was at one time to be found at the beginning of the antrum of the stomach, has disappeared but physiological contraction still begins at this point. The cecocolic sphincter is gone also, but muscular contraction here still holds the fluids in the cecum during absorption.

In this whole process the pancreatic secretions are of all the most important, and in the diagnosis of pancreatic lesions, a study of the intestinal functions as evidenced in the feces is the most important means of differentiation.

The pancreas begins as a diverticula from that part of the lower end of the primitive foregut which is to become the upper duodenum. During the fourth week of fetal life these buds project into the posterior mesogastrium and form the two primary lobes of the pancreas, each with its own duct. The two lobes eventually coalesce and the lower, or duct of Wirsung, becomes the main excretory channel.

The duct of Santorini opens anteriorly and above the duct of Wirsung, and in nearly half is capable of maintaining pancreatic excretion. Neither of the ducts of the pancreas have valves but the ampulla of Vater is provided, and into that little cavity in conjunction with the common bile-duct, the duct of Wirsung normally opens. This latter feature is found only in the carnivora and in the omnivora.

Inflammations of the pancreas are dependent upon infections or chemical irritations.

In 62 per cent. of human subjects the terminal third of the common duct is imbedded in pancreatic tissue, while in 38 per cent. it lies behind the pancreas in the groove between it and the duodenum. (Helly.) Therefore, 62 times out of a hundred any structural change in this portion of the pancreas will interfere with the liver excretion through the common duct, giving rise to jaundice, while a stone in the terminal portion of the common duct, or infection caused by stone in any portion of the bile tract, exposes the duct of Wirsung, and through it the pancreas to infection, the safety of the pancreas may depend upon the possible presence of a patent duct of Santorini, or if the stone lies in the papilla, the bile may force its way up into the duct of Wirsung and set up a *chemical* pancreatitis.

In this unfortunate association of terminal facilities the large percentage of known diseases of the pancreas have their etiology. (Opie.)

The *triangle of pancreatic inflammation* is that part of the head of the pancreas which lies between the duodenum on the right and the ducts of Santorini above and Wirsung below.

Mr. Sydney Philips has produced evidence to show that catarrhal jaundice, especially the epidemic form, is probably due to pancreatic disturbance and is similar to such inflammation of the parotid gland, as mumps.

ACUTE AND SUBACUTE PANCREATITIS.

Our knowledge of acute pancreatitis is largely due to that eminent American physician, Reginald Fitz, to whom we also owe the pathology of the appendix and Meckel's diverticulum. If the inflammation is acute, hemorrhagic pancreatitis may result and possibly the whole pancreas be destroyed in a few hours. If the process is less acute, suppuration may take place or local disease of the blood vessels permit bleeding into the pancreas, the so-called "pancreatic apoplexy." We have met with the late results of this latter condition in two cases.

The most interesting feature of acute pancreatitis concerns fat necrosis, a disseminated necrosis of fat due to the escape of pancreatic ferments which involve to a greater or less extent the omentum, mesentery, retroperitoneal, and other adipose tissues. In two of our cases there was partial suppression of urine accompanied by delirium and a semi-comatose condition lasting several days. It was found upon operation later that the kidney outline on each side was lost, evidently by the effect upon the peri-renal envelopes of the fat splitting ferments.

The pancreas is fetally an intraperitoneal organ. At birth its posterior peritoneum has become converted into connective tissue, but the area of distribution both within and without the peritoneal cavity of pancreatic leakage, suggests the influence of the fetal condition. Fat necrosis is probably the result not of normal pancreatic secretions but rather of pancreatic juice which has become activated by associated ferments either from the bile or from the duodenal mucous membrane.

In 172 resections of the stomach we have lacerated the surface of the pancreas many times, and in eight instances have removed portions, but in no case did fat necrosis follow.

There is undoubtedly an exaggerated idea as to the fatality of fat necrosis. The majority of our cases were operated upon not in the acute stage, but in the subacute, after the patients had become more or less convalescent. Our knowledge heretofore has come largely from the dead-house and as only fatal cases were discovered, the disease has appeared a very fatal one.

Acute pancreatitis has sudden onset and is ushered in by agonizing pain in the upper abdomen, with collapse followed by extreme prostration. The pulse becomes quick, there is some elevation of the temperature, with nausea, vomiting and rapid abdominal distention. The acuteness of the symptoms suggests obstruction which is belied by the ability to secure the passage of flatus. The patients are usually elderly, obese, and often have an alcoholic history.

On opening the abdomen the pancreas is found greatly enlarged, softened and indefinite in outline with more or less free peritoneal fluid and pea-like areas of fat necrosis. If gall-stones exist, they should be quickly removed and the gall-bladder drained. In all cases where free fluid is found in the peritoneal cavity, temporary abdominal drainage should be established. (Woolsey.) Of three acute cases of pancreatitis, two recovered, one died. Nine subacute, all recovered.

CHRONIC PANCREATITIS.

The greatest interest in connection with gall-stone disease concerns the chronic forms of interstitial pancreatitis, of which Reidel reported six cases as early as 1896. Our knowledge of the chronic variety is, however, largely due to the work of Robson, who reported the first operated case in 1900. Robson states that 60 per cent. of his operations for the removal of common duct stones showed an associated chronic inflammation of the pancreas.

Mild infection and interference with drainage appear to be the main etiological factors and the *triangle of infection* is usually early involved, thus compressing the common duct in the 62 per cent. of cases in which its terminal third is imbedded in the head of the pancreas. There are two forms of interstitial pancreatitis, the interlobular, and the interascinar. The interlobular is fortunately the one most often associated with gall-stone disease. In this type the pancreas is enlarged, nodular, rough, and to the "feel" greatly resembling cancer.

In the interascinar form the pancreas feels smooth and tough and is extremely liable to be associated with glucosuria. The reason for this

lies in those peculiar bodies of ductless gland tissue which are to be found throughout the pancreas, and are named after their discoverer, the Islands of Langerhans. These little cell masses which derive their blood supply from the vessels of the pancreas, but have no connection with the pancreatic ducts, in some peculiar way appear to control carbohydrate metabolism, and when destroyed or compressed as occurs in the interascinar form, diabetes may result. They can be compared to the relation of the parathyroids to the thyroid gland.

The interlobular form, however, may also gradually progress until the gland substance is involved with development of secondary diabetes. Robson found sugar in the urine in 6 per cent. of his common duct cases which disappeared after operation.

CLINICAL COURSE AND SYMPTOMS.

Chronic interstitial pancreatitis may extend over years of time without producing such symptoms as to readily differentiate the complication from the original disease, but if its possibility is borne in mind and careful search made, evidence can be elicited to show the nature of the disease, and if pancreatic changes are present, it indicates an early resort to surgical interference.

Jaundice is one of the most marked symptoms and may last for months or years. The emaciation is more extreme and the pigmentation of the skin is more marked than in simple uncomplicated common duct stones (Robson). As the antecedent disease is most often gall-stones, an early history of this condition can usually be obtained.

If the stones are in the common duct, Couervisier's law holds good and in 86 per cent. of the cases, the gall-bladder will be found contracted. A distended gall-bladder may occur if the biliary passages are normal, but such distention with jaundice usually indicates cancer rather than chronic pancreatitis.

In thin patients the enlarged pancreas can sometimes be felt as a hard mass lying transversely across the upper abdomen. Careful examination of the stools gives much important evidence. They are pasty, very large on account of undigested food and contain quantities of fat. Even if there is no jaundice, the bile, which without pancreatic juice gives only a light yellow color to the stool, is not sufficient to stain the great quantities of fat which are passed off, so that frequent large light colored greasy motions without jaundice are indicative of pancreatitis. Estimation as to the quantity of stercobilin should be made. Undigested muscle fibre can often be detected in the stool.

Mr. Cammidge has pointed out that certain crystals are to be discovered in the urine in pancreatic inflammations, and that if detected they are pathognomonic. The Cammidge test is slow and laborious and has been more successful in the hands of its originator than with others. Our experience with it, while not extensive, seems to bear out much of his claims for it.

We have not found that the presence of chronic interstitial pancreatitis has greatly influenced the prognosis after gall-stone operations, although there is undoubtedly a much greater tendency to hemorrhage than without the pancreatic complication.

For this reason we have used either the chlorid or lactate of calcium to assist coagulation of the blood before and after operation, we are, however, in doubt as to its actual value.

The necessity of clearing out all of the calculi, especially from the common duct, cannot be too strongly emphasized. Stones are especially liable to be lodged under the overhanging head of the enlarged pancreas, so they may easily be overlooked as we have found by experience. As a matter of fact neither probe nor scoop can be depended upon to "feel" a gall-stone in this situation, and we have never rested satisfied until we have freely opened the common duct and if possible inserted a finger into its lumen making sure that no gall-stone has escaped detection. In the same way in the majority of cases the hepatic duct and the entrance to its right and left primary divisions can be searched for calculi having their origin in the gall-bladder but which have been crowded back into the hepatic ducts. After clearing the ducts of stones a large malleable probe should be passed through the common duct into the duodenum, so as to secure good, thorough dilatation, to permit the escape of any liver duct stones which may come down later. Hepatic duct stones as a rule are not large, and if free drainage into the duodenum exists even for a few days, they may find their way out; otherwise they might be retained in the common duct necessitating secondary operation, as occurred in five of our cases.

Eloesser has recommended that the third portion of the common duct be stretched to loosen up the pancreatic adhesions. Robson points out that free drainage for the bile is essential, and in most cases this alone seems to be sufficient for cure. Cholecystostomy or cholecystenterostomy are the indicated procedures; the latter operation has the advantage of equally free drainage and at the same time maintaining the influence of the bile in the intestinal digestion. In our experience when the common duct contained stones, the removal of them with temporary external drainage has resulted in the symptomatic cure of the pancreatitis. If there are no stones in the common duct or gall-bladder other things being equal, we have preferred cholecyst-duodenostomy and out of 24 cholecystenerostomies, 9 were performed for this cause.

It will be noticed that where Robson found 60 per cent. of his cases of stone in the common duct had pancreatitis, we have found but 18.6 per cent. This difference depends somewhat upon the personal equation of the surgeon, as on the operating table the diagnosis is made from the "feel"

and character of the enlarged gland. We have only classified as chronic pancreatitis those cases in which the pancreas was so definitely enlarged that there could be no doubt but that the disease actually existed. Undoubtedly by a more careful examination of the urine and stool, Mr. Robson and Mr. Cammidge have been able to make the diagnosis in cases we have heretofore overlooked.

SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER.*

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YOUR invitation to speak before this distinguished body of medical men on "The Surgical Treatment of Gastric and Duodenal Ulcer" is very thoroughly appreciated by me.

I am aware of the fact that you are as familiar as I am with the enormous literature of the past decade upon this subject and I have consequently decided to condense that portion of this subject which seems to be the most practical into this paper. In preparing a chapter for a system of surgery during the past two years, I have had occasion to make a careful review of the literature on this subject. It will, however, be quite impossible to give due credit to the many authors in this short paper, but I will state at the onset that I have personally no claim for any original work in this direction, having employed the methods of others entirely in the large number of patients which I have had an opportunity to subject to surgical treatment.

The consideration of gastric and duodenal ulcers together is eminently proper from the fact that the stomach and the duodenum belong together embryologically, anatomically, and physiologically, and from the further fact that they are very closely related pathologically.

Embryologically they are formed from the foregut, the lower end of which is marked by a more or less distinctly developed sphincterlike arrangement of the circular muscle fibres located from two to ten centimeters below the entrance of the common duct into the duodenum.[1]

Anatomically they are separated by the pyloric sphincter, which makes itself known to a marked extent only when the stomach contains food.

Physiologically both the stomach and the duodenum serve the purpose of preparing food in such a manner that it can be readily absorbed during its passage through the remaining portion of the alimentary canal. There is but very little absorption of food as it passes through these cavities.

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FUNCTIONS OF THE STOMACH.

The stomach has five clearly defined functions, which must be borne in mind in the surgical treatment of this organ.

1. It stores the food taken at one meal.
2. It secretes the digestive ferments which act in an acid medium which it also supplies in the form of free hydrochloric acid.
3. It acts as a mixing machine which saturates the food with the digestive ferments and hydrochloric acid.
4. It grinds the food into the proper consistency for the next step in the course of digestion.
5. To a very slight extent it absorbs some of its contents.

The duodenum serves simply as an extension of the stomach in which small portions of the food are again subjected to a mixing process, this time with the alkaline bile and pancreatic juice, the liver and pancreas being outfoldings of this portion of the alimentary canal.

In the treatment of gastric and duodenal ulcers, it is of the greatest importance constantly to bear in mind these anatomical and physiological facts, because it is plain that every surgical interference must in a measure disturb the normal anatomical conditions and this in turn must result in physiological conditions which are abnormal.

ETIOLOGY OF GASTRIC AND DUODENAL ULCERS.

It has been accepted by those that have had the greatest amount of experience in the treatment of gastric ulcer that traumatism from within is the chief exciting cause.

A vast majority of these ulcers occur in the pyloric end of the stomach which acts as the grinding machine and is consequently much more exposed to trauma than other portions of the organ.

Many clinicians and pathologists have attributed gastric ulcer to the presence of thrombosis or embolism. Attention has been directed to this etiologic factor again recently by the excellent work of Prof. Payr[2] in which he reviews all of the experiments which have been made during the past half century in this connection.

Another factor which has been under discussion for some time is the theory concerning the presence or absence of certain substances in the blood which make the mucous membrane immune against the digestive action of its own secretions. It has been suggested that in the presence of these bodies a traumatism of the mucous membrane of the stomach will heal while in their absence an ulcer will result.

This seems to be borne out by animal experiments, those of Fibrich and those of Fuetterer being especially interesting. The latter author seems to have proved experimentally that traumatism of the mucous membrane of the stomach results in ulcer only in the presence of general anemia and that by overcoming this anemia

by treatment these ulcers will heal spontaneously and permanently. So long as there is no recurrence of the anemia there is no recurrence of the ulcer, according to this author.

ETIOLOGY OF DUODENAL ULCER.

There seems to be no doubt but that duodenal ulcer is due, in the vast majority of cases, either to an extension past the pyloric sphincter of a gastric ulcer forming what is usually known as the saddle shaped ulcer of the pylorus or it may be formed through the corrosive effect of the hyperacid gastric juice thus virtually becoming a peptic ulcer.

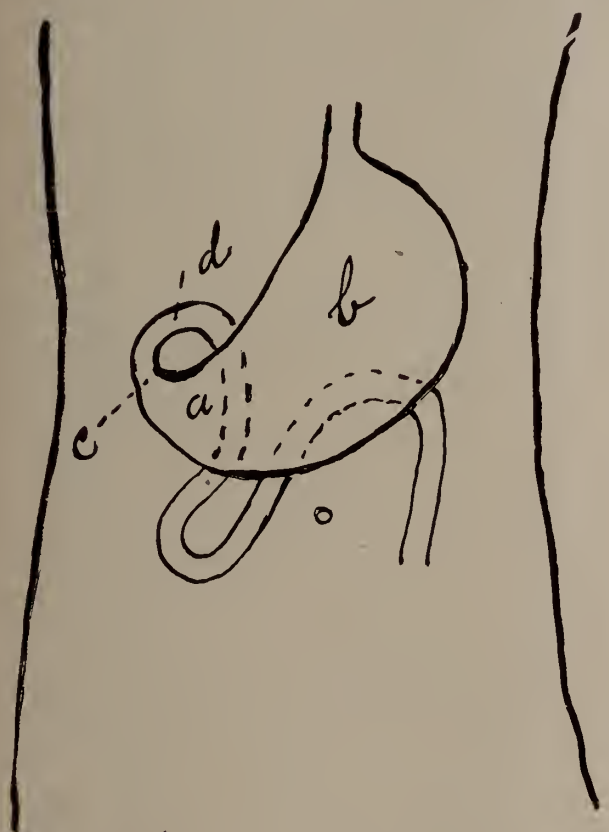

Fig I

Diagramatic relation of Stomach and Upper Intestine.

Ulcers of the duodenum also occur as a result of severe burns of the skin and as a result of thrombosis of the vessels supplying the duodenum.

FREQUENCY OF GASTRIC AND DUODENAL ULCERS.

Mayo[3] and others have demonstrated that there is a much greater relative frequency of duodenal ulcer than was formerly supposed but the exact proportion has not yet been established. It is likely that many duodenal ulcers have been overlooked in the past.

MECHANICS OF DIGESTION.

In order to give to the mechanical feature a due amount of consideration, it may be well to direct attention to the diagrammatic representation of the stomach in Figure 1 in which B represents the apparatus for storing and mixing the food; C the pylorus, and D the second mixer in the duodenum.

The interesting and valuable work by Cannon[5] during the past ten years should be carefully studied by every surgeon to obtain a correct idea of the mechanics of digestion.

It is plain that this normal arrangement must

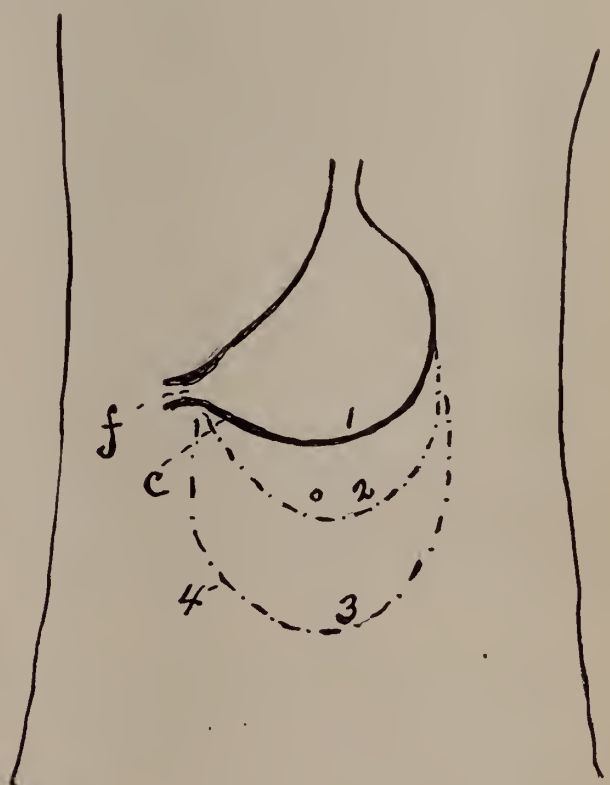

Fig II

Showing different degrees of dilatation of the Stomach.

be of great value and that any surgical operation which interferes with any portion of this machine must leave the digestive apparatus seriously reduced in efficiency when compared with the normal stomach and duodenum.

From this fact it is but logical to conclude that in any case suffering from ulcer of the stomach or duodenum the patients digestive apparatus will be in a vastly better condition to perform its physiological functions if it can be restored to normal without surgical interference. In the early stages of gastric or duodenal ulcers, ex-

perience has shown that this is possible in a vast majority of cases if dietetic, hygienic and medicinal methods are carefully and persistently employed. Experience has also demonstrated that many of these cases do not remain permanently cured but that they suffer from relapses usually more severe than the primary attack, and that after several of these cures and subsequent relapses many of these cases ultimately are compelled to seek relief from surgical operations.

This may be explained by the theory that these cases were only apparently and not really cured, or that they were really cured and that later the same conditions which caused the ulcer to appear primarily have given rise to the recurrence.

A careful study of the history of these cases usually brings out the fact that these patients subject their stomachs to dietetic abuses, that they live under bad hygienic conditions as regards work and rest and regular habits of life, and that they do not give proper attention to their general health, and as Fuetterer claims become anemic as a result of these abuses.

On the other hand with continued control of the hygienic and dietetic conditions by the physician for a long period of time, it is usually possible to train the patient so that he will acquire habits of diet and hygiene which will prevent the recurrence of an ulcer after it has once healed.

These precautions are less burdensome to the patient when he knows that even after operative treatment he would still be compelled to observe these precautions. According to Graf[4] only 35 per cent. of the operated cases can be comfortable without giving especial attention to their diet. It is undoubtedly well to train the operated cases in hygiene and diet as well as the cases which have recovered from their ulcers without operation.

OPERATIVE CASES.

There are, however, many cases in which a permanent cure is not possible although they have received most careful dietetic, hygienic and medicinal treatment.

In any given case the sooner this fact has been established the better, in order that the operation may be performed before one or the other of the various unfortunate complications may have arisen.

The following are the most serious complications to be considered because they are the most fatal:

1. Perforation.
2. Hemorrhage, acute or chronic.
3. Emaciation.
4. Adhesions to surrounding structures.
5. The implantation of carcinoma.

Cases which do not go on to complete recovery under careful hygienic, dietetic and medicinal treatment usually follow quite a characteristic course, which may be described profitably at this point although the limited time will not permit this to be done in detail in this paper.

USUAL COURSE OF CASES WHICH ULTIMATELY REQUIRE SURGICAL TREATMENT.

At the beginning of the attack, it is not possible to distinguish this class of cases from those which will be completely and permanently cured under careful hygienic, dietetic and medicinal treatment, and indeed it is certain that many of these cases ultimately become surgical because in the early stages of the disease they were not subjected to such treatment either from lack of opportunity, or because such treatment was not carried out with a sufficient degree of thoroughness, or that the after treatment was neglected.

At the beginning of the disease these patients suffer from discomfort after eating. In this they differ from patients suffering from duodenal ulcer who usually suffer before instead of after meals, because in these latter cases the irritating acid gastric juice seems to cause pain during the period of fasting when it is permitted to escape from the stomach into the duodenum on account of the relaxed condition of the pylorus. Not being accompanied with food it is not immediately neutralized by a flow of bile and pancreatic juice.

Pain. The pain during the early stages of gastric ulcer may vary from a sharp pain, which is more common when the ulcer is directly at or near the pylorus in the more intensely active portion of the stomach, to a more indistinct pain when the ulcer is farther from this point.

When the ulcer is located to the left of the middle of the stomach the pain is often felt a little below the middle of the sternum.

When the ulcer is located on the posterior surface of the stomach the characteristic pain in the back on a line with the lower angles of the scapule is so well known that it needs scarcely be mentioned.

It is often difficult to differentiate between the pain due to gastric ulcer at this point and that due to gall-stones. Moreover, these two conditions, ulcer of the stomach and gall-stones, are not infrequently found in the same patient.

There is, however, quite a distinct difference in the transmitted pain, that of gall-stones being transmitted to the back on a level with the tenth rib, while that of gastric ulcer is transmitted on a much higher level. In many cases of duodenal ulcer the pain is transmitted to a point in the back not much higher than the tenth rib.

Pain Upon Pressure. There is, however, quite a constant difference in the pain upon pressure. In gastric ulcer the greatest amount of pain is usually elicited upon pressure at a point half way between the umbilicus and the ensiform appendix of the sternum. In the duodenal ulcer the pain is most severe, upon pressure, from two to four centimeters to the right of the umbilicus, while in gall-stones the pain is most severe, upon pressure, at a point half way between the junction of the ninth rib on the right side with its cartilage and the umbilicus—Mayo Robson's point. There is a further point of tenderness five

centimeters to the right of the spine in the tenth intercostal space—Boas' point.

Hemorrhage. In the meantime, both in gastric and in duodenal ulcer, blood will be found in the stools and in severe cases in the vomited matter.

During this period the ulcer may heal, under hygienic, dietetic and medicinal treatment, leaving the stomach in nearly its original normal condition which may be maintained indefinitely if the patient does not again subject the organ to the abuses which caused the ulcer originally, or there may be a number of pathological changes which may result in conditions which can no longer be relieved by non-surgical treatment.

In these cases a number of physiological and anatomical changes occur quite constantly.

Secretion of Mucus. In order to protect the ulcer from the irritating gastric juice a large amount of mucus is secreted. At the same time there is a contraction of the muscles in the region of the pylorus to establish a condition of physiological rest. Many of these patients do very well if placed upon an exclusive liquid diet, because with this neither the presence of mucus nor the contraction of the muscles does any harm, especially if the gastric juice is kept alkaline by proper remedies; and in case milk is given this is medicated so that it will not form coagula in the stomach.

It is quite different if solid food is given, because, on the one hand, this will be rendered much more indigestible by being covered with mucus, while the obstruction caused by the contraction of the muscles in the pyloric end of the stomach interferes with the passage of the food into the small intestine.

Hypertrophy of Gastric Muscles. In order to overcome the former difficulty there is secreted a great amount of hydrochloric acid, and in order to overcome the second difficulty there is a compensatory hypertrophy of the muscles of the stomach.

Of course the hyperacidity of the gastric juice increases the irritation of the ulcer, and the hypertrophy of the muscle increases the traumatism, consequently both of these changes are likely to do much more harm than good.

If the ulcer has healed, in the meantime, all may still be well, but if this has not occurred, conditions are practically certain to go from bad to worse until relieved by surgical interference. In the meantime, the following changes may have occurred in the ulcer itself: it may have encroached upon some blood vessel of considerable size, causing dangerous hemorrhage, it may have advanced to a point dangerously near to perforation, causing adhesions to other organs, or a perforation into one of these organs—the pancreas, the liver, the spleen, the omentum or the duodenum or into the abdominal wall—may have taken place. I have personally encountered all of these conditions.

The ulcer may have actually perforated into the free abdominal cavity or a carcinoma may have been implanted upon the ulcer.

The most common course, however, results in an obstruction at the pyloric end which may be due to an extensive induration at the base of the ulcer, or to a cicatricial contraction as a result of the healing of the ulcer, or to a spasmodic contraction of the pyloric sphincter. This obstruction, as has been stated above, will be overcome for a time by the compensatory hypertrophy of the muscles of the stomach, but if not relieved this will invariably be followed by an exhaustion of these muscles and a consequent gastric dilitation.

This is illustrated in Fig. 2. The dilatation may be moderate in degree or it may be excessive. I have seen the lower edge of the stomach resting in the pelvis of the patient.

In the presence of marked dilatation, there always remain portions of food in the stomach and this residual food invariably decomposes so that the patient is forced to absorb products of decomposition instead of products of normal digestion.

All fresh food which is placed in the stomach is at once contaminated with the decomposing fluid in the stomach. This condition accounts for the emaciation or cachexia which is invariably present in advanced cases of this kind. The marked improvement in many of these cases following the systematic use of gastric lavage is easily explained when one takes into consideration the above conditions.

It is, of course, best not to wait until this extreme condition has developed before relieving the patient through surgical interference.

Relief in these cases must come by supplying drainage. It has been shown by a very large clinical experience that with efficient drainage of the stomach, by means of a properly executed gastro-enterostomy, better conditions can be established for the patient in these cases than by any other method of treatment.

These results will vary not only with the skill of the operator but also, as regards their permanency, with the care with which these patients avoid hygienic and dietetic abuses after recovering from the operation.

Rodman[6] has suggested the excision of the ulcer-bearing portion of the stomach in operation for the relief of pyloric ulcer to lessen the likelihood of occurrence of carcinoma, but this plan has not as yet been widely accepted. This should always be done in cases in which malignancy cannot be positively excluded.

Regarding the results after operation for the relief of gastric or duodenal ulcer it seems convenient to adopt the classification introduced by Dr. Paul Graf[7] into I, II, III, and IV.

No. I represents all cases in which the patient is perfectly well, being able to eat ordinary food without discomfort without limiting himself to any especial diet.

No. II represents cases who are well but who have slight disturbances of digestion occasionally.

No. III represents cases who can be fairly comfortable by strictly observing dietary precautions.

No. IV represents cases who suffer as much after as before the operation.

Technic. The general technic of stomach surgery must be learned at the operating table. More can be learned in a week's observation in the operating room of any one of the many great clinics in which gastric surgery is practiced in this country and abroad than by listening to descriptions or reading them for months.

There are, however, a few fundamental principles which must be observed in order to reduce the mortality and in order to secure permanently satisfactory results.

1. The amount of traumatism must be reduced to a minimum.

2. The intra-abdominal organs must be exposed as little as possible to cold air or cool pads.

3. The patient must be placed in a sitting posture as soon as possible after the operation.

4. In case of closure of perforation the direction of the wound must be chosen so as not to result in obstruction later as a result of cicatricial contraction.

5. In case of excision of a neoplasm all the tissue closely connected by lymphatics must be removed with the growth.

6. In gastro-enterostomy the lowest portion of the stomach must be chosen, no matter whether anterior or posterior gastro-enterostomy be performed—the latter, however, being preferable.

7. There must be no tension upon sutures in gastric operations.

8. Except in complete gastrectomy the coronary artery must always be preserved.

9. In patients with an unusually fat transverse meso-colon, in whom posterior gastro-enterostomy is performed, the opening should be torn very large and the edges should be sutured to the stomach in order to prevent obstruction.

10. In case of acute gastric dilatation following any stomach operation a stomach tube should at once be introduced and gastric lavage should be employed, care being taken not to introduce more than one-fourth liter of water at a time.

11. The simplest possible technic should be employed, preferably, without the use of mechanical apparatus.

12. These patients should be controlled for a long period of time after the operation regarding their diet and general hygiene.

710 Sedgwick Street.

[1] Transaction American Surgical Association, 1905.
[2] Prof. E. Payr: *Archiv. f. Klin. Chir.*, Vol. 84, pp. 799-854.
[3] Mayo: *Journal American Medical Association*, 1906.
[4] Graf: *Deutsche Zeitschrift f. Chirurgie*, October 1, 1907.
[5] Cannon: *American Journal Physiology*, 1898-1902-1904.
[6] Rodman: Proceeding: American Surgical Association, 1900.
[7] Graf: "Chirurgie der gutartigen Magenerkrankungen," *Deutsche Zeitschrift für Chirurgie*, October 1, 1908.

THE GASTRIC NEUROSES.*

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"THE essence of a thing," according to James, "is that one of its properties which is so important for my interests, that, in comparison with it I may neglect the rest. The essence, the ground of conception, varies with the end we have in view. Oil, for example, one man conceives as a combustible, another as a lubricant, another as a food. Conception and classification are purely teleological weapons of the mind. They have their significance as means to end in action."

This is in the nature of an apology for the presentation of certain ways of conceiving of a common and often times perplexing class of conditions, the gastric neuroses. If we agree that the curative treatment of human ills is the end of all medical study, it would seem that conceptions, viewpoints and classifications which have the most fundamental influence in directing this treatment are most essential for our purposes. It must be recognized that we are engaged in a field in which action is frequently demanded in spite of the lack of complete and satisfying data. It is necessary that assumptions be made and working hypotheses be accepted until others are found which show a better correspondence with entire experience. These ways of conceiving of the gastric neuroses are offered as means to end in demanded action. Their relative truth is to be judged by practical service.

At the present time we seem to be justified in sharply differentiating organic from functional disease. By the term functional disease we mean those disturbances which are not due to structural change in an organ, but rather to alterations in the activities of its component cells. These alterations of activities are ascribed either to the direct action of certain abnormal chemical substances or to the action of nervous impulses differing in kind or intensity from the normal. Through the brilliant work of a number of investigators we have learned something of the chemical control of the body within the past few years. The possible influence of the normal chemical messengers and of abnormal chemical irritants acting directly upon the various cells of the body has been brought before us as never before. The determination of such an abnormal action must always remain a matter of considerable difficulty; as yet there is not that unanimity of opinion among these investigators which tends to establish absolute confidence. It has been our custom to infer the direct action class of functional disturbance within an organ only in the presence of general toxic symptoms or when a proven or supposed toxic substance has been demonstrable in the secretions or excretions. We

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may well discover, as time goes on, that disturbances of function in greater number than we have supposed are due to the circulation of chemical substances within the blood which act directly upon the cells of the organ; or that such substances act directly upon the surface of the mucosa of the hollow viscera; at the present time such an explanation infrequently corresponds with clinical experience so far as the stomach is concerned.

The term neuroses is limited to objective and subjective disturbances which seem to be due to the abnormal nervous impulses independent of actual change within the nerves of the affected organ. We must consider neuroses then, as momentary effects; effects of stimulation after stimulation. The study of abnormal gastric phenomena from all aspects may be useful for some purposes, but for purposes of radical treatment it would seem clear that we must conceive of these disturbances of function, or complaints, as effects or resulting symptoms; in no sense do they constitute a disease unless it be true that they all have a common causation; such a supposition is hardly tenable.

We must admit, however, that a careful examination of the literature of the day shows very clearly that there is still a decided tendency to conceive of neurotic disturbances as primary diseases rather than as symptoms having a varied causation. Current text books continue to present the old classification of the various deviations from the normal and to sharply define these deviations giving a supposed clinical syndrome for each. Research is largely concerned with the study of these changes and the direct means of correcting them. This conception has been handed down from the day when it was not understood that a neurotic disturbance of one function alone is uncommon; when it was not appreciated that usually there is deviation of one function and soon another; or a deviation from the normal of a given function first in one direction, and then in the opposite. To speak of a determined deviation of function as a diagnosis of the condition seems to me little short of ridiculous; neurotic hyperchlorhydria, for example, is as complete and satisfying a diagnosis as neuralgia, cough or diarrhea. I am convinced that the essential questions for us are not what functions are abnormal, or to what degree is a given function abnormal, but why are sensations and function abnormal if there is no structural change in the stomach? The former questions gain their importance because of their possible bearing on the latter.

The effect of these prevalent conceptions is clearly seen in the clinical treatment of functional disturbances of the stomach, very largely symptomatic in its nature. A good example of this is seen in the equally enthusiastic advocacy of two opposed plans of diet in hyperchlorhydria, one school favoring the meat diet while the other insists on the carbohydrate schedule. Every work dealing with the treatment of these conditions devotes itself to the discussion of sedative and stimulating measures which are supposed to restore these functions to the normal.

Temporary relief, palliative treatment may be demanded, and for this, existing conditions must be understood. The essential question for us, however, is the fact or circumstance back of existing conditions. What conceivable circumstances are there then which make for the development of these abnormal nervous impulses, and how may we classify these various disturbances for practical purposes?

It seems to me that we are justified in conceiving of the neuroses as resultants of three factors or forces and that in this conception we have much that makes for clearness of insight in the clinical study of gastric abnormalities. The *first* is the irritant circumstance, or factor, which generates a nervous impulse, abnormal in kind or intensity; this impulse passing along certain nerve tracts gives rise to alterations of the activities of other parts or to sensations of an abnormal order referred to those parts. The effect of these abnormal impulses is conditioned by their intensity and also by the physical condition of irritability of the nervous tissues and the complex mental habits of the individual. The *second* variable, or factor, in the production of these neuroses is the momentary status of the physical nervous system, its metabolic state, its capacity for normal functioning. The reaction to a given stimulus is conditioned by the inherent tendencies of the individual's nerve cells and by the changing nutritional conditions of these cells. The *third* variable with which we must reckon is the individual mind, the peculiar mental habits, the states of consciousness and their effect in determining function and sensation. It is impossible at this time to discuss in what manner mental states vary and in so varying determine the degree to which a given stimulus shall be perceived, or shall have its effect, in determining the activities of the body; so strong has been the recent trend of intellignt opinion toward a recognition of the influence of mental process on the body, it is now less necessary to emphasize this factor; there are those, who with some reason, fear that the present wave of interest may carry us too far and the other aspect of the question, the effect of the body on the mind, be neglected to a dangerous degree.

To the abnormality of one or more of these three variables we can attribute the appearance of a neurosis; for practical purposes we may well classify the neurotic functional disturbances on this basis, a particular class formed by the apparent predominance of one of these three factors. It is evident that at times it may seem arbitrary to place a given case within one of these classes as all three factors are suspected or demonstrable. Usually, however, the restitution of normal function may be found to be dependent upon the removal of a particular one of these

factors. We may then consider these neuroses as irritant, nutritional, or psychic, gastric neuroses. Within the time allowed me it will of course be impossible more than briefly to outline these various classes of neuroses.

THE IRRITANT GASTRIC NEUROSES.

For practical purposes these are best considered under two heads which are determined by the site of irritation.

(*a*) The direct irritant class of neuroses is that which arises as a result of the ingestion of substances acting as thermal, chemical, or mechanical irritants to the gastric mucosa and the terminal nerve fibres; through the history of the case this condition is to be distinguished from inflammatory change in the mucosa resulting from the long continued abuse of irritants and the acute changes in the mucosa which result from the ingestion of irritant poisons. The careful study of these patients shows that they are in the habit of ingesting distinctly irritating food, or food which is in an irritating condition. The careless bolting of food, the improper chewing of food because of bad teeth, the ingestion of hot or alcoholic drinks, occasion many gastric disturbances of this class. Careful study shows that these individuals suffer more when overfatigued and when depleted from "nervous" anxiety. Objectively the functions of the stomach may or may not be disturbed. If any actual change is found it is usually along the lines of hyperexcitation of the stomach functions; hypersecretion and hypermotility. Belching is very common as a result of this condition; the stomach is irritated by the ingesta and expels the swallowed gas, or the gas itself induces efforts at expulsion when the stomach is otherwise empty.

The diagnosis of this condition depends upon the careful study of the history and the effects of the correction of faulty habits of eating and drinking.

THE REFLEX GASTRIC NEUROSES.

Largely through the work of the surgeon, gynecologist, ophthalmogist and others, our attention has been directed to the prevalence and importance of this class of functional disturbances of the stomach. Clear explanation of the way in which these reflexes are brought about is still lacking. The results which follow the removal of the primary disturbances seem to be best explained by the theory that a sensation is referred to a certain part although it arises from another; or that a function in one part is disturbed by irritation of its nerve centers in relation with the centers of another part, the seat of irritation. It is very largely the complex sympathetic system with its numerous connections which seem to be responsible for these so-called reflex disturbances. Although the attempt is sometimes made, the satisfactory explanation of this class of cases on any other theory is entirely impossible at the present time.

The importance of the physical condition of the nervous tissues and the mental habits of the individual must always be taken into account as predisposing factors in the appearance of these reflex neuroses. Given the physical abnormality in another organ, reflex disturbances in an organ more or less remote tend particularly to arise in the poorly nourished or the "nervous." This is a matter of daily observation, the physical condition of long standing suddenly gives rise to local symptoms, or to disturbances elsewhere, when the individual is subjected to a period of anxiety or excessive physical strain. It frequently happens that "nervousness" is thought to be responsible for all the complaints and disturbances when there is actually a lesion of some abdominal organ which gives rise to gastric disturbance only when the nervous system is more irritable; the reflex gastric symptoms of appendix, gall-bladder, and uterine disease are very commonly masked in this way.

While our attention has been particularly called to the various organic lesions which occasion reflex stomach symptoms, it is a mistake to suppose that the primary disturbance is necessarily an organic one; disturbances of function in certain organs may also give rise to irritation and remote symptoms. Temporary eye strain, such a strain as results from a railway journey with continuous efforts at accommodation, particularly if the whole body is lowered in tone, is very apt to give rise to mild gastric complaints and sometime to prostrating attacks of vomiting. Functional disturbances of the bowel, such as simple constipation, the result of faulty diet, very commonly gives rise to stomach complaints and demonstrable disturbances. It is in this way that we can account for the effect of much casual treatment of gastric disorders; among the remedies prescribed is a cathartic, but the betterment of the stomach complaint is possibly attributed to the unnecessary and usually inert digestant.

Thorough study of every organ of the body is needed in the large majority of stomach disturbances. If we limit the term gastric disturbance to objectively proven abnormalities of stomach function, I am of the opinion that we shall constantly find that a large proportion of these disturbances are of extra gastric origin; if under the term gastric disturbance we include all complaints referred to the stomach I am of the opinion that but a very small proportion are to be explained by conditions that may properly be spoken of as local processes.

THE NUTRITIONAL GASTRIC NEUROSES.

Under this head we may include those disturbances of gastric function and those subjective complaints which seem to depend on abnormalities of the nutrition of the nervous system; derangements which are either the result of the insufficient intake of food, the deficient absorption of food, the excessive expenditure of energy in the form of muscular or nervous work, and

the result of general abnormal katabolism or local deterioration of nervous tissue from the circulation of more or less selective poisons.

In a considerable proportion of cases, neuroses of the stomach are due to the insufficient ingestion of food material. For some reason the individual decreases the intake of food or increases physiological work without making proper increases in the diet. As has been pointed out by the writer in a previous paper on the subject of underfeeding, the appreciation of the less pronounced degrees is not a simple matter. The physical condition is suggestive of undernourishment, but of course may not give a clue as to the cause; the determination of an habitually low dietary standard is also very suggestive, but the amount of food needed by an individual is not a matter which can be settled by statistics. In the last analysis, it seems to me, we must often resort to test of treatment by an increased dietary. I believe this plan to be one of our most valuable aids in the diagnosis as well as in the treatment of disturbances of the stomach; it rarely happens that a local organic disease of the stomach will tolerate an enforced diet. It is well known that chronic "dyspeptics" eat little, but it is well to bear in mind that their gastric complaints may be due to the fact that they eat too little actual food material. Other than a "weak stomach" is hardly to be looked for in a poor, undernourished body.

It was formerly the custom to attribute a considerable proportion of human ills to faulty gastric digestion, but at the present time we are better informed as to the amount of work the stomach is normally called upon to perform and the compensatory power of the intestines when the work of the stomach is below the normal. Concerning these processes of intestinal digestion and the part that abnormal fermentations play in losses of food values to the body, we have learned something of value but much still remains to be done; with the present methods of investigation of intestinal conditions we can frequently determine causes for undernourishment and resulting neuroses.

As nutritional gastric neuroses we may well consider the disturbances of the stomach which attend and follow the course of acute diseases, and those which are witnessed in the course of the chronic infectious diseases and auto-intoxications; to the lessened ingestion of food and the normal katabolic processes in febrile states some of this condition may be due; on the other hand the toxines of certain infectious diseases and auto-intoxications seem to have a particularly detrimental effect on the functional capacity of the nervous tissues.

Neuroses are frequently observed in a class of individuals who believe themselves forced to lead lives and to do work for which they continually show they are not fitted and cannot be made adequate. Their poor physical capacity, in spite of their interest in life and their ambition, makes health impossible under other than ideal hygienic conditions. To take such an individual out of his chosen occupation and advise him to adopt a life perhaps less in accord with his tastes but more compatible with his endowments may not seem a brilliant therapeutic procedure; many might prefer to patch up these individuals and let them drag out their lives in a condition of semi-invalidism. The recognition of this class and the application of the proper measure, sane advice as to how they must live, is one of our humbler, less spectacular duties, to be more widely recognized as we broaden in our views.

Under this head I would include the gastric disturbances which are seen in those who are found to have ptosis of the abdominal organs. There are certain instances of displacement or abnormal movability of some abdominal organs which are not at all of this class. Very marked movability of the kidney for example sometimes gives rise to reflex neuroses of the stomach in an individual whose nourishment is not below the normal. In the main, however, these ptosis occur in undernourished individuals; symptoms arise in these individuals when for some reason general nourishment is particularly low; during long periods although the ptosis or movability remains no symptoms arise and the functions seem normal. The measures designed to support the abdominal wall and the fallen organs and those operations which do this more radically are of some use as temporary aids until the general nourishment can be bettered.

THE PSYCHIC GASTRIC NEUROSES.

It is greatly regretted that this absorbing, and yet much neglected, form of the neuroses cannot be discussed at length. The tendency of medicine has been to devote attention to the organic diseases of the brain; in the aliens the profession and the State show a great depth of humane interest, but for those who have not crossed the border line, for those who in most respects are sane as their fellows, comparitively little is done. There is, of course, somewhat of a lack of unanimity of opinion as to the real nature of these functional conditions of the mind, which in all their degrees are so constantly met with in professional and social life. There may always be differences of opinion on this subject dependent upon the differences in conception as to the nature of the mind. Those who are afflicted with mental habits which seem to be attended with unhappy consequences need help, and we cannot wait for the solution of these problems but must use the means which, at the time, offers the most hope and shows the greatest correspondence with experience. It is my personal conviction that the understanding of the functional psychic conditions is to be gained by the strongest efforts to know the individual; not his knee jerks but the way he thinks and feels; his inheritance and early training; his physical and mental environment and education; his hopes

and fears; ambitions and disappointments; all facts of possible importance in shaping his mind and determining its mode of working.

The popular notion that these troubles are of an imaginary character is of course entirely unfair. Such an explanation is unsatisfactory even for the hypochondriac with his many disturbances of sensation, or the hysteric with her dominance by a false idea. In a large proportion of cases these gastric disturbances are very real even to the observer. Their complaints seem to arise from the fact that certain states of consciousness tend to produce functional disturbances of the gastro-intestinal tract more than other organs of the body. Sudden cessation of digestion, spasm of the pylorus or carida, nausea and vomiting are so frequently seen as direct and immediate consequences of emotional excitement that little emphasis need to be laid upon these acute conditions. The chronic disturbances of gastric functions are apparently brought about in an entirely analogous manner; the various kinds of emotion habitually indulged in by some, and occasionally by many, seem to result in diversions of nervous impulses from the normal paths or abnormal excitation of the centers controlling certain of the stomach functions. I am impressed with the fact that many who owe their sufferings to their mental habits are not to be classed as hypochondriacs, hysterics, neurasthenics, or psychasthenics. They present slight exaggerations of universal tendencies.

In the last analysis the diagnosis of very many of the functional disturbances of the stomach depends upon the results gained by purely psychic treatment. This is often a necessary means in determining that functional troubles in this organ have no organic cause. We have always tended to disregard the rational prosecution of psychotherapy, placing our reliance on physical measures. The physical measures, sedative drugs, quieting or stimulating environment and the like may, it is true, have their place; they may be distinctly indicated to bridge over a critical period of depression or excitement. On the other hand they unquestionably have a distinct psychic value as is evidenced by the marvellous effect of inert medicines and therapeutic procedures. The individuals afflicted with these abnormalities of mental habits need more lasting and satisfying aid; in failing to appreciate these needs we drive men into the acceptance of all sorts of vagaries and creeds. The training of these individual minds is not to be delegated to those who cannot grasp the entire situation; it is distinctly the province of the medical man who is permitted the most intimate view of the entire life. Nor are we to shirk the greater duty, the permanent betterment of rational living and thinking, by adopting the methods of those who are carried away with the power of suggestion and auto-suggestion. This palliative form of psychotherapy should be reserved for those distinctly in need of its temporary benefit.

In the course of recent years the functions of the normal and abnormal stomach have been studied with intense interest; in the engendered enthusiasm over the refined distinctions between conditions there found, it is very possible that we have tended to think too much of the stomach as an organ apart from the body as a whole. At times we have taken ourselves and certain of our new attainments with a greater seriousness than the results have justified. While we have greatly bettered our knowledge of existing conditions and their means of discovery we have not as yet added largely to the knowledge as to the factors which produce these conditions. Of no class of conditions may this be more truly said than of the functional disturbances of the stomach. We cannot hope to better results until we habituate ourselves to looking back of existing conditions. Method and classification are serviceable in reaching conclusions. In this survey of the gastric neuroses, necessarily only suggestive in its nature, there has been an attempt at formulation of those conceptions which are more or less generally held. I am firmly of the opinion that in one of these three factors we have the explanation of every gastric neurosis. By following the lines of this casual classification for the desired explanation, I am convinced that accurate conclusions are apt to be reached and that the results gained by the logical prosecution of the suggested lines of therapy, are more satisfying, complete, and enduring.

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DIAGNOSIS AND TREATMENT OF GASTRIC ULCER.*

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ABOUT ten years ago I was called to see a physician of thirty-five years of age who had a profuse hematemesis—fully a quart of blood having been vomited. He had had hematemesis once before—about two years previous. He had been under most excellent medical supervision and was himself one of the best informed and most competent of physicians. He had a history of pain coming on after eating, of vomiting, of hyperchlorhydria almost constant—stomach contents, whenever removed, and vomitus, whenever secured, showing the presence of HCl and after test meals always in excess. He had tenderness in epigastrium, quite general, but most pronounced and exquisite just to the right of the median line in the xiphisternal notch, distinctly localized in an area about the size of a silver dollar.

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He was put to bed and kept at rest under appropriate treatment, but the gastric pain and tenderness persisted and in four or five days he had another profuse hemorrhage. I called Dr. Charles G. Stockton to see him in consultation and we both felt, that considering the seriousness of these two hemorrhages, following so closely upon each other, that, as soon as he should rally from the loss of blood, an operation should be resorted to and the bleeding point discovered and obliterated. There was no question as to the diagnosis—all the typical symptoms of gastric ulcer were present—a history of persistent hyperchlorhydria, pain, localized tenderness, vomiting hematemesis, followed by appearance of blood in stool.

Operation was performed by Dr. Roswell Park. After opening the abdomen and bringing the stomach into view, there was no abnormality to be discovered on the anterior surface, the stomach was not adherent to any of the other viscera; it was not displaced or enlarged. An incision was made in the anterior wall of the stomach, near the pyloric end. The whole mucous surface of the stomach was brought into view, one portion after another. No ulcer was found anywhere. The stomach wall was exceedingly thin, the mucous membrance was everywhere intensely congested and bled most easily upon being touched anywhere. The internal surface of the duodenum was not investigated. The wounds were closed. The patient recovered from his operation and still had to be treated dietetically and medicinally until he disappeared from view some five years later.

Since that occurrence I have been much less positive of a diagnosis of gastric ulcer and have advised or consented to operation only when there was evidence of perforation or uncontrollable vomiting threatening life.

In the study of cases of gastric ulcer, it has been my experionce that there is always an unstable nervous system present, showing itself in one or more directions—headache, neuralgias of one part of the body or another, feeling of nervousness, hysteria, disturbance of the menstrual functions, and frequently at the bottom of the disturbance of the nervous system, I have found eyestrain through refractive error. However, in almost every case there has also been present a disturbance of the lower bowel showing itself either as a constipation or a chronic diarrhea, frequently of the mucous colitis type, or a combination of two or more of these conditions, or a chronic appendicitis.

To make a diagnosis of hyperchlorhydria or of gastric hyperesthesia, with or without hyperchlorhydria, is easy from symptoms and analysis of gastric contents. To make a diagnosis of gastric ulcer is by no means an easy matter. Hyperchlorhydria is almost invariably present, though occasionally it is not. Personally, I have never seen hypochlorhydria in the so-called peptic or round ulcer of the stomach.

The symptoms indicative of ulcer are pain in epigastrium, induced or increased by the taking of food, especially food of a coarse fibred character. This pain is described as burning, or boring, or gnawing in character and is frequently felt also in the back, in the lower portion of the right interscapular region and sometimes in the left interscapular region. This is often accompanied by eructations of an acid character. The pain is often spasmodic in character and in those cases in which it is accompanied by vomiting, is often of a distinctly colicky nature.

Sometimes the ingestion of milk, or milk and egg, or milk-foods is followed by relief of pain for a brief period. The vomitus should be carefully studied in its general character, macroscopic and microscopic, and should be especially investigated as to the presence of blood, demonstrable as such or as occult blood. By physical examination, there is to be demonstrated tenderness in the epigastrium generally but especially marked in a small area in the median line and a little to the right of it just below the ensiform. This area of greatest tenderness is usually not greater in diameter than a silver dollar or even half-dollar. In about half the cases the area of hepatic dulness is more or less increased. By careful palpation, in the large majority of cases we are usually able to find another area of tenderness —not so exquisite as the epigastric—and often resistance, either over the cecum or the sigmoid flexure or, less frequently, the hepatic flexure of the colon.

The careful frequent study of the stools will demonstrate occult blood more or less persistently present.

With these symptoms and physical signs present, we are justified in our diagnosis of gastric ulcer, especially if the blood count shows a tendency to anemia; though occasionally, as in the case related at the beginning of this paper, we may be mistaken.

As to the treatment of gastric ulcer, the subject is necessarily divided into two distinct parts: first, the treatment of the hemorrhage, when that occurs profusely and tends to recur, and second the treatment of the patient with the object of curing the ulcer. The treatment of the complicating perforation and concomitant peritonitis is surgical and will not be touched on here.

As to the hemorrhage, the first and most important thing is rest, physical and mental for the patient and functional for the stomach. The first and second are best procured by putting the patient to bed and promptly administering a hypodermic injection of morphin and atrophin in full dose. The atropin is fully as important as the morphin, as it tends to overcome the effect which morphin sometimes has of increasing the flow of gastric juice.

The functional rest of the stomach is usually best secured by the withholding of all food and by the general measures mentioned.

Often this is all that is necessary to control

the hemorrhage. At the same time, I have recourse to a measure that is generally employed though I am not convinced of its utility; namely, the continuous application of cold to the epigastrium by means of the ice water coil.

If, however, the hemorrhage persists, as shown by continually recurring hematemesis, pallor and weakening of pulse and blood in the stool, the use of the 1-1000 adrenalin chlorid solution—1 cc. in distilled water 30 cc.—followed in almost a half-hour by 50 cc. or 100 cc. of a ten per cent. solution of sterile gelatin usually will stop the hemorrhage. I have had some good results by the use of subgallate of bismuth suspended either in the gelatin solution or, in cases where the hyperchlorhydria is very pronounced, suspended in milk of magnesia.

Excepting in the case referred to in the beginning, I have never had recourse to surgery to control hematemesis in cases of gastric ulcer.

In most cases, food should be withheld from the stomach for forty-eight or seventy-two hours. There can, however, be no general rule laid down. In cases where the hyperchlorhydria is marked, we sometimes have to have recourse to immediate feeding of small quantities of milk diluted with vichy or mixed with milk of magnesia or lime water. In some cases the ingestion of ice-water in teaspoonful doses or the sucking of small pieces of ice give relief.

The patient should not even be fed by rectum for the first twenty-four hours as the introduction of nutrient enemata, it has been demonstrated, is followed by increased flow of gastric juice. Small amounts of normal salt solution should be the first enemata and after twelve hours peptonized milk and egg may be used. Enemata should be given not oftener than once in six or eight hours, though a small amount of salt solution—100 or 200 cc. may be introduced into the intestines in the intervals between nutrient enemata.

As to the treatment of the patient to cure the ulcer, the thing that I think most important is the determination of the morbid condition which is producing the disturbance of nervous system which, for want of a better name, is called a neurosis.

This means the very careful study of the patient's eyes, ears, nose, throat, lower intestinal tract, especially cecum or rectum, gall-bladder and, in cases of women, the pelvic organs; also a careful study of the urine and of the position of the kidneys—one or both of which may be displayed. Any abnormality in any of these places should be corrected, surgically if necessary. We seldom find any disease of heart or lung associated with gastric ulcer, though very commonly there is palpitation and often a so-called functional murmur is present.

All in all the two commonest disturbances of the nervous system, in relation to gastric ulcer, are ametropia of some sort and colonic toxemia. They are commonly both present. Therefore, the treatment of the patient would be the proper correction of any eye-strain and the careful washing of bowels and the institution of such other hygienic measures as may be indicated in the given case—rest, graduated exercises, massage, hydrotherapy, fresh air, etc.

The careful selection of the diet, the mode of eating, etc., are of great importance, and last, the direct medication of the stomach.

As regards diet, each case has to be studied for itself and still there are certain general rules applicable to all. We exclude from the diet all coarse fibred vegetables, all coarse cereals, all highly seasoned foods, all made up dishes, hashes, etc., all salted and preserved meats and fish, and, usually, all soups made from meat stock. As regards beverages, we exclude beers, ales, wines and liquors of all sorts, strong tea and strong coffee. As regards fruits, raw and cooked, we experiment. In some cases they go very well; in others they apparently do not agree at all. Preserved fruits and pickles are best excluded. We strongly recommend the drinking of a pint of pure water or slightly alkaline water or moderately carbonated water with each meal as it dilutes and partially neutralizes the highly acid gastric juice. Gruels and milk soups and other foods cooked with milk are useful. Malted milk, the so-called cereal coffee, cocoa not too sweet, are useful beverages. White flour bread, eaten with unsalted butter, is the best form of bread for them. Meat, in the form of beef, mutton, chicken or other fowl, should be eaten once daily. Egg eaten with little or no salt, should be taken once a day. Fresh fish is a very valuable food for these cases. Rice, sago, tapioca, samp and other fine cereals eaten with plenty of cream, no salt and little sugar, are valuable, as is also macaroni, cooked with milk. Potato, baked and mashed with a fork or boiled and creamed or mashed, is to be recommended. Milk is the most valuable article of diet, but is best administered diluted with an alkaline water, such as vichy, or as a thin milk porridge, as in this way the curd is much smaller and less tough and so, probably, less irritating to the ulcerated surface. At three to four hours after each meal, the patient should drink a half pint of such diluted milk or milk porridge, taking pains to sip the milk and taking it at a moderate temperature, never very cold nor very hot.

The patient should take three moderate meals a day, taking pains never to overload the stomach at any one time and not to take a great variety of food at any one meal, to eat slowly and chew thoroughly, never washing down half-chewed food with drink.

Rest before and after eating and the avoidance at meals of all business or irritating topics of conversation, should be an invariable rule.

So far as medication directed to the cure of the ulcer is concerned, orthoform, in I gm. dose or larger, given suspended in mucilage or in milk of magnesia, an hour or half-hour before

each meal, is our most valuable agent. I have found useful, in calming the irritation of the stomach and in preventing the formation of gases which cause pain by distension, the following combination given after meals:

Strontii Bromidi.	0.30 Gm.
Sodii Bicarb.	2.00 Gm.
Pulv. Carb. ligni.	1.00 Gm.
Bismuthii Subcarb.	1.00 Gm.
Lactis Magnesiæ or mucilag Acacia..	8.00 c.c.

If at any time between meals there is pain or burning in the stomach due to the hyperchlorhydia, there is nothing better than Stockton's gastric sedative which is composed of cerium oxalate 1 part, bismuth subcarbonate 2 parts, and light carbonate of magnesia 4 parts: of this a teaspoonful stirred in water may be administered at any time and repeated until relief is obtained: milk of magnesia will sometimes do as well. Cases of gastric ulcer should be kept under observation for a long time and treatment should be continued for a long time, careful examination of gastric contents after test meals and of stool should be made from time to time before the case is dismissed.

I do not wish to leave the subject before reiterating the statement made earlier, that in all cases we must look for and correct the source of disturbance of the nervous system which is so large a factor in the etiology, and that this is most commonly to be found in eye-strain or in disturbance of the digestive tract further down or in both.

GUMMA OF THE LIVER AS A SURGICAL DISEASE.*

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INSTEAD of attempting to cover the broad subject of the surgery of the liver and gall-bladder, which has been done so ably by surgeons with more extensive experience, I shall ask to be allowed to bring up for discussion one of the problems that has bothered us at the Carney Hospital within the last few years. By this I mean whether, and under what conditions, syphilis of the liver may be considered as a surgical disease.

Though syphilitic disease of the liver is not ordinarily classed as surgical, yet fully 2 per cent. of our operative cases on the liver and its bile passages has been of this class. In addition, a number of cases have been seen that have yielded to internal treatment alone. The fact that the symptoms vary so widely and mimic so closely the commoner diseases of the liver lends interest to our diagnosis and prognosis and often demands considerable judgment as to the question of immediate operation. All writers are agreed that certain cases cannot be accurately diagnosticated without exploration, while certain of these require microscopical examination by way of confirmation.

All surgeons, and certainly all syphilographers, recognize and successfully treat a certain proportion without operation. In our experience it may be stated roughly that the non-operated cases show a marked specific history as the important factor, whereas in the operated cases, although the history may be recognized and considered, as a leading factor it does not compare with the subjective and objective signs. In other words, in the patients upon whom we have operated, I doubt if we would have been deterred from interfering had we known in all cases—as was not the fact—that the patient had, at some time, contracted syphilis. The dominating symptoms always indicated some lesion which demanded surgical exploration, at least on the score of safety to the patient.

Most of the cases of operation for gumma are reported in theses like that of Humbert or in individual case-reports like this, while very little is found in the current text-books.

Some of the foreign writers do not countenance operation under any circumstances. This is too narrow a view for a number of reasons. There may be autoinfection of a gumma with abscess formation; the disability from adhesions which are quite commonly found may require surgical interference, and the differential diagnosis in certain instances may be so difficult that the risk from exploration is far less than the risk of overlooking and maltreating a lesion which is truly surgical from the outset.

The lesion that concerns us here is essentially the gummatous type as seen in adults. The tumors may be multiple or single, isolated (and even pedunculated) or diffuse with involvement of the connective tissue in varying degrees. The gummatous type as such is more common than the interstitial and is more prone to awaken surgical symptoms than the latter. In either type fatty degeneration or scar formation may take place. The gumma varies in size from that of a pin head to that of an egg or even larger. It may become cheesy or calcified and is liable to become infected. Deep scars may be seen as the result of absorption of the degenerated tumors and in consequence of these contractions, in certain localities, we find pedunculated tumors.

Combinations in varying degrees of the gummatous and interstitial types may be seen in the same organ. In contrast with the adult acquired type, the hereditary form is to a great extent interstitial.

Considering that the liver is very frequently affected in acquired syphilis it is fortunate that only a small percentage ever develops symptoms referable to the hepatic lesion, which, indeed, is generally recognized at autopsy only.

When the peritoneum is involved we must expect the signs and symptoms referable to such a

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lesion. That is pain, tenderness, spasm, limitation in the respiratory excursion of the liver or of the diaphragm, soreness in certain positions of the body, etc. If the organ is not hampered in its functions the patient's health will not be materially disturbed. But, on the other hand, we may find rapid loss of weight and strength, jaundice, fever, marked ascites and other evidences of a grave infection. The presence of ascites due to pressure on the portal vessels is said to be always present by some writers and we have found it so even in patients with the isolated type of gumma. Jaundice from a similar compression of the bile passages is, fortunately, not common nor severe.

If the tumors become infected and rupture into the abdominal cavity it is easy to see that we may encounter severe or even fatal symptoms. Gummatous tumors are said to be rather more common in the region of the suspensory ligaments, on the dome and along the edges of the large lobes, but they may form deep within the lobes, irregularly scattered throughout or grouped in one or several lobes. On palpation they present as hard, irregular nodules, the larger ones perhaps softened and tender; or they may occasionally form the puzzling pedunculated tumors that are mistaken for growths in the intestine, kidney, etc. The roughened edge of the larger lobes secondary to the cicatricial fissures and puckerings, together with the irregular indurated nodules of the dome may easily lead to a diagnosis of malignant disease.

The symptoms referable to gumma of the liver may be entirely wanting or they may be acute, sudden, and threatening life. In the milder forms, especially as we have found in the unoperated cases, the patients complain mainly of fullness and heaviness in the upper abdomen with dyspeptic symptoms, and they seek advice only when they themselves discover a tumor. As in other specific lesions the pain is apt to be nocturnal. If, as is so commonly found, there is a secondary peritonitis the pain and tenderness may be an important symptom and as the liver and diaphragm are handicapped in their excursions some patients are quite unable to lie down, to breathe deeply or to make any exertion without an aggravation of their symptoms. Loss of weight and strength may be so marked and so rapid in its onset that malignancy is the natural explanation of the trouble. An irregular and capricious appetite may be followed by dyspepsia, nausea, vomiting and starvation.

Some writers lay stress on diarrhea as an accompaniment, especially in the later stages, but we have not seen this in our operated cases. On the contrary, constipation has been a prominent symptom in every case, in one instance being so marked that intestinal obstruction was the logical diagnosis. To find ascitic fluid in an abdomen is strong evidence of malignancy, but in cases of hepatic syphilis we may find large amounts of fluid which, according to Humbert and others, reaccumulates very rapidly after aspiration. The importance of recognizing fever as an accompaniment has been emphasized by Mannaberg, Riedel, Musser and others. Its resemblance to intermittent fever is quite striking.

In making a differential diagnosis we must consider the cirrhoses, abdominal tuberculosis, malignancy, gall-stones and cholecystitis, gastro intestinal lesions and the functional dyspepsias. It would seem that cancer might be excluded, from the fact that it is almost never primary in the liver and that there should be some clinical or chemical evidences of disease in the organ of origin. Unfortunately, the gastric and intestinal disturbances that accompany hepatic syphilis are so often predominant and so suggestive of organic lesions in these viscera that our attention is unduly attracted to them. Most stress must be placed on the history and external evidences of syphilis, but it is occasionally impossible to obtain these or they are doubtful at best. Moreover, given a definite specific history, the possibility of malignancy, pyogenic infection, etc., cannot always be eliminated. The therapeutic test is of considerable value, but it must not be depended upon at the expense of delayed surgical intervention in a non-syphilitic patient.

A brief analysis of our own cases shows some interesting points. One man came with a tender epigastric tumor, spasm, pain, vomiting and fever that were quite characteristic of a cholecystitis. A broken-down gumma on the under surface of the left lobe, together with fresh lymph and adherent intestines, proved the source of his symptoms. The gall-bladder was thin and without stones. Another patient came, complaining of nausea for five or six weeks. Previous to this and about twice a week following the onset of his nausea, he complained of sudden sharp pain in the hypochondrium that strongly suggested biliary colic. As he had had slight jaundice after several attacks and was losing weight the diagnosis was that of gall-stones. Instead we found no gall-stones but several gummata in the right lobe, one of which was necrotic and drained. A middle-aged woman had had severe attacks of vomiting with tenderness in the gall-bladder region both four years and two weeks before we saw her. There was no history of jaundice but one of indigestion and constipation. She had vomited retained food and was under the treatment of one of our leading specialists in stomach diseases. She had lost weight. The acute attacks of pain generally came on at once after eating and were relieved by vomiting, but through it all there was constant radiating distress in the gall-bladder region. Syphilis was not suspected and a careful examination later failed to show any external scars or lesions. There was tenderness in the hypochondrium characteristic of gall-stones. Exploration failed to show any gall-stones but an enlarged right lobe, a left lobe contracted to the size of a peach, while in the right dome were adhesions in the neighborhood of

numerous gummata. A specimen was taken for diagnosis and under specific treatment the patient has gained 30 pounds and is well and strong.

A middle-aged man came to us suffering from constipation that practically amounted to obstruction. He would be incapacitated for work by right-sided pain, lasting for a week at a time. Though there was no vomiting there was always a slight elevation of temperature during the attacks. There would also be abdominal soreness; he had lost 20 pounds in weight, and had severe backache that was very troublesome during his attacks of constipation; this suggested the pain that comes with tugging on the mesentery. Operation was done for chronic intestinal obstruction, but all that was found were adhesions between the left lobe and the parietes, and numerous large and small gummata on the dome of this lobe, one of which was removed for diagnosis. Neither gall-stones nor anything pathological in the intestines was found.

An elderly widow, in whom syphilis was never suspected, came complaining of pain in the right side that had been continuous for two weeks, a loss of about 20 pounds in weight, and constipation alternating with diarrhea. Over the cecum was a tender, nodular, movable tumor that corresponded in its feel and outline with a cancer of the cecum, for which we operated. Instead we found a typical Riedel's lobe with two isolated gummata at its tip, of the size of small eggs. These were excised. Elsewhere no tumors could be felt. There were no gall-stones. Under specific treatment she is well.

NON-PARASITIC CYSTS OF THE LIVER.*

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MODERN abdominal surgery done by competent surgeons and under proper conditions is associated with very slight mortality save in cases associated with unusual anatomical conditions or those of an obscure nature from a diagnostic standpoint.

Two factors are chiefly potential in producing a higher operative mortality than normal, namely, exploratory incisions and mistaken diagnoses. The surgeon, however skillful technically, who makes a large proportion of false diagnoses, who resorts frequently to exploratory incisions, or is content to "make the diagnosis on the table," always has a relatively high operative mortality. The best surgical training affords no satisfactory remedy for the unexpected in surgery. With an established diagnosis before operation every technical detail of the operation has been deliberately considered and a definite plan adopted. If, for any cause, the primary incision reveals, instead of the distended gall-bladder previously diagnosticated, an infected congenital cystic kidney, continuity in operation is destroyed. The plan and character of the operation must be either abandoned for the time, or hasty further preparations are undertaken, the patient meanwhile remaining under the anesthetic. Such operations are frequently associated with defective technic, post-operative hemorrhage and sepsis. If the surgeon is confronted by a series of pathological conditions, previously unsuspected by him, he is compelled at once either to establish an original operative procedure, based upon the general principles of surgical anatomy and physiology, or to operate aimlessly until hemorrhage or some other accident compels the hasty closure of the wound over incompleted surgery. There remains a single other alternative, that is, to temporarily abandon the operation without doing too much structural damage, through curiosity. In a minor degree these adverse conditions are associated with all other exploratory operations.

Great progress in perfecting diagnostic methods in abdominal disease has been made in the last decade. The routine examination of the stomach contents, and of the stools, the improved physical and chemical methods of examining the entire urinary tract, the employment of inflation of the stomach and intestines, the use of bismuth and other drugs, and the employment of Roetgen-ray transillumination and gastroscopy in connection with the resources of the laboratory for pathological chemistry, have all contributed much to precision in diagnosis and in life-saving surgery.

The unexpected pathology found within the abdomen is usually associated with the rarer and less understood forms of disease, such as sigmoiditis and perisigmoiditis, a horseshoe kidney dislocated into the pelvis, a pelvic spleen adherent in cul de sac of Douglas, cysts of the mesentery, spleen, kidneys, liver and pancreas, aneurisms of the hepatic renal and splenic artery, retroperitoneal tumors and cysts of the urachus.

A group of cases of tumors found in upper abdominal region are illustrative of the diagnostic difficulties of that region, especially the diagnosis of benign tumors and cysts of the liver.

CASE I.—Compound cystic degeneration of the liver and kidneys, ascites, exploratory incision, aspiration drainage, temporary improvement. Abstract of history.

While operating in a hospital in a neighboring city, August 28, 1901, a member of the staff asked me to see a patient in the general ward after my private operation was completed. Patrick G., aged 34, married, native of Ireland, and a bricklayer by occupation, had been in the hospital four months and treated for cirrhosis of the liver with ascites, together with diminished kidney secretion—less than 500 C.C. daily—and difficult breathing.

The previous health history was practically negative. He was greatly exposed to the weathers and attributed his condition to exposure to cold. Drank spirits occasionally to excess—about three times a year. No daily habit. No venereal history. Probably had typhus fever as a child. About two years ago began to feel

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bad in his right side, a sensation of dull pain. He was told by a physician that his liver was large. Later he left his physician for a long time, taking patent medicines, known as liver and kidney cures. Finally, five months ago he was compelled to stop work entirely because of increased pain, abdominal enlargement, digestive disturbances and weakness. On admission to the hospital the following notes were entered; Patient tall, thin, pale; weight, 168 pounds; vomiting, with scanty urine, specific gravity, 1015, acid, no sugar, albumin, moderate amount; few casts and blood cells, pulse 88, temperature normal, lungs normal. Heart apex beat below and to left of the nipple, sounds high-pitched and irregular. Liver dullness increased in every direction. The border of the liver is easily palpated below the costal margin, is rounded and irregularly nodular, epigastric region very tender, slight ascites with slight edema of the legs.

The staff wanted a Talmas operation done. At this time the patient's condition was most serious, the abdomen so distended that palpation was useless. There was a slight tinge of jaundice and edema of the limbs and abdominal wall. The patient had great hopes of relief through operation and wished every chance. After explaining the dangers to him I consented to make a short exploratory incision to relieve the great distention at least. After a little stimulation the usual preparations were made on the operating table. Under local anesthesia, a ten c.m. vertical incision was made through the right rectus muscle and a large glass drainage tube introduced. About ten liters of straw-colored ascitic fluid was removed by placing the patient in a Trendelenburg posture. At this time the enormously enlarged liver was easily seen, and covering the convexities of both lobes were several apparently cystic tumors ranging from a pigeon to a goose egg in size. A sensation of diffuse fluctuation was determined in the right lobe of the liver and an aspirating needle introduced. Three liters of light brown mucus fluid was withdrawn from this sac alone; it was evidently multilocular and its walls rather thick. Some of the smaller cysts were aspirated. Adhesions were already general; the gall bladder and bile ducts were not accessible without a general anesthetic. A gauze wick drain was placed over the points of puncture and the wound partly sutured. The patient was in profound shock when placed in bed. Under active stimulation he finally rallied. He was relieved of many of his distressing symptoms, pain, airhunger and vomiting.

The ascites remained in abeyance for some weeks. The liver cysts were tapped through the primary incision twice subsequently. After the last tapping a general infection intervened with urinary suppression and death.

A partial autopsy was secured with great difficulty; liver greatly enlarged, adherent to diaphragm, weighed 14 pounds, surface roughly irregular, apparently cirrhatic near cysts. Two-thirds of the volume of the liver was cystic, the large compound cyst involved both lobes and was filled with an offensive decomposing fluid. The gall-bladder was empty; gall-ducts of normal size and freely pervious. Both kidneys were deeply congested and easily double the size of normal ones; both were filled with cysts arising from the cortex. There was little normal kidney substance left.

Owing to delays through the express and a late autopsy, the specimens reached the laboratory in so bad a condition that no satisfactory examination could be made.

CASE II.—Multilocular cyst of the liver. Operation; aspiration of cyst contents; fixation of liver and sac walls to the anterior abdominal wall; drainage; recovery after several months. An abstract of the history is as follows:

Eliza D.; age 67; married; born in Ireland; and housewife by occupation; entered the Albany Hospital April 3, 1907, on account of a painful enlargement presenting in the epigastric region. Her family history was negative. Her previous health had always been good. First menstruation at fifteen. Always regular; without pain. Menopause at 52. Was the mother of five children, all living and well.

The present illness first showed itself rather more than a year ago when the patient began to suffer distress in the region of the stomach associated with pain under the right shoulder blade. At this time slight jaundice presented. Under treatment, the severity of the symptoms gradually subsided and she was in a fair condition of health until some two months ago when she herself discovered a considerable tumor in the epigastric region and began to suffer again from pains chiefly in the right breast, under the right shoulder blade, and a sensation of dragging in the right upper quadrant of the abdomen.

Physical Examination.—There were no special sensory disorders. An examination of the chest revealed no abnormal condition. The epigastric region was unusually prominent, the ensiform cartilage projecting forward and downward. On palpation, a mass, irregular in outline and apparently fixed in its position, was determined in the epigastric region projecting up under the border of the ribs and apparently continuous with the liver on the right side. Percussion showed that the liver dullness was some what greater than normal in width and that it was continuous with this tumor. The stomach was dislocated to the left and downward. There were no signs to be attributed to any disorder of the gall-bladder or biliary ducts, although the diagnosis presented by the physician, who sent her to the hospital, was that of a distended gall-bladder, and he states that the tumor which was present a little more than a year ago entirely disappeared at that time.

In view of the obscurity of the symptoms no very definite diagnosis was made in this case The sensation of fluctuation could not be definitely determined nor could any movement with deep inspiration be established. Several diagnoses were suggested, including that of a tumor of the liver, pancreatic cyst, or a solid tumor associated with the posterior wall of the stomach.

An exploration was advised and the operation performed April 5, 1907. A vertical incision over the tumor, 3 c.m. to the right of the median line, was made, opening the peritoneal cavity. Exploration showed that the mass consisted of a large growth directly continuous with the liver. This growth seemed to have its origin from the under surface in the neighborhood of the fissure between the right and left lobes. No definite cyst wall presented itself but the surface over the tumor presented liver tissue, apparently in a condition of interstitial inflammation. An aspirating needle was introduced into the cavity of the cyst and six thousand five hundred cubic centimeters of a clear, viscid, glycerin-like fluid withdrawn. This permitted the tumor to collapse to a considerable extent and the anterior surface of it and the peritoneum were united by a series of sutures, excluding the general peritoneal cavity from the field. When this procedure had been accomplished an incision was made permitting the introduction of the finger well within the cavity of the cyst, the walls of which were smooth and glistening. It was found that a large exploring sound could be introduced through this opening in both directions for a considerable distance and that a large portion of the right lobe of the liver was also involved in the sac wall. After further evacuation and the removal of a small portion of tissue for examination, a large glass drain was introduced and the operation completed.

For some days subsequent to the operation the patient seemed quite ill and exhausted. However, after three weeks the cavity of the cyst had very considerably shrunk, was in a healthful condition, but continued to drain the same character of fluid. Her stay in the hospital extended over a period of about four weeks and she returned home in a reasonably satisfactory condition, but with the continuation of the

drainage. A subsequent report from her physician states that the sac gradually closed until after about four months no sinus remained.

The fluid removed in this case, amounting in all to rather more than an English gallon, was examined by Dr. H. O. Jackson, Director of the Physiological Laboratory, and found to consist of pure mucin without biliary elements.

An examination of a portion of the sac wall showed it to be made up of a layer of liver tissue, a layer of negative tissue and lined by epithelium of a columnar type. The submucous layer of the cyst wall contained many embryonal biliary tubules.

A microscopical examination of the fluid contained in the cyst showed absolutely no signs of *hydatids*.

Case III.—Non-parasitic cyst of the liver. Invasion before acute infection. Local peritonitis, distinctly simulating a colongitis with distention. Operation: Seat of operation and right lobe of liver explored. Recovery. Abstract of history:

Amille L.; age 38; married; born in Italy, and a housewife by occupation; entered my service in the Albany Hospital July 22, 1905, on account of an acute inflammatory process in the right side of the abdomen.

The patient spoke very little English, and I was unable to secure a very definite history of her condition. There were symptoms associated with this region of some considerable duration—two years or more. These symptoms consisted of pain, localized soreness at times, attacks of vomiting and slight fever. Some two weeks prior to her admission to the hospital she was taken more seriously ill with higher temperature, increased pulse rate, pain and vomiting with abdominal distention. Her physician at this time made a physical examination and was able to establish in the right side of her abdomen an elongated tumor rather larger than an adult fist, tender, and apparently an inflamed and enlarged gall bladder.

An examination after her admission revealed no abnormal features associated with her chest or abdomen, except that beginning at the border of the ninth or tenth rib, and extending directly downward partly under the rectus muscle and partly to the outer side of it was a distinct tumor somewhat globular in shape, very tender to the touch and not very movable. With the defective history which we could obtain, the site of the tumor and the presence of a local peritonitis, a diagnosis of distention of the gall bladder with probable gall stones was made.

At the operation, undertaken the following day, through the usual Kehr incision, it was found that the gall bladder was entirely normal, partly filled with bile, but contained within it no signs of concretion or of inflammation. On the other hand, the tumor, which we had been able to palpate prior to the operation, consisted of an elongated right lobe of the liver having a cyst within its substance. This cyst was inflamed, was adherent to the mesentery and omentum and peritoneum in every direction. With care, it was enucleated from its bed together with a portion of the elongated right lobe of the liver. In view of the foreign birth of the patient, it was considered at the time of the operation that we had to do with a condition of hydatids of the liver, and every precaution was taken to prevent the contamination of any of the abdominal cavity by any of the fluid of the cyst, therefore, the entire seat of the operation on the liver was extirpated, partly by mass suture, partly by the use of the Paquelin cautery, and partly by direct ligature of the blood vessels. The hemorrhage presented no unusual difficulties in this case. Drainage was introduced down to the point of the liver where excision had been made and the abdomen closed. Rapid recovery followed the operation, the patient leaving the hospital some sixteen days afterwards and has been entirely well ever since.

The specimen measured fourteen by nine by seven (14x9x7) centimeters. Its external surface was reddish white in color with the exception of its border where it presented the ordinary appearance of liver. At several points there was nodular eminences covered by portions of omentum, which were adherent to the cyst wall. On section, the cyst walls measured from two to eight milimeters in thickness, being thicker near the pedicle. About 250 cubic centimeters of turbid pus-like fluid escaped. Portions of this fluid were carefully examined for morphological elements associated with the hydatids. There was no daughter cyst found in the walls of the growth.

An analysis of the illustrative cases shows first of all, that a clear diagnostic error was finally made in all of them. In the first case it was due very largely to the insufficient information furnished by the clinical history, a hasty physical examination taken together with a strong individual bias of the attending physician, a very competent diagnostician. Incision under local anesthesia is always preferable to puncture in all obscure collections of fluids within the abdomen. The temporary evacuation of the larger cysts relieved the urgent discomfort of the patient. A general terminal infection ended his life.

In our second case the symptoms were obscure. A previous acute illness pointed either to the gall-bladder or pancreas as the source of trouble. The physical signs were similar to those of a pancreatic cyst. The physicians were sure of a displaced gall-bladder with distention.

The writer has never seen a better clinical picture of acute cholecystitis with distention than was counterfeited by the infected cyst of the right lobe of the liver. Hofmann recently reported a number of cases of non-parasitic cysts of the liver found in German and French literature. Nearly all the reported cases were operated upon for other conditions, many of the early cases for ovariancyst (Cousins, Kaltenbach, Ahlfield) and in many other large hydronephroses was suspected. Langenbeck after a full discussion of the conditions concluded that the diagnosis can never be established as a more than probable one, however, it is the writers opinion that in the future the diagnosis will be more frequently made prior to operation because the condition will be better understood, becoming an element in differential diagnosis. Contrary to Hanot and Gilbert true cysts of the liver may exist at any age and in both sexes. There are several well known cases where congenital retention cysts of the liver have complicated pregnancy. Again patients over seventy have suffered from the condition. They occur, however, more frequently in the female.

Cystadenomas and so-called cystic degeneration are of identical origin, due to a typical development of aberrant biliary ducts and union of discreet cysts by continuity through pressure necrosis. The so-called retention cysts from gall-stone obstruction, not clearly established by clinical experience, may result from embryonal defects as in primary biliary tubes. There are no symptoms pathogmonic of liver cysts. Differential diagnoses through physical methods are seldom conclusive and when made can only be probable. No age is free; females more frequent; icturus

rare and usually represents complication. Cysts of the liver belong to the unexpected in surgery.

We can scarcely afford to enter this field farther than to say that personal analysis leads to the assumption of the adenomatous theory as affording a most satisfactory explanation. Still another group of cysts, ordinarily of small size, is situated just underneath the capsule of Glissen, lined by ciliary columnar epithelium. Ricklinghausen's opinion was that they were mucous retention cysts caused by obliterating inflammation of the terminal biliary ducts and the continued secretion of their mucous glands. Zahn who subsequently studied this condition says: "Normally ciliated columnar epithelium is not found in the liver." Therefore the embryonal theory of the origin of cysts lined by columnar ciliated epithelium is an attractive but unexplained solution of the problem. The early embryonal buddings from the primitive digestive tract with the involved infolds from the primary embryonal plates are not yet distinctly understood and can scarcely afford a conservative explanation of the presence of dermoids and ciliated columnar epithelium in the liver. Both these conditions, however, have been repeatedly demonstrated by competent pathologists. The most plausible explanation lies in a yet unexplained embryonal origin.

Leppman's classification of cysts of the liver is involved and not capable of satisfactory pathological demonstration.

True non-parasitic cysts of the liver are all from a clinical standpoint very difficult of classification. Pathologically many are congenital, as dermoids, mucus, and cysts lined with ciliated epithelium are of embryonal or primitive origin.

Cysts with epithelial lining which are from preexisting or newly developed biliary tubules either appear separately or are unilocular and situated near the surface of the liver. Dermoids occur.

General cystic degeneration, multiple discrete cysts varying from the size of a walnut to that of an orange are found distributed throughout the liver. Cystadenomata also are observed. Leppman's classification is rather involved. He gives:

I. Cysts due to biliary obstruction.

II. Cysts due to mucus retention—ciliary epithelial.

III. Cysts due to anomalies of development-dermoidæ (Ricklinghausen).

IV. Cysts due to adenoma of biliary ducts.

V. Cysts due to lymph channels.

(Hans Kehr: Von Bergmann's Handbuch der Praticschen Chirurgie.)

The etiologic relation is not satisfactorily explained despite the labored efforts of Michalowiz, Juhel, Renoy, Sabourin and Terburgh. It only reopens a very old controversy of the relations of inflammation and adenomata to subsequent cystic formation.

The prognosis of operable cysts of the liver is usually favorable, except in cases of miltiple discrete cysts, associated with cysts in the other organs—kidney, ovary, testicle and thyroid gland —general cystic adenomata of glands.

The most general surgical treatment consists of partial excisions of the liver, including all the cysts illustrated by Cases II and III, by partial excision of the cyst wall with fixation of the remaining cyst, by drainage using chlorid of zinc, by irrigation within the sac to produce obliteration, or by the use of other escharotics, general tamponade, or after exploratory incision in the presence of multiple monolocular cysts by separate aspiration of the larger cysts and the establishment of periphical adhesions, making subsequent aspirations safe from the standpoint of ultimate general peritoneal sepsis. However rare are hydatid cysts of the liver in the natives of our territory, yet it cannot be excluded without the most careful laboratory diagnosis. Tenia ecchynococcus has its rare habitat—the intestines of our domestic pets.

Naturally true cysts of the liver can be absolutely differentiated from the parasitic ones only after operation and laboratory study. This fact is of great importance in operative surgery. Every effort must be made to prevent infection from the cyst contents during the operation. Ecchynococcus cysts are very rare among native Americans—the writer having seen but a single example in over twenty years hospital and consultation practice.

Multiple cysts of the liver are frequently associated with cystic formations in other organs, most frequently the kidneys, ovaries, testicle and thyroid. Usually this form of disease is not amenable to surgical intervention.

EDEMA NEONATORUM AND SCHLEREMA NEONATORUM.

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BROOKLYN-NEW YORK.

ON June 5, 1905, I saw with Dr. Lindridge the dead body of a female infant who succumbed on the third day, with the following history: Born prematurely at the eighth month. At birth was much swollen all over its body. The skin of a waxy color, and shiny. The swelling did not pit, and the joints of the child were stiff. The temperature was subnormal, and inanition seemed to have been the immediate cause of its death. No autopsy was allowed. Since that time I have come to realize that the case was one of schlerema neonatorum.

The second case was an infant C., female, born November 7, 1906, at full term in private, weighing six pounds and eight ounces at birth.

Father healthy, a lawyer. Mother a primipara, aged thirty-two, healthy. The pergnancy was uneventful till the day of delivery. In the morning she noticed that she was bleeding. Labor came on in about an hour, bleeding continued,

becoming very profuse, a tender tumefaction of the uterus at the right side near the fundus appeared, and the patient complained of lancinating pain in that part of her abdomen. After three hours of labor the patient began to show the effects of the bleeding which had continued in spite of artificial rupture of the membranes, and the labor was terminated by an easy manual dilitation and delivery with the axistraction forceps. The placenta was found to have separated prematurely over an area of about one-third of its surface.

The child was born in a state of axphyxia livida, but responded to artificial respiration, mouth to mouth insufflation and the hot bath. It, however, remained very pale and anemic-looking. Otherwise for the first thirty-six hours it behaved quite normally—took its nourishment well, passed urine and meconium, and slept quietly. It did, however, show a slight facial paralysis on the right side from forceps pressure over the *pes ansarinus* and developed a moderate cephalic hematoma over the right parietal region. There was, however, no fracture of the calvarium.

At the end of forty-eight hours a profound change came over the infant. It refused nourishment, became intensely irritable, had a slight hemorrhage from its nose, vomited, and cried out with a feeble, sharp, quick "Yap." Physical examination at this time showed temperature 101° F. Respirations 50 and shallow, pulse 160. Facial expression pinched with spasms apparently of pain—the facial paralysis had disappeared. There were general muscular tremors. No infection of umbilicus. The feet showed distinct edema up to the middle of the legs, which pitted on pressure. There was no rigidy of the neck, or boring of the head. These conditions persisted. Frequent small urinations occurred which stained the cotton a dark red with a granular deposit. Examinations of the urine showed it acid, a very slight trace of albumen, and full of amorphous urates. Stools were frequent, green with mucus, and later curds. The edema spread up the legs, and onto the buttocks and half way up the back. The hands became edematous, and the face very much so, the eyes being completely closed. The color was a dirty livid gray, and the facies expressionless. The upper arms and the chest remained free from edema. The child became very weak, the restlessness and fine muscular tremor, which was general, continued for four days. The infant seemed to have a tremendous general cerebral irritation. On the fourth day the picture changed in that regard. The cry stopped entirely and the muscular tremor. The child lay quietly. The edema at this time was extreme, on the face, and hands and back. The respirations were shallow, almost imperceptable very irregular, with periods of cyanosis and death-like appearance. The pulse was imperceptable at the wrist. The stethoscope revealed the heart action at from 170 to 200, very feeble, irregular, and intermittent. The child looked dead and would have been pronounced dead but for this feeble flutter of the heart. A peculiar fetid odor was noticeable about the body, and at times sticky moisture was present on the nose. Slight hiccough was observed at times. The temperature ranged from 99 to 101.4 per rectum. Vomiting and regurgitation were frequent. The condition would improve for a time, and then another period of collapse supervene. The eyes became irritated and a serous discharge was present. These conditions persisted a day, and then the baby began to become sensitive to the efforts of the nurses in washing the eyes, and feeding, and other attentions. The pulse became a little stronger, and regular, the temperature about 101 steadily. Food was retained in small quantities. Bowel movements became better. The child slept for hours and then awoke and lay quietly, steadily gaining strength. These symptoms all being associated with a marked diminutution in the edema. It disappeared first in the feet and limbs, and then from hands, and last from face. The course of these events being fifteen days. On the eighth day the child was sufficiently recovered to nurse a few moments at the breast.

The treatment of the case consisted in wrapping the baby in cotton, and putting it in a clothes-basket, lined with cotton and blankets, and keeping a hot water bottle at each end of the basket with a bath thermometer beside it. The temperature was maintained at 90 degrees F. Feeding was by gavage—small quantities, from a dram increased to an ounce of milk, lime water and whey mixture every two hours. Brandy, two minims with saline, one-half ounce, was put in the bowel every two hours, later every three hours. Oxygen was administered during the collapsed attacks. The history then is one of hemorrhage from torn placental tufts, formation of cephalematoma, and an intracranial hemorrhage of considerable quantity after birth. The child has developed finely physically, but the brain remains in a state of palsy, with resulting microcephalis and idiocy.

My purpose in presenting these two histories is to bring up for your discussion these two rare conditions of the earliest days of life outside the uterus. Conditions which are still confused in many text-book descriptions because their pathology is so little understood, and yet differentiated by careful observers for some time.

The history is interesting. In 1718 Uzembezius described a case of what evidently was congenital schlerema. Later Underwood, Anvity, Chambon, Capuron, and Leger, Dennis, Billard, Bouchut, Coley, West, and Clemenowski all confounded the two conditions. It was Parrot, in Paris in 1877, who first pointed out that the two conditions were quite alike clinically,

but different pathologically. Later articles appeared in English in 1890 by Ballantyne; and in 1899 by far the most exhaustive articles was published by Soltman.

With our present knowledge of the pathology of these conditions it is quite impossible to give an accurate definition. Soltman defines the clinical picture of schlerema as a general vital sinking of body warmth, accompanied by a hardening of the skin, and its adjacent cellular and fatty tissue with or without infiltration of serum beneath the skin of the new born. Ballantyne defines edema neonatorum as a disease of the new born characterized by a serous infiltration of the skin and subcutaneous tissues. The etiology of each is probably the same. The trouble develops generally on the third or fourth day of life, rarely if ever after the eighth day, in premature infants, with weak cardiac action, or poor circulatory stamina from hemorrhage, or pulmonary atelectasis, or nephritis, or exposure to cold after birth, or in some cases without any recognizable causative factors. Soltman considers syphilis a causative factor. Dumas considers the condition similar to phlegmasia dolens, having found a thrombosis of the inferior vena cava in a fatal case. Ballantyne thinks the disease more frequent in the winter months. Koplik considers superfetation a cause. Umbilical infection is mentioned by numerous authors.

Morbid Anatomy.—The post-mortem examination of the internal organs do not differ much, if any, in the two conditions. There have been found atelectasis, pneumonia, general congestion of the abdominal viscera and the brain and its meninges, and thrombosis of the inferior vena cava. In the skin are found the chief differences in the pathology of the two conditions. In schlerema the skin of more or less of the whole body (generally of the whole body) is firm and tense, and cannot be pinched or pitted. Cut sections glisten not unlike the yellow appearance of normal fat, but of a consistence harder than usual. Ballantyne found on microscopic section increased connective tissue. Parrot considers the condition a drying of the skin, with consolidation of its layers—so called "arthripsical induration." Other observers have not found this, but believe the whole condition to be due to a greater amount of stearin than usual causing a harder and more bulky condition of the subcuticular fat due probably to the lowered body temperature. In edema, the skin, particularly of the legs and dependent portions, is of a bluish color, has a soft feeling, and pits readily. Sections of the skin and subcutaneous tissues, show a congested condition, and yellow watery serum exudes. Microscopic section shows the tissues opened out by the infiltration of serum, with a congestion of the capillaries suggestive of some dilitation of the capillaries from a vasomotor disturbance, or in other words a trophic vaso neurosis (Soltman).

The clinical picture of both conditions is much the same. The swelling begins on the legs, very rarely on the face or trunk, then spreads up on the back and involves the hands and arms. This condition is accompanied by drowsiness or active delirium, with a peculiar shrill cry, feeble circulation, weakened respiratory action, subnormal temperature, collapse, and the development of intercurrent affections or complications, as diarrhea, pulmonary disease, nephritis. While they possess these points in common, there are, however, distinctions. Schlerema is generally over the whole body, the skin is tense hard, waxy in color, does not pit, and is adherent to adjacent tissues. There is also a stiffness of the joints of the body, and it is always accompanied by subnormal temperature. Edema neonatorum does not have so hard a feeling, is livid grey in color, often has an odorous moisture on it, pits distinctly, is easily pinched up, and the swelling is greatest in dependent parts. There may be irregular fever.

As complications have been seen icterus, phlebitis, umbilicitis, erysipelas, phlegmon, pneumonia, gastro-enteritis and nephritis.

The prognosis of schlerema, if general, is absolutely bad, though a few cases not general have recovered. In edema the outlook is better, but always serious.

The treatment of both conditions is the same. The baby should be cottoned and kept warm in a basket. It should not be moved at all. Excretions should be gathered on absorbent cotton. Feeding should be by gavage, with expressed mothers milk, or whey mixtures of modified cows milk, or by simple 5 or 6 per cent. sugar solution. Rectal enemeta of saline solution, one half ounce, with brandy, two to five minims, every two to three hours, and oxygen for the periods of collapse, are indicated.

In concluding, it is my own belief from observation of these two cases, and from my review of the literature of the experience and opinions of others on this subject, that edema neonatorum is a vasomotor disturbance of central origin, and that schlerema is a trophic adipose disturbance, with profuse formation of stearin and lack of olein. Both are really symptomatic, rather than diseases in themselves. This latter case reported is merely symptomatic of the marked anemia of the child from a premature separation of the placenta, cephalematoma, and intracranial hemorrhage. Furthermore, these cases do recover, and demand every effort, even though the later results are as lamentable as in the case reported.

105 Greene Ave., Brooklyn, New York.

GRIP—THE EPIDEMIC IN PITTSBURG.*

By J. A. LICHTY, M.D.,

PITTSBURG, PA.

THE epidemic of influenza which prevailed in the city of Pittsburg, Pennsylvania, began at the end of the second week of December, and slowly subsided during January and February of this year. The epidemic was as widespread, though probably not quite so severe, as in the noted pandemic of 1889 and 1890. Whole families, including servants and all associated with the household were afflicted in rapid succession. The onset was sudden and severe. the usual symptoms of "pain all over" being most pronounced. The temperature did not go unusually high, nor did it seem to be in accord with the severity of the symptoms when the patient took to his bed.

In typical cases, where proper treatment was established promptly, the attack was unusually short, lasting from two to three or four days. When treatment was neglected the symptoms dragged through one or two weeks. With proper care very few cases had any complications, and most of them were up in a few days with the usual languor and stiffness.

Peculiar to this epidemic seemed to be the general complaint of sore throat. Upon examination the throat rarely showed any other evidence of an abnormal condition than a rather dark cyanotic blush which was most intense over the tonsils and faded out over the roof of the mouth. This was rarely associated with any swelling or edema. Another peculiarity which seemed to mark this epidemic was the frequency of involvement of that portion of the nasal cavity which is immediately between the eyes. The pain here was usually intense, and it seemed that many of the complications were due to the inflammation of this portion of the nasal mucous membrane.

The complications most frequently seen seemed to be due to an extension from the nasal cavity into the frontal sinus, into the ethmoidal cells, into the antrum and through the Eustachean tube into the middle ear.

Otitis media, and in neglected cases, mastoid diseases were not infrequent. Such complications as pneumonia, nephritis, and the gastro-intestinal disturbances were not markedly prevalent; especially is this true of the last.

The present epidemic is too recent to enable one to give an opinion upon the frequency or non-frequency of complications of the nervous system. As usual, chronic invalids, and such as were suffering from nephritis, diabetes, valvular heart disease, or certain pulmonary diseases very quickly fell victims and usually succumbed.

For a time, and early in the epidemic those physicians who were frequently exposed to the disease fell victims. Every evidence was present to show that the disease is highly contagious.

*Read before the Medical Society of the County of New York, January 31, 1908.

THE GRIP IN BALTIMORE.*

By C. HAMPSON JONES, M.D.,
Assistant Commissioner of Health,
BALTIMORE, MD.

THE Health Department has not officially obtained much definite information regarding the amount or the character of the grip pure and simple as it has existed in Baltimore. I, therefore, must give you only that which I have obtained in my own practice, and through conversation held with physicians of large practice and good powers of observation.

The grip this year has not been violent in the symptoms produced, but our death rate has been considerably increased by the complications or sequelæ of grip, principally pneumonia.

The first manifestations of the grip are headache, backache, limbache, with a slight elevation of temperature, seldom more than 102 degrees; catarrhal symptoms develop secondarily, and are not so prominent a feature as in former epidemics when the attack was usually ushered in "by cold in the head and coughing."

I have found that the secondary catarrhal or respiratory tract affections are characterized more by an irritating cough than by the amount of discharge; or in other words the cough is due more to irritation of the terminal nerves than to the accumulation of mucus. Some few cases manifest gastric disturbances prominently. So much so that in one case the gastric symptoms were almost all that the patient complained about.

These gastric symptoms consisted of vomiting which came on suddenly and unexpectedly several times during the day, which was amost like that of the vomiting of seasickness. The patient would feel perfectly well when nausea would suddenly develop, but be almost immediately relieved by vomiting. The patient felt well then until the next attack which would be a few hours later.

One particular case was in a patient who does not suffer with gastric disturbances as a rule, and who got well in three or four days after the first attack.

I find that patients can be partly relieved by proper treatment, but that the attack is seldom well over in less than two weeks.

I regret that I cannot give you exact statistics, but, unfortunately, these cases are not reported except in death certificates. I am very sure of the statement that the infection has been more extensive than at any period since 1895.

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THROAT AND SINUS COMPLICATIONS OF GRIP.*

By C. G. COAKLEY, M.D.,

NEW YORK.

IN the time allowed for the discussion of the throat and nose complications in the recent epidemic of grip, it will be possible only to give a very brief account of the more important affections. The pathological changes in the mucous membrane of the pharynx, larynx and trachea as seen in the examining mirror were not so severe, if measured by the intensity of the hyperemia and swelling, as those occurring in similar epidemics in former years. Notwithstanding this fact the inflammation and symptoms therefrom, have persisted much longer than the pathological changes would seem to have warranted. This can only be accounted for by the extreme bodily depression and lack of recuperative power that has been so noticeable in the present epidemic.

The most troublesome symptom in relation to the throat has been a spasmodic irritable cough, accompanied by only a small amount of glairy mucoid expectoration. In the pharynx there was the usual tendency to hypertrophy of the lymphoid tissue on the posterior wall behind the pillars of the fauces.

In the larynx the most marked change has been a hyperemia and some swelling of the inner ends of the aryepiglottic folds. The mucous membrane of the trachea has been but moderately inflamed, and in many cases the vocal cords were scarcely at all involved. In a few cases there have been an edema and hyperemia of one or both vocal cords, simulating the rupture of a small capillary and presenting almost the appearance of a hematoma. In such cases, of course, the voice has been impaired in direct proportion to the amount of involvement of the vocal cord.

The variability of the laryngeal condition has been very noticeable and always in direct proportion to the amount and severity of the cough. When the latter has been excessive these congested areas have been very noticeable, and when the paroxysms of the cough have been reduced to a minimum the congestion of the cord would in twenty-four hours nearly disappear. As a large part of the cough is the result of the excessive irritability of the nerve endings in the inflamed mucous membrane of the pharynx and larynx produced by the frequent trauma of paroxysms of cough, the most satisfactory treatment was found to be the administration of sedatives to reduce to a minimum the useless portion of the cough. Codein, morphin and heroin are the three most valuable drugs for this purpose; each has its objectionable features.

In some cases the cough is best controlled by one large dose administered in the morning on waking, while in other patients the cough is best controlled by small doses frequently repeated. Local applications to the inflamed mucous membrane, even when the patients have been thoroughly cocainized, has not proved of much benefit, and oftentimes on account of the bruising during the application, has done more harm than good. Inhalations of sprays containing menthol from 1 to 5 per cent. in an oily vehicle, have often given temporary relief, but require to be repeated every two or three hours.

The inflammation of the nasal mucous membrane has also been of moderate severity. The number of cases of involvement of the accessory sinuses as characterized by intense, so-called neuralgia, and accompanied by a muco-purulent nasal discharge, has also been less than in some other epidemics. I wish to emphasize the importance, however, of the general practitioner differentiating between true neuralgias and the so-called neuralgia accompanying diseases of the accessory sinuses. The pain from sinus disease is often mitigated or absent at night, returning in the morning soon after rising and lasting with varying intensity until the middle of the afternoon when it frequently disappears. The headache may be bilateral when the sinuses on each side of the head are involved, or unilateral when the sinuses on one side only are implicated. The point at which the greatest pain is described is not necessarily an indication of the sinus that is involved. It is not uncommon to find intense frontal, orbital, or temporal pain, even earache associated with the sensitiveness of the teeth accompanying suppuration in the antrum. Pain in the teeth in the upper jaw of the affected side is often experienced, even when competent dentists fail to find any disease of the teeth.

Pressure over the anterior surface of the antrum, just below the inner canthus of the eye is observed in many cases of antral disease. Pain on pressure on the under surface of the frontal bone, just above the inner canthus of the eye and internal to the supra-orbital notch, is usually indicative of involvement of the frontal sinus, as is also percussion over the anterior surface of the frontal bone just above the inner end of the eye-brow and internal to the course of the supra-orbital nerve. Deep-seated pain at the back of the orbit which is intensified on moderate use of the eye, and sometimes accompanied by indistinctness of vision, often accompany involvement of the posterior group of ethmoidal cells and the sphenoidal sinuses.

If the practitioner would investigate, or in the absence of his ability cause to be investigated, the nasal cavities of all patients suffering from neuralgia, and having considerable muco-purulent discharge from the nasal cavities, either anteriorly or posteriorly, I am sure he would be surprised to find the number of times these accessory cavities were filled with retained secretion.

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Though the milder cases of sinus disease have a tendency to get well with little or no treatment directed to them, the more severe types persist for weeks until recognized and are then more slowly amenable to treatment. Undoubtedly, some of them if untreated become chronic and give the patient and his physician much to do before suppuration in these cavities can be cured. The treatment of the milder cases consists in keeping the mucous membrane of the nasal cavities contracted so far as possible with a 1 to 10,000 solution of adrenalin, and, if necessary, judicious spraying of the nose with a 1 per cent. solution of cocain by the physician or a trained nurse. It is never safe to give a cocain spray to the patient for his own use for fear of the formation of the cocain habit. If the discharge is not greatly diminished in the course of a few days and the neuralgia persists, then the nose should be thoroughly investigated, obstructions to drainage removed and the cavities themselves irrigated with normal saline solution.

THE AURAL COMPLICATIONS OF GRIP.*

By EDWARD BRADFORD DENCH, M.D.,

NEW YORK.

THE various epidemics of grip which have appeared in New York for the last fifteen years, have been characterized by aural complications of greater or less severity. These various epidemics have taught us that there is no aural condition which is absolutely characteristic of the grip infection. In some epidemics, the aural infection seems to be exceedingly virulent, while in others this infection is comparatively mild. From the very nature of the constitutional disease, when aural complications occur, the middle ear is the portion of the organ of hearing almost invariably attacked. Instances where a neuritis of the auditory nerve occurs are certainly very rare. The middle ear condition may vary from a mild congestion of the Eustachian tube and tympanum to an exceedingly virulent inflammation of the middle ear, with rapid extension to the mastoid cells, and sometimes to the intracranial structures.

An acute otitis media, complicating grip, is usually characterized by the sudden onset and the severity of the pain. I have had occasion, not infrequently, to examine cases where, in the course of a few hours, an acute otitis has developed, causing severe pain, considerable elevation of temperature, and the extravasation of a large amount of fluid into the tympanic cavity. In some cases, the severity of the pain is the characteristic symptom, while in others, and especially in the cases of children, the pain may not be so pronounced. In the cases occurring in children a sudden elevation of temperature is frequently the first symptom which we have. The temperature often rises to 104 degrees or 105 degrees at the beginning of the attack, remaining high until the local condition is relieved by free drainage.

As before stated, grip epidemics vary considerably in the severity of the otitic complications. A few winters ago extension of the middle ear inflammation to the mastoid process seemed to be the rule rather than the exception. In the epidemic of this year, while numerous acute cases have occurred, extension to the mastoid process has supervened in but a limited number of cases. This changed condition has depended upon one of two things; namely, either the systemic infection of the present epidemic has been less pronounced, or—what I think is more probable—the public has learned, from previous epidemics, the danger of neglecting aural complications, and has, therefore, received more prompt treatment as soon as any aural symptoms presented themselves.

It has been my experience in all of the epidemics, in cases seen early, that where the tympanic effusion was evacuated by a free incision of the drum membrane within the first twenty-four hours after the inception of the attack, that mastoid complications seldom occurred. I have seen some exceptions to this rule, naturally, but the rule remains nevertheless. There is also a class of cases which manifests itself by profound mental and physical depression with no pain in the ear. I have seen one case this winter of such an infection, where the patient had simply discomfort in the ear for a few hours; this discomfort did not amount to actual pain at any time. When I saw the patient two days after the first aural symptoms, there was distinct bulging of the drum membrane at its upper and posterior portion, with marked tenderness over the mastoid. Incision of the drum membrane revealed streptococcus capsulatus, in pure culture. At no time did this patient's temperature go above one hundred, and this only on the first evening that I saw him. The case made a perfect recovery upon free incision of the membrana tympani, although the mastoid tenderness persisted for some five or six days.

It should be stated that, in most of the cases of acute otitis, complicating grip, that mastoid tenderness develops exceedingly early, particularly tip tenderness. This tenderness usually passes away at the end of two or three days, after the drum membrane has been freely incised. It is not to be looked upon, therefore, as an indication for immediate operation, although the degree of tenderness is usually more marked than in cases of acute otitis complicating other constitutional diseases.

The time allotted to me this evening is so short, that it is impossible to treat the subject as fully as I desire. Certain facts, however, should be

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clearly understood. The general practitioner should recognize the importance of aural complications of the grip, and in the case of adults, where any discomfort in the ear is complained of, the ears should immediately be examined, and if an acute inflammation be present, early incision of the drum membrane should be performed. Experience has taught us that where the middle ear is drained very early in the course of grip otitis, extension to the mastoid is exceedingly rare. It is unwise to wait until there is a large amount of effusion in the tympanic cavity before performing this simple operation. It may be laid down as an almost invariable rule, that the sooner the drum membrance is incised, the more rapid will be the recovery, while extension to the mastoid will be almost certainly prevented.

Abortive measures, in cases of grip otitis, are almost never successful, and I have made it an invariable rule to incise these cases early. After incision, the treatment which has been followed by the best results, in my hands, has been frequent irrigation of the external auditory canal, with a solution of bichlorid of mercury, of a strength of 1-10,000. This irrigation is performed every two hours during the day, and every four hours during the night while the discharge is profuse. The interval between the irrigations is gradually prolonged, as the discharge diminishes.

Before incision, the external auditory canal should be thoroughly sterilized with an alcoholic solution of bichlorid of mercury, of a strength of 1-3,000, the external auditory meatus and the drum membrane being thoroughly mopped with this solution. All instruments introduced into the canal should also be thoroughly sterilized. The canal should be kept lightly occluded, between irrigations, with a pledget of cotton, so as to prevent infection of the discharge in the canal.

In children, as before stated, pain may not be a prominent symptom, and here the temperature may be the only indication of aural involvement. In the case of infants or young children suffering from the grip, a temperature which cannot be explained by any condition of the thoracic or abdominal viscera, should always lead the physician to examine the ears, and in many of these cases an acute otitis will be found, although the child may have given no evidence of any pain in the ear.

When the aural inflammation has extended to the mastoid, it is wise to operate very early—as soon as there is distinct evidence of mastoid involvement. When the mastoid is once invaded, the involvement seems to extend with great rapidity, in cases of grip otitis, and expectant measures, such as cold to the mastoid, leeches, and so forth, are absolutely useless.

If the mastoid is involved, the sooner it is opened and the pneumatic structure thoroughly ablated, the better for the patient. In this way, we frequently avoid serious intracranial complications. In severe cases of grip otitis, I am inclined to think that, not infrequently, the mastoid and middle ear involvement is simultaneous. Certainly, in some of the cases I have seen, mastoid tenderness persist from the very beginning of the attack.

While mastoid tenderness is a prominent symptom in adults, in children persistent temperature is, perhaps, quite as good an evidence of mastoid involvement. By this, I mean that if the temperature does not fall after incision of the drum membrane, if no visceral lesion is present, and if the temperature still remains high, the surgeon is warranted in opening the mastoid.

If this radical plan of treatment, outlined in the above remarks, is followed, I am certain that many lives will be saved, and the more radical the treatment, the more rapid will be the convalescence of the patient.

17 West 46th Street.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

By JAMES J. WALSH, M.D.,
NEW YORK.

(*Continued.*)

JOHN R. B. RODGERS.

Though Dr. John R. B. Rodgers was the father of the well-known surgeon, J. Kearny Rodgers, whom many still alive remember very well, it has been rather difficult to obtain details with regard to his medical career. He first appeared at the State Medical Society meeting of 1811, presenting his credentials as a delegate from New York County. This same year he was appointed to serve on the Board of Censors, by no means a sinecure, since it was practically the Board of License of the Society. He was also appointed on the Committee of Correspondence, and it was very evident that his abilities and capacity for administration were recognized at once. The following year, 1812, he was elected president of the society, a position which he was to occupy altogether for three years. His address during the first year of his presidency is an eminently practical review of certain epidemic diseases which had appeared during the previous year. This was a favorite topic of his, for the next year his address was a continuation of the same subject. In the last year of his presidency the subject of his presidential address was the diseases peculiar to women. While his addresses on the infectious fevers are full of practical hints and careful observations, with many suggestions from the literature of the time, as might be expected, perhaps, the address on the diseases of women is very general and unsatisfactory to the modern mind. One passage from it, as indicating this, yet showing Dr. Rodgers' power

to sum up a phase of his subject, has seemed worth while quoting. The hint thus early in the nineteenth century that puerperal fever was a contagious disease shows that men's minds were waking up to the thought which was to be so fruitful of good, at least a quarter of a century before the doctrine was actually formulated.

Large hospitals, though great blessings, are often large lazar-houses, and the great mortality which has in many instances prevailed among puerperal patients, has induced the opinion, with some, that it was a specifically contagious disease. The great mortality of this complaint in hospitals arose from the foulness of the air in the wards, added to the collection of bad air under the clothing of the patients. The rapidity with which the symptoms progressed, and its running so quick from synocha to typhus, may be accounted for from a knowledge of the female system previous to and after impregnation. We know that females have more laxity of system than males. Previous to the catamenial discharge there is a tendency to general plethora, and at the irruption of the menses to a local plethora. There is therefore a disposition to inflammatory diseases with a laxity of fibre; this laxity of fibre permits the vessels to expand and extend, and if there should be an unusual propulsion of the fluids after the vessels had reached a certain point of distension, the vessels will be either ruptured, or congestion takes place, and an effort will be made by the system to get clear of this evil by the excitement of a fever.

The female system is more under the influence of climate than the male. The uterus is much sooner evolved in warm climates, and puberty appears sooner in the female than the male in such regions. The state of society and manners has also a great effect on the female system. Luxury and indulgence, with heat, have also a tendency to evolve the uterus. In hot climates the uterine vessels are evolved at ten and eleven years of age, and women leave off bearing children at the age of thirty-five. Warmth and moisture produce a lax fibre, and in a shorter time effect extension of the vessels. A colder climate gives a more rigid fibre, and therefore more time is necessary for evolution. In savage life the physical means to produce relaxation are wanting, and before time can act, the system is rigid and the vessels prevented from expanding. There is therefore a natural reason why savage females (the situation of the climate being equal) should be longer in evolving their uterine vessels than in civilized and more luxurious society. Women of lax fibres have more children than those of rigid fibres; therefore more births occur in warm than in cold climates. Females then in savage life, being later in arriving at puberty, and having more rigid fibres, have fewer children than in more civilized and easy life. The mode of living prevents them from feeling the diseases of luxury. Abortion is rarely the effect of laxity of the system, as with our females, nor are they so subject to malformation of the pelvis—laborious births therefore are not so frequent as in polished and luxurious society. Their diet and exposure to more cold gives vigor to their system, and the admission of fresh and cool air when parturient, prevents puerperal fever; or, perhaps we might with more correctness say, that they are entirely freed from almost all the predisponent causes, and therefore, not operated on by the usually exciting causes.

JOSEPH WHITE.*

Dr. Joseph White, the fifth president of the State Medical Society, the best known medical practitioner in Central New York in his time, was born at Chatham, in the State of Connecticut, on the 26th day of September, 1763. At an early age he had the misfortune to lose his father, who is said to have been an intelligent man and a surveyor. He was left an only child, with a widowed mother, with scanty pecuniary means, to breast his way alone in the world. A stripling during the revolutionary war, he embarked on board of a public armed ship, and was in one or two naval engagements; but of this part of his life he was not in the habit of saying much. He remarked that the roar of the cannon affected his organs of hearing so intensely that he was nearly or quite deaf for several days after one of the battles.

From the necessity of the case, his early education was defective, irregular and miscellaneous. Yet from his habits of perseverance, and the distinction which he subsequently attained in his profession, it is inferred that it was continually in progress, and that his acquisitions of knowledge were steady, if not rapid.

He early exhibited his fondness and preference for the medical profession, and studied under a Dr. Fuller, and a distinguished surgeon by the name of Percival, of both of whom, through life, he continued to speak kindly. His industry was such, that, before he was twenty-one years of age, he was admitted to the practice, it is said, of the first State Medical Society established in Connecticut, at the close of the revolutionary war. His pecuniary means were so limited that, like many other distinguished professional men in our country, he kept school for a period to enable him to prosecute and complete his preparatory studies.

Soon after receiving his license to practice he came to the State of New York, tarried a short time in Catskill, and afterwards staid about a year at Bowman's Creek, in Canajoharie, Montgomery county; and as early as 1787 came to Cherry Valley, where he spent the rest of his active and useful life.

Cherry Valley, the settlement of which commenced before the revolutionary war, was then the extreme western verge of civilization in this State, and those born or commencing business at the present period of our power, comfort and affluence, can hardly realize the hardships, discouragements and privations to which the most fortunate of the pioneers were necessarily subjected. Books, the scholar's best food, surgical instruments, then in our cities far from the perfection which they have now attained, any of the many helps to a physician which the discoveries and improvements of the last half century have made common, were scarce, difficult to be obtained, even by the wealthy, and often forbidden to the enterprising and ambitious. But the

*This sketch of Dr. Joseph White is from the American Medical Biography, or Memoirs of Eminent Physicians, by Stephen W. Williams, M.D., published at Greenfield, Mass., in 1845. Dr. Williams continued Dr. Thatcher's series of medical biographies. In the preliminary paragraph of this sketch he says that he is indebted for the material to Dr. Menzo White, of Cherry Valley, who was Dr. Joseph White's surviving son.

genius and experience of Dr. White, then an ardent aspirant for usefulness and distinction, made every help known and attainable to his purpose. He took, at once, an elevated and enviable stand among his brethren of the profession, and through a long life continued to maintain it. The defects of his early education were more known to himself than to others, and he was continually supplying them by untiring industry and a vigilance that experienced no slumbering. Though his life was one of action, he stole time, when others were sleeping, to become familiar, through the medium of books, with the discoveries and improvements in the healing art, as promulgated by the best practitioners, both in this country and in Europe.

While he loved his profession with the ardor which those destined to adorn either of the learned professions must feel and cherish, he was also a patriot, and was alive to the welfare and prosperity of the republic that had risen into existence before him. In 1796 he was chosen senator for the western district of New York. In 1793 he was selected as a member of the council of appointment when that patriot without reproach, John Jay, was Governor; and in 1800, during his administration, was appointed first Judge of the Court of Common Pleas for Otsego County, of which court he had previously been a side, or assistant, judge. This station he continued creditably and usefully to fill for more than twenty years, and till the amendments to the State constitution took effect in the year 1822. Through that long period of political change and party excitement he discharged his duties as judge with scrupulous integrity and fearless impartiality. He was a federalist of the Washington school, and gloried in the name when its pure politics had ceased to be fashionable. He has often told the writer of this article, that when Mr. Jay met his council, when he was a member, he would say, "Well, gentlemen, we must do right, and do it in such a way that it will appear right, too," a maxim invaluable to all clothed in power and authority.

But his fame must not rest on the basis of his attainments and services as a medical practitioner; and he would not be spoken of in this work aside from them. His industry, his economy, which he practiced till the hour of his death, and his extensive professional business, soon placed him above want; and in 1793 he purchased a large and beautiful farm, which remained his residence for the remainder of his life, and is now occupied by Jacob Livingston, Esq., who married his only daughter.

His perceptions were quick, but before he acted in his professional character, he carefully examined and noted all the symptoms, and his judgment was not formed, nor acted upon, until he made use of all the lights in his power. Hence his usefulness, the value of his opinions, and the confidence which his practice inspired. He filled a large place in his profession, and his calls and rides extended from Albany to Buffalo, about three hundred and fifty miles asunder, and no one acquainted with his character will pretend that this widespread fame rested on anything like quackery or empiricism.

His surgical operations were numerous, and very generally successful. In lithotomy he had early and extensive practice. Many cases of this kind, the efforts to cure which seemed desperate, he undertook and performed, and the patient survived to bless and venerate his name after he was gone. A record of some of these would be interesting, and probably beneficial to the profession, were materials left to state them accurately and make the record perfect. But such is not the fact. He was deemed a neat, as well as scientific, operator, and excelled in judgment of the time and necessity for every painful operation. Although always firm he was never rash.

In 1817 Dr. White was chosen President of the Medical College at Fairfield, and professor of surgery in the College of Physicians and Surgeons of the western district of New York, located at that place. During that and several successive years, he lectured on surgery at that institution. His lectures attracted a respectable number of students thither, and in conjunction with learned and skilful coadjutors, among whom were Doctors Beck, and McNaughton of Albany, he rendered the institution popular and useful.

Without pretensions to oratory, he spoke clearly and often forcibly. He also wrote well without studying, understanding or caring for the niceties of composition. Of him it may be justly said that he did much and thought profoundly, without speaking for distinction or writing for fame. He obtained the highest honors of the profession, and was for a period, President of the State Medical Society.

At his death, which happened on the 2nd of June, 1832, in the sevenetieth year of his age, he left two sons, pursuing his profession, and both in extensive and diversified practice. His departure, therefore, seemed to leave less of a void in the profession than might have been anticipated. How popular he was as physician and surgeon may be best known by a common observation in the wide circle of his practice, that the name of White, alone, without any study or skill will do much towards obtaining an extensive and lucrative employment in the healing art.

His mode of traveling was on horseback. Few men could endure so great a measure of fatigue from this method of traveling. For the robust, however, it is the most eligible and healthy, and altogether preferable to the gig or sleigh, which leads to habits of indolence and effeminacy. He at one time rode from Albany to his place of residence in Cherry Valley, fifty-three miles, without

stopping. At another time he rode from Buffalo to Batavia, forty miles, before taking his breakfast.

JOHN STEARNS.*

Dr. John Stearns was undoubtedly the moving spirit in the foundation of the Medical Society of the State of New York, and he was for many years one of its most active members. His thoroughly unselfish character, his readiness to work for the benefit of the profession, his judicious common sense, his ability to appreciate character so as to manage men for the best purposes, stamp him as a man of great executive ability and rare discretion. He was the first Secretary of the Society and held the position for many years. In 1817 he was elected President and re-elected to that position three times in succession, thus possessing the unique distinction of serving four terms.

Dr. Stearns was born in Wilbraham, Mass., in May, 1770. He graduated from Yale College with distinguished honors in 1789. He was a medical student in the office of Dr. Erastus Sergeant of Stockbridge, Mass., until 1792, when for a year he went to Philadelphia and attended the lectures of Shippen, Wistar, Rush and others of the University there.

In a word, he was as broadly educated, both in the liberal arts and medicine, as the educational facilities of the country at the time permitted, and it is but another proof of the value of such training, that it was to him, more than any other single man, that the great practical advance in the regulation of medicine was to come.

In 1793 he began the practice of medicine near Waterford, Saratoga County, N. Y. He proved a successful practitioner, and, before five years, began to agitate the question of union among physicians, in order to elevate the dignity of the profession and extend its usefulness. A series of newspaper articles, some written, others inspired by him, relative to the importance of establishing medical societies, appeared in Saratoga, and about the year 1800 a medical society was actually formed. The movement proved to be premature. The materials of which it was composed were discordant, and it ultimately broke up without effecting anything definite.

Dr. Stearns was not discouraged by this preliminary lack of success, but returned to what he had evidently picked out as one of his life works.

Five years later, in November, 1805, a meeting was held in Ballston, N. Y., that was to be fraught with the happiest consequences for the physicians of New York State. Besides the members of the profession in Saratoga County, the co-operation of the physicians of the adjoining counties of Washington and Montgomery was asked, and a printed circular was issued, calling the attention of the profession to the importance of legislation, for the appropriate legal regulation of the practice of medicine in this State. In the *Annals of the Medical Society of the County of Albany,* 1806-1851, with biographical sketches of deceased members, by Sylvester D. Willard, M.D.,* which is our authority in this matter, it is stated that the leading spirit in this enterprise was Dr. John Stearns of Saratoga. Associated with him were William Patrick and Grant Powell. The meeting was adjourned until January 16, 1806, when the friends of the measure met and memorialized the legislature for the establishment of a medical society.

The memorial did not at first contemplate that it should embrace more than the three counties of Saratoga, Montgomery and Washington. Fortunately for the cause of science, and of medical practice, Dr. Alexander Sheldon, of Montgomery, who was to be vice-president of the State Society for its four years of existence, was elected speaker of the Assembly in 1806. The memorial was referred to a committee of the House, a majority of which were medical men, and they, after examining the bill presented, and realizing how beneficial such a measure would be for the entire commonwealth, suggested at once that instead of a local measure, a general law for the whole State should be recommended. A bill to this effect was accordingly drawn up and, after careful consideration, presented to the House. The old biographer of Dr. Stearns said that, strange to record, it met with a powerful opposition, and feeble hopes were entertained for its success. Now, after a hundred years' experience with legislation with regard to medical matters, the profession of the Empire State may look back and think that it is not always strange when attempts to pass beneficial medical measures meet with opposition, since that has been a frequent experience.

The bill had been wisely framed, however, and at the critical juncture, when its rejection seemed almost inevitable, the Hon. William W. Van Ness (may his name ever be in benediction!) became its most eloquent and powerful advocate. In a speech that was long remembered, and whose eloquence became a tradition, he refuted the arguments of the opponents of the bill, and pointed out the benefits likely to accrue from the proper regulation of medical affairs in New York State, with such enthusiasm and directness, that the passage of the bill was secured. The law was enacted April 4, 1806.

*Most of this biography appeared as a biographical sketch in the *Medical News,* in the department "Excursions in old New York Medicine." Thanks are here given for permission to reprint the parts already published.

*Published by J. Munsell, 78 State St., Albany, N. Y., in 1864.

(*To be continued.*)

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Editorials.

THE INSANE IN NEW YORK STATE.

THE cost of insanity to the State of New York is something more than a matter of economic importance. It is a question which involves the vital interests of society. To the family concerned, it is illness of a most chronic nature plus a large degree of mental anxiety and a certain amount of social stigma, coupled often with the cutting off of the income of a breadwinner and replacing it with the expenses of his indefinite maintenance.

At the present time there are in the State upwards of 28,000 certified lunatics, to say nothing of uncertified and unrecognized cases which abound in every community. C. F. MacDonald,* discussing the pecuniary standpoint of the subject, calculating the value to the State of the life of an adult unit at $200 per year, the average duration of an insane life at twelve years, and the average cost of caring for an insane person at $200 per year, figures an annual loss to the State of $400 for each insane person who remains a public charge. Thus an insane person represents a loss to the State of $2,400, whereas a sane person represents a gain of $2,400 for a like period of time. With these figures before us it becomes practically evident that even though the individual contribute nothing to the wealth of the State when sane, still it is in the interest of economy to provide such environment when he becomes insane as will enable him the soonest to return to his home and cease at least to be a public charge. It should be borne in mind that the great majority of the dependent insane is composed not of paupers, but on the contrary of self-supporting citizens, overtaken by disease, and rendered thereby dependent.

There are now in New York State fifteen State hospitals for the care of the insane, two of which are for the criminal insane. There are also some twenty-three licensed private institutions. The number of men in these hospitals exceeds the number of women although the total population of the State shows an excess of women. The State has $26,000,000 permanently invested in these institutions, the running expenses of which amount to about $5,000,000 annually. These figures taken from the statistics of a single state show the magnitude of this subject, whether viewed from a medical, scientific, or economic standpoint. To the credit of the State of New York it can be said that these institutions are no longer "asylums"; they are hospitals in the best sense of the word, where the object in view is the curative treatment of the patients.

These hospitals are a credit to the State, and represent a culmination of the great reform movement in the treatment of the insane, inaugurated in France by Pinel, in England by Tuke, in Germany by Jacobi, and in the United States by Rush. The new regime was inaugurated in New York State, through the efforts of Dr. Sylvester D. Willard (see Walsh's "History of the Medical Society of the State of New York"), who investigated the condition of the insane poor in the county asylums and other institutions, and presented a report to the State Society and to the Legislature in 1816 which most forcibly called attention to the weakness of the old system and pointed out a better path to follow. We may be proud to say that New York State, in the care of the insane and in the protecting laws which are thrown about them, stands for the best that modern enlightenment has to offer.

* *Journal of Mental Pathology*, Vol. VIII, No. 3.

CONGESTION OF POPULATION IN NEW YORK CITY.

AN interesting agitation upon the crowding of population in New York City is now in progress. Some extensive examinations into the question have been made, and some profitable discussions entered into. The degree

of congestion possible has been a revelation to many who never knew how large a number of people could be crowded into a city block. Dr. Devine, of the Charities Aid Association, insists upon a distinction between congestion and concentration. Congestion is objectionable, but concentration, he regards as advantageous.

The precarious living and meager opportunities for healthful employment offered to the poor in the cities may be contrasted unfavorably with the freedom and healthfulness of the rural districts; still the matter resolves itself into a question of individual capacity. "Poor" can so commonly be translated into "poorly qualified" that neither city nor country can atone for individual defects. Other things being equal, however, the human race does not thrive as well in the crowded quarters of the city as it does in the country; indeed the history of modern civilization shows that families deteriorate in the cities, and, were it not for the additions of rural blood, would fade away and perish.

A great advantage of the inquiries into the subject now in progress is that statistics are being compiled and accurate information being collected by which future generations, and even present generations, may be guided.

Certain conditions demand immediate action. Among these are the violations of the building ordinances, tenement house laws, and especially the sanitary features of the laws bearing upon ventilation, light and crowding.

We should not be proud of the fact that the Italian government, at its own expense, has been carrying on investigations along these lines in New York. Two blocks in different parts of Manhattan were selected for study, and the conditions which are being discovered in these two blocks are little to the credit of the free country to which the sons of Italy have flown for succor. Of the rooms occupied by 174 families, taken as typical, only 71 were not overcrowded. The rest had from two adults and one child in each room, up to five adults living in a single room. Of the total 174 families, 30 families had but one room; 51 had three rooms; 26 had four rooms; and only five families had five rooms.

A distressing feature of the case is that the rental of these miserable quarters costs the occupants 30 per cent. of the wages earned by the men of the families. In many cases this necessitates that the women, and even the young children should go out to work. The death-rate among the women in these districts has sometimes been nearly three times as great as that of the men. The moral conditions in the presence of such crowding and squalor are bad; and the prevalence of communicable disease alarming.

These investigations of the Italian quarters were prompted by the fact that the death-rate from pneumonia among Italian children is alarmingly high—much greater than among American children in New York City. This is one of the manifestations of crowding and poor ventilation.

It is possible that the evolutionary process, going on in the crowded quarters of New York, is selecting, by a survival of the fittest, a sturdy race of city-born people who may be able to survive in apparently unhealthy environments. It is doubtful, however, if this process is the cheapest method of producing resistance.

THE EMMANUEL MOVEMENT FOR THE HEALING OF THE SICK.

THE Emmanuel movement for the healing of the sick took its name from a church in Boston of that name where the movement was started. The fact that Christian Science is reaching a large number of people with psychic ailments is evidence enough that there is a middle ground between the people who deny the materiality of things and those who believe only in material things and the natural forces which connect them. There are comparatively few people who have purged their minds of superstition, so that this Emmanuel movement has a wide application. Moreover, aside from its appeal to unnatural agencies, it has a distinctly scientific function in a field which is properly medical but which medicine, busy with its old fashioned therapy, has failed to utilize; that is, psychology, the inculcation of hopefulness, the distracting of the mind from imaginary ills, and the great power of suggestion.

The clergymen who have engaged in this movement have gone about it in a manner which has not invited criticism, and have striven to antagonize scientific medicine in no way. It is an evidence of how the modern dominant superstitions can be put in harness with a great psychic principle and made to do service for the mentally sick.

This movement is of decided interest. Its fundamental tenets are as follows:*

*Bishop Fallows: *The World's Work To-day*, March, 1908.

First.—We recognize, according to common experience and the inspired teachings of the Bible, the psychology of the New Testament that man possesses a mind and a body.

Second.—We affirm most emphatically the value of anatomy, physiology, biology, bacteriology, histology, and the like in the progress of the race.

Third.—We maintain that there is a fundamental distinction between functional and organic diseases, and while mind or thought may have originated both classes of ailments, the one may yield directly to psychic or spiritual influence, and the other indirectly through surgical or medicinal means.

Fourth.—We assert the absolute necessity for the work of the physician, and give full value to the splendid efforts of the medical profession in furthering the health and welfare of the race. By making known God's laws of sanitation and hygiene, only one of the benefits they have conferred, they have not only prevented the scourges which once swept off millions of people in a single decade, but they have saved the lives of millions since.

Fifth.—Waiving all the theological and doctrinal differences which separate Christian Science so widely from the churches of Christendom, we believe in the power of faith in the historic Christ, and in personal and intercessory prayer to an ever-living and ever-loving personal God. We believe in using the best scientific medical knowledge and skill of the day, which we feel is as much God-given as any psychical or spiritual method of relieving disease. Since we do not claim in any way the omniscience and omnipotence of the Great Physician, Jesus Christ, we ask our patients to come with a diagnosis as accurate as the skill of the physician can make it.

The aim of religious therapeutics is to bring health and happiness to the afflicted, and more efficiency to those who are well. It strives to drive out fears, various forms of depression, worry, want of confidence, and the like, from the mind and heart. It magnifies the love and tenderness and sympathy of God. It carries forward the benign work of the neurologist along the lines of re-education and right living, according to the individual needs of each patient.

THE FIGHT AGAINST TUBERCULOSIS.

MARMORECK has tested the virulence of the tubercle bacillus and found that the bacilli when grown upon a fluid nutrient medium have a young stage in which they differ appreciably from those of the old stage. When these young bacilli are injected into an animal they display a decidedly greater virulence than bacilli of the old stage. It has, moreover, been shown that in the advancing tuberculosis of guinea-pigs a bacillemia develops in which the virulence of the circulating bacteria becomes much reduced. These reduced organisms lend themselves to important investigations into such questions as hereditary predisposition of the descendants from tuberculosis parents; whether the localization of the disease in the lungs is due to anatomical conditions or to the biological state of the infective virus, and whether bacilli which have lost their virulence may be renewed in strength and aroused to activity.*

**Folia Therapeutica*, July, 1907.

Marmoreck has observed that the arterial blood of the animals experimented upon has a particularly powerful action on attenuated bacteria. It is shown that young born of mothers inoculated with attenuated bacilli, the mothers having advanced tuberculosis, showed foci in the spleen and lungs. The early involvement of the lungs in these experimental cases shows that not only the soil but the state of the virus is a determining factor in the location of the disease. It is found possible to produce the most varying degrees of tuberculosis by using virus of varying degrees of virulence and animals with and without heredity history. One of the means by which bacilli of a low degree of virulence may be rendered active is with the use of tuberculin. It would seem that animals which have destroyed living, attenuated bacilli, are in a measure immunized against infection with virulent bacilli. Marmoreck considers the anti-tuberculous serum to be undoubtedly active. Protection by inoculation with relatively small doses can positively be produced in guinea-pigs. He recommends it in tuberculous meningitis; and in surgical tuberculosis it seems to be of even greater value than in tuberculosis of the lungs and meninges.

It must not be lost sight of that in most cases of tuberculosis we are dealing with a mixed infection; and for this reason anti-tuberculosis serum should be combined with anti-streptococcic serum.

How far the treatment of this disease by means of sera will progress cannot be prophesied. It is, however, to be hoped that the work in this direction will continue to give fruitful results. In the meantime the hygienic treatment of tuberculosis advances with most gratifying results, and, aside from what it is doing to overcome this particular disease, it is also the basis of a campaign of education in hygiene and right living, which is far-reaching and most beneficent and would be worth the effort it costs even though it did not save a single case of consumption.

Inebriety is so varied in form, so subtle in operation, so intricate in development and so complex in causation, that its treatment is no easy task. No disease is more common and yet none so seldom recognized. It is more widespread than tuberculosis, yet nearly every state in our Union is taking measures to prevent and to treat consumption, but, save among a few enlightened people, drunkenness is regarded purely as a vice, a folly or a sin. People look on the drunkard as a good-for-nothing scapegrace. The preacher denounces him as willingly guilty of heinous sin. The judge punishes him as a criminal offender.—*Jour. Am. Med. Assoc.*

Observations.

A PLEA FOR THE WELL.

The necessity for the family physician and the practitioner of medicine will always exist. Even as the infective diseases become less and less, there will ever be human ills and accidents, not the least of which are birth and old age with their manifold symptoms. It is not difficult to believe, and surely is reasonable to hope, that the practitioner of the future will share in the general tendency of the times, and in his relation to the individual and the family will be of greatest service in preventing disease. It is earnestly to be wished that future medical education will give attention to the study of the simple things now neglected—the general care of the health of the healthy individual. *We have been so busy with diseases and the sick that we have neglected the well.* The mother who seeks the best information as to what exercise her daughter, about to enter college, shall take, what sort of underclothes she shall wear, when she shall bathe, how she shall ventilate her room, and what she shall eat and drink, will get little satisfaction because physicians are not agreed. Each would advise differently—in other words, they do not know.

The questions of normal life are not yet sufficiently studied. For example, take the nursing babe. To make women give good milk is really more important than to make cows give good milk. Yet the study and the volumes of writing which have been devoted to cow's milk as a food for infants is utterly out of proportion to that which has been devoted to woman's milk. If the same amount of consideration had been given to making mothers supply good milk as has been given to making farmers supply good milk, the infant-feeding problem would be solved. A vast amount of scientific study, laboratories, the microscope, the test tube, sanitary inspectors, the police, the Board of Aldermen, and the Legislature, all are invoked to improve the supply of cows' milk for sick babies, but how few of these potent agencies are invoked to the simple end that the natural mothers of these infants should supply them with milk! Might we not wisely give more consideration to the healthy babe before it becomes a sick babe? Are our infants the progeny of the cow that the *fons lactis naturalis* should be so forgotten? If a mother does not give milk the matter commonly is dismissed with the regret, that, "she cannot nurse her child." She may secure a large variety of ineffective advice, varying with the number of consultants whom she employs, but in the end she will not be able to nurse her babe—at least that is the fate of an enormous proportion of the native-born women of New York. The only alternative is to "cast the bantling on the rocks, suckle him with the she-wolf's teat," if we may so designate the cold and impersonal extra-maternal feeding of infants. This modern instance is cited somewhat at length as an example of the devotion of medicine to the art of fighting disease to the neglect of encouraging health, and to the study of pathology to the neglect of physiology. To use a homely expression, we are hell on fits. The doctor has met with wonderful success in the treatment of diseases; and I have no doubt, if he set himself to the task, he could with equal success master the science of health.

Are coarse foods of value in preserving health? Is it true that "four hours of sleep before midnight are worth six after midnight?" Do we really eat too much, or is the cry but a bugaboo? Is fresh air so necessary for health and conducive to longevity? Is the minimum of proteid food the optimum? Is hypermastication of value? Is a daily bath of hygienic virtue? Is it really beneficial to take a cold morning bath? Is exercise essential to perfect health? It is to such simple questions as these that we need to give a scientific answer, and place our knowledge of them on a sure footing. At present they are answered by some in the affirmative, by some in the negative. These are the questions which concern the well, not the sick, and I shall always insist that, of the two, the well man is of the greater importance and more entitled to the consideration of science.

If as much money and enterprise as have been bestowed upon hospitals were devoted to preventing the diseases which are treated in hospitals, the hospitals would be much less important figures than they are at present. Here lies a woman with her lower abdomen full of pus, intestines matted together, an operation scheduled for tomorrow morning, and eternal invalidism for the rest of her life. A pamphlet costing less than twenty-five cents in the hands of her husband at the proper time, or the proper instruction from a respected source, would have saved all of this. Let not the cynic scoff and say pamphlets and education have been tried and found wanting. Maybe *his* pamphlets and *his* education have. But so sure as man is human, just so sure is it true that if there is any information that will save him misery and pain and loss of love and money, that information he wants and will cleave to until death, and if he does not act upon it it is because he has it not. Much information is given but not received, heard but not heeded; in which case it is not information at all. It is not so much that we shall have more skill in letting out pus as in preventing suppuration, that we should strive. The Society of Prophylaxis has more claim to public esteem than the Surgical and Gynecological Society, admirable and valuable as it is. A great man once said that, were he omnipotent, he would make health, instead of disease, contagious. That omnipotence is coming into the hands of the physician now.

Surgery has perfected the operations for bunions, ingrowing toe-nails and hammer-toe, but what scientific interest is given to the question of shoes for healthy men? The army has studied it, but outside of this men are the slaves

of foot-disfiguring fashion; and the field for exercising surgical skill upon the distortions induced in well men's feet is very large. The treatment of colds keeps the doctor busy through the winter months. If the money and energy expended in compounding, say, simply those cough mixtures which do more harm than good, were devoted to the scientific study and teaching of the cause and prevention of colds, the well man would then receive his due consideration.

We say that scientific attention is given to the matter of ventilation of school-rooms in our new school buildings by the engineers who construct them. Theoretically that is true, but as a practical fact they are poorly ventilated. Well children go into these rooms and come out with headaches, adenoids and colds, the products of imperfect ventilation. The ventilation problem is worked out on paper, but it does not stand the clinical test. What would we think of a medical treatment being applied to the sick which was such a farce as this?

These things will continue to incapacitate the healthy until the well man receives the consideration which his importance and value to the community merits. Some day we shall have scientific studies of human health. Papers before societies on these subjects will be common. Every medical school will teach hygiene (not merely have a nominal chair, rarely sat in) and the study of health will be regarded as of greater value than the study of disease. This most important scientific field yet remains practically undeveloped. Biologists are needed to study man to the utmost possibilities of human knowledge.

As the family doctor makes himself efficient he will become the family hygienic councillor, and in that capacity his usefulness and influence will multiply. It was once the custom, in a time of medical unenlightenment, for the sick man to ask the advice of some wise layman, but now he seeks the physician. It is now the custom in matters of personal hygiene to take counsel with some layman who exemplifies good hygiene, but the day draws near when medical men will be authorities in health as well as in disease. *Just in proportion as our profession becomes proficient and learned in the art of maintaining health, in just that proportion will be increased its power as a force in the public life.* The state, the people as a whole, demand increase of individual efficiency. And the medical profession has it in its power, to a greater degree than any other class of men, to give that very thing—increase of the efficiency of the individual. He who preserves the strong is remembered when he who saves the weak is forgotten. Those who are looked to only in time of trouble—the old-time doctor, the money lender, the insurance company, the priest, the undertaker—all may be *respected,* but they are not *honored* by strong and virile and independent men. The weaker side of the body politic honors them, but public opinion is the opinion of the strong. When the medical profession becomes the champion of the strong man, of the growing youth, and of the lusty babe, as well as it has for countless generations been the champion of the sick and the distressed and the puny, then shall it conduct humanity to victories yet undreamed, then shall the physician be not only teacher but he shall be leader also.

Items.

EDITED BY

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AGITATION FOR ITS OWN SAKE.—Charity is a virtue which we seldom cultivate in its broadest applications. Our definition of it generally begins and ends when we have supplied material aid to some needy institution or person. We do not encourage it enough in forming our opinions of other people. For example, in speaking of the antivivisectionists, or other similar, excitable groups, we are inclined to use such adjectives as ignorant, shallow, irresponsible, impudent, pusillanimous, choleric and litigious. How greatly lacking in charity such expressions are. In fact, a more charitable view would bring us nearer to the truth. For surely, these good persons have the very best intentions in the world and nothing is farther from their purposes than being the standard-bearers of that chilly, disagreeable class of adjectives just mentioned. Their trouble is that they have very little to do but do a great deal of it. The remuneration they receive for all this expenditure of labor is small, from the practical standpoint; yet the excitement they get out of it is fat pay for them. Like the Furies, it is not their atrocities but their fury that makes them rejoice. Of course some prosaic neurologist will say that this clearly establishes a diagnosis of hysteria but, after all, diagnosis is only another way for calling hard names. If agitation they must have, let us be thankful that there still remain a few good healthy subjects about which they can stew and boil over without harming themselves. Vivisection has done many a good turn to the race at large. Now it wins new laurels as the benefactor of a fortunately small cult.

NEW YORK'S INTERESTING VITAL STATISTICS.—These are not palmy days for race suicide in New York State. The average birth-rate for 1907 was 20.8. Dunkirk carries off the laurels of first place, having an average 35.9. New York City comes third with 29.3. New Rochelle is one of five cities with an average of over 25 per thousand population. 195,735 births were reported last year; males, 100,495; females, 95,187. The white children numbered 193,059, negroes 2,625, Indians 26, and Chinese 25. The death rate for the State is 17.5. Of the total deaths, 147,442, tuberculosis was responsible for 14,406, heart disease for 12,072, pneumonia for 10,990.

Leprosy was the cause of death in one case. From tuberculosis of organs other than the lungs there were 2,164 deaths. Typhoid fever resulted fatally in 1,668 cases, thus showing an increase over 1906 of 100. The mortality from measles was reduced from 1,369 of 1906 to 995. On the other hand, the number of deaths due to scarlet fever was nearly twice that of the year before. Diphtheria has made a gain of 100, the total number of fatal cases being 2,600. Influenza caused 2,372 deaths and erysipelas, 483. Cerebro-spinal meningitis this year was responsible for only 225 deaths. Mortalities from carcinoma have increased to a marked degree, the total last year being 6,400.

Deaths under 1 year were 27,957; from 1 to 5 years, 12,142; from 5 to 10 years, 3,249; from 10 to 20 years, 5,206; from 20 to 40 years, 24,830; from 40 to 60 years, 29,239; over 80 years, 9,838. Of males 76,904 died; of females, 67,476.

First Conviction Under the Pure Food Law.—According to newspaper despatches, a jury in Washington has returned a verdict of guilty against Robert N. Harper for violation of the National Food and Drugs Act. This is the first case on record in which a conviction has been found against the defendant. Mr. Harper is not only a wealthy business man of Washington, but is the president of the Chamber of Commerce and of the American National Bank. In addition to this he is largely interested in the manufacture of a preparation known as Curforhedake, also spoken of as Brane-fude.

The indictment holds him on four counts as follows:

1. The names given to the product constitutes misbranding.

2. The manufacturer's statement that the preparation contains no poisonous ingredients, when, as a matter of fact, it does.

3. The phrase "a most wonderful, certain and harmless relief" was a misreprenestation.

4. The fourth count relates to the sale of a misbranded product.

The evidence of the prosecution made it clear that the preparation consisted of an alcoholic solution of acetanilid, antipyrin with sodium and potassium bromide, alcohol being present to the extent of 24.2 per cent.

The trial judge in charging the jury laid most stress upon the offences of misbranding and misrepresentation. Sentence has not been pronounced, pending an appeal.

The Quarterly Journal of Medicine.—Vol. I, No. 2, 1908, of this publication has just appeared from the Clarendon Press, Oxford. This newcomer in the field of medical journalism is entitled to high consideration on account of the excellent character of its original articles, its admirable typographical style, and the universal esteem in which its editor, William Osler, is held by the medical profession.

This number contains nine original articles, all of distinct merit. The articles are well illustrated, and are as follows: "The Pathology of the Cerebro-Spinal Fluid Derived from Lumbar Puncture," by J. Graham Forbes; "A Study of Certain Reflexes in Scarlet Fever," by C. Rolleston; "The Extra-Systole: A Contribution to the Functional Pathology of the Primitive Cardiac Tissue," by James Mackenzie; "The Parathyroid Glands: Part I—Their Function in Relation to the Thyroid Gland," by David Forsyth; "A Contribution to the Knowledge of the Action of Digitalis on the Human Heart," by Alexander G. Gibson; "The Heart in a Case of Stokes-Adams Disease," by Alexander G. Gibson; "Cervical Ribs and Their Relation to Atrophy of the Intrinsic Muscles of the Hand," by H. Lewis Jones; "An Undescribed Form of Dwarfism Associated with a Spatulate Condition of the Hands," by J. H. Drysdale and W. P. Herringham; "On Ochronosis: Report of a Case," by Edgar Reid; and "Critical Review: Recent Work on Mediterranean Fever," by J. W. Eyre.

Although the field of current medical literature is well filled, it must be conceded that there still remains room for such high-class publications as this.

Proceedings of the Royal Society of Medicine.—Vol. I, No. 3, 1908, of these proceedings, published by Longmans, Green & Co., contains a large number of valuable contributions. It is divided into ten sections which are respectively devoted to clinical medicine, dermatology, electrotherapeutics, epidemiology, laryngology, neurology, obstetrics, and gynecology, otology, surgery, and therapeutics and pharmacology.

William Osler is the author of the first report in the first section, presenting a case of splenic polycythemia with cyanosis. This case presented the three peculiar characteristics of this disease; the hands and feet were much congested, the splenic enlargement was very great, and the blood presented a leucocytosis of 50,000.

Another important contribution to the literature is the discussion of a case of arteritis obliterans of the lower extremity with intermittent claudication, by F. Parker Weber. Besides these this number contains some seventy more clinical reports, all of much interest and showing the admirable scientific work done by the Royal Society.

Among the other subjects discussed are methhemoglobinemia, amyotonia congenita, hematosplenomegaly with ascites, ochronosis, present methods of combating the plague, leprosy of the larynx, and symptomatology of tumors growing in the fourth ventricle.

B. G. A. Moynahan reports a case of complete gastrectomy for cancer in which he made an anastomosis between the esophagus and the first loop of the jejunum. The patient made a good recovery and was presented to the Royal Society.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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CANCER HOUSES.

Are there cancer houses? Fillaissier in the *Jour. Med. de Brux.* asks this question, and collects some facts in support of the theory that some houses, or at least some parts of a town, are cancer infected. The sanitary report for Paris for the last six months of 1906 registered 1,062 deaths from cancer; of these, 1,008 occurred each in a different house, twelve houses were accountable for 2 deaths each, 26 deaths occurred in five workhouses, and one religious institution claimed 4 deaths. Guaillot refers to a house at Vouziers in which a man, his wife, the servant, and the father-in-law died between 1870 and 1875 from cancer of different parts of the body. In the community of Saint-Sylvester-Cormeilles, between 1880 and 1887, 11 people succumbed to cancer, situated in the stomach in 8 of the cases. It was thought possible that the source of these infections could be traced back to the water supply. In 1890 Arnaudet selected fifty-four houses in one street 150 meters long; in seventeen of these houses there were 21 cases of cancer. All the cases were in houses in the same locality in the street. The author considers that infection of house must replace heredity in the causation of cancer. To Oyonnaux in 1886 came a woman who had carcinoma of the breast. The dressings from the cancer were thrown into a stream. She died in 1887, and in 1888 and 1890 two lodgers in the same house developed cancer. Two neighbors who were in the habit of drinking water from the stream became infected, one with cancer of the stomach, the other with an osteo-sarcoma of the leg.—*Review in British Medical Journal.* October 19, 1907.

BLOOD PRESSURE IN KIDNEY DISEASES.

From a study of blood pressure in nephritis, Reitter states that whereas the blood pressure is high in true nephritis, it maintains a practically normal height in pyelonephritis and pyelitis, even though these conditions are double-sided. On the other hand the blood pressure is diminished in tuberculosis of the kidneys, whether primary or secondary. In ten cases examined it was in each case below the normal, and in four cases surprisingly so. The author considers this symptom as of considerable diagnostic value.—*Zeitschrift für Klinische Medizin,* Bd LXII, p. 358.

CYSTITIS IN CHILDREN DUE TO COLON BACILLUS.

Eleven cases of cystitis in children caused by the bacillus coli communis, are reported by Valagussa from the pediatric clinic of the University of Rome. Of these seven were girls and four were boys. The author emphasizes the importance of this condition and its recognition, and helps to clear up some of the obscure points regarding the pathogenesis of the affection.

For the practitioner cystitis of earliest childhood is more important than it appears. Many febrile affections slow in their course, and with uncertain diagnosis are caused by a bacillus coli infection of the bladder, and are only to be determined by a microscopic and bacteriologic examination of the urine.

Regarding the pathogenesis, the ascending way through the urethra is apparently the most frequent mode of infection. Animal experimentation has shown, however, that infection may come through the blood circulation, or may pass through the intestinal wall. Severe forms of cystitis occur in children of from a few months to three years of age, and are characterized by high remittent and intermittent fever, severe constitutional symptoms, and of long duration. Less severe forms are observed in children of from five to eleven years, constitutional symptoms are less marked, the fever is regular and may even be absent, and the duration is short.

Treatment is symptomatic. Diuresis is stimulated with light mineral waters, and salol or helmitol may be given in very small doses. In chronic cases the bladder may be irrigated with 1:4000 solution of potassium permanganate.—*Policlinico,* March, 1907; *Zentralblatt für Innere Medizin,* 1907, No. 39.

ACUTE LARYNGITIS SIMULATING CROUP.

Mogilnicky observed in children ten cases of a peculiar pseudo-croup, upon six of which intubation or tracheotomy was performed. One case only was fatal. A diagnosis of diphtheretic laryngitis was made in each case, but such did not exist, as shown later bacteriologically and by the fact that there was no membrane. The affection also had nothing to do with laryngismus stridulus, for the stenosis formed quite gradually. Oedema of the glottis was not present in the ordinary sense of the word; that is, there was no infiltration of a serous or purulent sort of the epiglottis or aryepiglottidean folds. In each case there was instead a clear but very intensive acute laryngitis. What caused an ordinary harmless disease to assume such a serious character the author is unable to decide. He is of the opinion that bacterial influences had much to do with these cases, for grip was epidemic at the time.—*Revue mens. des malad. de l'enfance,* June, 1907; *Zentralblatt für Innere Medizin,* No. 38, 1907.

INFANTILE TABES DORSALIS.

A case of infantile tabes dorsalis reported by Jermakow was that of a twelve-year-old girl whose father was syphilitic and in the atactic stage of tabes dorsalis. The mother of the child was also specifically infected. Besides this there was a history of nervous and mental disorders in near relatives, lending to this case an unfavorable predisposition in this regard. When the child entered school it was seen that her eyesight was defective. There was permanent enuresis nocturna, and in the latter years involuntary micturition with laughing or physical exertion. Violent headaches came on, and then, in addition, the patient suffered lancinating pains in the upper extremities. Later the child fell frequently and often injured her head. Attacks of sudden unconsciousness were also observed. When examined the child complained of abdominal pains and urinary incontinence. The right pupil was greater than the left, the pupillary reaction was weak, there was ptosis of the right eyelid, and there was atrophy of the optic nerve. Patellar and Achilles reflexes were completely lacking. Specific treatment was without result. The amaurosis increased continually, and at last the child was completely blind in both eyes.

Again, after some time, the child was examined, and further changes were found. She had the appearance of a child of retarded development. There were numerous somatic symptoms of degeneration. The pupils were wide, and their rims uneven; the right pupil was larger than the left; the pupils reacted neither to light nor accommodation. Besides, atropy of the optic nerve, narrowed arteries and distended veins were to be seen. Hypatonia of the muscles of the lower extremities, lessened sensibility in the upper extremities, and circumscribed diminution of sensibility to pain on the thorax were present. Palatal reflex was diminished, Achilles and patellar reflexes were completely lacking.

This case was an undoubted one of infantile tabes dorsalis, of the amaurotic form which is very rare, and is most often found in younger individuals.—*Wratschebnaja Gazetta,* 1907, No. 30; *Zentralblatt für Innere Medizin,* 1907, No. 39.

MONGOLIAN IDIOCY.

Mongolism, or Mongolian idiocy, is well described by Bagolau in his report of a typical case. The symptoms of this type of idiocy begin to occur in the first months of life. The child resembles in appearance a small Chinaman, and is a brachycephalus with head flattened in a sagittal direction, rounded face, narrow and oblique eyelids, wide mouth, thick tongue, and sharply-pointed gums. The skin is of yellow color and feels somewhat rough to the touch. Hands and feet are short and stumpy. Occasionally other anomalies are observed, such as nystagmus, malformation of the external ear, hypoplasia or hyperplasia of the thyroid, anal atresia, cryptorchidism, and congenital heart lesions.

Psychic symptoms vary from slight mental disorder to most marked idiocy. Many of these children show an inordinate passion for music. Most of these patients die early from tuberculosis, pneumonia, or acute intestinal disorders.

This disease has many points in common with both infantilism and myxedema, and in cases where this latter factor predominates, treatment with thyroid extract has given partial results.—*Morgagni,* June, 1907.

SURGERY.

EDITED BY

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BIER'S ACTIVE HYPEREMIA AFTER ABDOMINAL OPERATIONS.

Dr. Gelinsky, of Posen, says that in combating intestinal paralysis occurring after abdominal operations, he has found physostigmine to be of value. Its highly poisonous qualities, however, forbid its use in young individuals and its continued use even in adults. Heat, he says, has probably always been a well recognized means of exciting intestinal peristalsis, used in the form of stupes, etc. In its more elaborate application (Bier's hot air treatment) heat exhibits other qualities; namely, an absorbent action and the preventing of post-operative adhesions. For one year he has made systematic use of Bier's hot air baths after laparotomies and the clinical course and subjective condition have been most satisfactory.

From the day of the operation the patients were placed in the well known hot air baths once or twice a day, rarely more frequently, for two minutes at a time, at a temp. of 120°-150° C. This was regularly followed by passing of flatus. The subjective condition of these patients was always excellent after this treatment. In 13 aseptic laparotomies one application sufficed to start peristalsis and there were none of the troublesome bowel disturbances that are seen in the first twenty-four hours after even the most simple exploratory laparotomies. In 11 cases of infections of the abdominal cavity no post operative ilens was noted. Ten cases recovered. In only 2 cases did a chronic adhesive peritonitis result, which, accompanied by continued high fever, transformed the lower abdomen into a hard brawny mass. After two daily applications of hot air baths for 3 and 6 weeks the subjective

and objective symptoms had entirely disappeared. One man, brought in with a bad pulse, died 48 hours after operation. Death occurred two hours after a sudden drop in blood pressure which was not relieved by the use of intravenous adrenalin-saline infusions. In two cases physostigmine was given; but aside from brisk symptoms of poisoning no effects were observed.

The observation was striking that in four cases of general infection of the abdominal cavity, after saline irrigation and hot air abdominal baths the injured peritoneum did not show the slightest reaction. There were two cases of extra peritoneal abscess in which the abdominal cavity was opened; one prolapse of intestines (8 hours old), and one case of colon-resection with escape of feces. The progress of these cases was perfectly normal, so that the conclusion forces itself upon one that active hyperemia brought about by the hot air bath, enhances the power of the peritoneum to overcome infection. The absorbent action of this treatment long known and used by gynecologists appeared promptly in four cases of adhesive peritonitis with exudation.

A case of double tubercular pleurisy and marked ascites was also treated in this way for two months. This was followed by disappearance of temperature and apparent health. There was no recurrence of the ascites and five months after treatment the patient was able to do hard work. The author is not sure that recovery was due to the hot air baths since he knows of this one case only.

The writer admits that very decisive conclusions cannot be drawn from so small a number of patients but feels urged, by the very favorable course of his cases to call attention to the action of hot air baths on peristalsis, adhesions and infection in the after care of laparotomies.—*Zentralblatt für Chirurgerie,* No. 2, 1908.

TALMA'S OPERATION FOR ASCITES.

At a meeting of the German Medical Society of Bohemia, Dr. Lieblein reports the results of the Talma operations performed at Woelfler's Clinic.

Since 1901, 15 cases of cirrhosis of the liver have been operated upon. Three of these were exploratory laparotomies and three were cases of fixation of the omentum to the anterior abdominal wall with supra-pubic drainage of the abdominal cavity. Four further anterior fixations of the omentum were done without drainage and in one case part of the omentum was fixed anteriorly and the remaining part between liver and diaphragm. In another case the omentum was placed between parietal peritoneum and abdominal wall and three times Narath's operation was performed. In the extraperitoneal fixation subsequent typical anterofixation became necessary.

Of the 12 cases operated upon, not counting the 3 exploratory laparotomies, 4 died of peritonitis. In two of these cases infection was due to drainage which was therefore omitted in subsequent operations. The infection in the remaining two cases was due to prolapse of the intestine through the wound fourteen days after operation. One case in which there was primary union died of pneumonia soon after discharge. Seven cases withstood operation and lived for variable lengths of time. Of these seven two were in no way benefitted; the ascites returned and death occured two months after operation (one case had a syphilitic hepatitis). In two others the result was not permanent and in three, observed 13, 18 and 22 months, there was no recurrence of ascites.

In these three cases Narath's method was used and in one of them the secondary operation mentioned above was necessary. After discussing the most favorable time for operation, the author points out the most important contra-indications. In these he agrees with Talma and warns particularly against operating syphilitics. As to choice of method he recommends the method of Narath.—*Deutsche Med. Wochenschrift,* No. 1, 1908.

NEUROLOGY.

EDITED BY

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FIFTH REPORT OF MOSHER'S PSYCHOPATHIC WARD (PAVILION F) AT THE ALBANY HOSPITAL.

The fourth report was noticed in the JOURNAL for June, 1906. The present one is for 19 months.

"The purpose of the pavilion is the treatment of mental disorders upon the same broad principles as the treatment of other diseases in a general hospital, with no more than necessary discrimination between a mental and a physical ailment." "The family physician is also invited to retain his interest and co-operate with the hospital." "Apart from correcting perverted physical functions underlying attacks of mental disease, success in treatment depends very largely upon understanding the patient, knowledge of the source or reason of actions or speech, and discretion in meeting or correcting them."

He finds that 55½ per cent. of the 400 recent patients were cured or distinctly benefited. The alcoholic forms (96 cases in all) contribute most to this favorable proportion. However, even excluding them, he still has 42 per cent. of good results, a very satisfactory showing.

Possibly not until there are 'pickings' in it for somebody, will Mosher's admirable initiative be widely followed.—*Albany Med. Annals,* Nov., 1907.

COMBINATION OF TABES DORSALIS WITH AFFECTIONS OF THE HEART AND VESSELS.

(Strumpell in *Deut. med. Wochsch.*, Nov. 21.)

When first noted in 1879 this occurrence was put down as a coincidence. Facts since accumulated show that there is a definite relation between tabes syphilis and aortic troubles (sclerosis, valvular insufficiency and aneurism). By X-ray examination of the chest and serum diagnosis of syphilis positive evidence can be secured clinically. He has reversed the usual course and examined his aortic cases for any signs of tabes. After marshalling his own and other material, he concludes:

"1. In patients with insufficiency of the aortic valves, sclerosis or aneurism of the aorta, by using special care we not rarely find signs of coexisting tabetic disease (loss of pupillary light reflex, absent tendon jerks, lancinating pains, etc.).

2. On the other hand pronounced tabes dorsalis is frequently complicated with aortic insufficiency and sclerosis.

3. This combination of both diseases depends on their common origin. They are results of a previous syphilitic infection.

4. The demonstration of single tabetic symptoms, especially loss of the light reflex, can in general be considered as evidence of a syphilitic stigma and is consequently of special diagnostic significance."

THE SACRAL FORM OF MULTIPLE SCLEROSIS.

After a consideration of cases of this kind by both Curschmann and Mendel, the latter summarizes their clinical application as follows: "In a case where lues can be excluded, where vesicorectal disturbances, absence of anal reflex, absence of material sensory and motor disturbances in the legs, and possibly sensory defects in the rider's leggings form point to a conus-lesion, if we find also a positive Babinski (especially significant and in itself suspicious), strikingly increased knee-jerks, weak or wanting abdominal reflexes (perhaps also lively Achilles jerks, nystagmus or a blanching of the temporal side of the disk), we should immediately think of a beginning multiple sclerosis, and direct therapy and prognosis accordingly."—*Neurolgc. Centbl.*, 1908, Feb. 1.

ANEURISMS OF THE LARGER CEREBRAL ARTERIES.

Beadles gives an elaborate study based on the notes of 555 cases found after death. He comes to the negative conclusion, that, it is impossible to diagnose an aneurism of any one of the cerebral arteries except under the most unusual circumstances. Only two or three have ever been diagnosed during life. In the vast majority of cases of aneurism a tumor even cannot be diagnosed. If there is any one sign to which special attention might be drawn, it is the occasional intermittent character of the symptoms.—*Brain*, Oct., 1907.

THE REGENERATION OF A PERIPHERAL NERVE PERMANENTLY SEPARATED FROM ITS CENTER.

Because of both practical and theoretical importance this question seems bound to recur. Margulies of Prague considers it on the basis of experiments on cats. He concludes: "1. After section of peripheral nerves marked degenerative changes occur in the distal stump, the axiscylinders and myelene layers disappearing completely. 2. A new specific reticulum forms by the increase and enlargement of Schwann's cells. 3. The nerve continues in this unfinished condition if it remains permanently separated from its center. 4. If connection with the center is re-established, it differentiates itself to a fully useful nerve supplied with axiscylinder and myelin-sheath. 5. Autogenic regeneration, *i. e.*, the reformation of fully useful nerves does not occur in permanently separated nerves in adult animals. 6. Every nerve-regeneration is an autonomous growth-process, in so far as the anatomical basis of the nerve is built up from the cells of Schwann." This it may be added, is in close harmony with most recent work.—*Virch. Arch.*, 1908, Bd. 191, 94.

ON THE NEUROLOGY OF THE TONGUE.

Much of interest on this subject is given in an article by Dr. J. Flesch. Points to be noted in the examination are: "1. Length and form at rest. 2. Direction of the raphé. 3. Lateral and vertical mobility. 4. Palpation of patient's own molars by tip of his tongue. 5. Putting out tongue. 6. Lateral mobility of outstretched tongue. 7. Retraction of tongue. 8. Empty swallowing. 9. Fibrillary twitching. 10. Articulation. 11. Sensation."

On the basis of experimental experience he constructs the following scheme for recognizing the paralysis of one or more of the tongue-muscles:

"1. Isolated Paralysis of the Genio-glossus: (*a*) No deviation at rest. (*b*) Lateral movements within the mouth intact. (*c*) Immediate deviation to the paralyzed side, on protrusion. (*d*) Loss of lateral motion to well side, of extended tongue.

2. Isolated Paralysis of one (the left) Stylo-glossus: (*a*) At rest it deviates somewhat into the right. (*b*) In speaking, the predominant movements are to the right. (*c*) In protruding, there is first an evident deviation to the right, but an immediate return in a horizontal curve to the median position. (*d*) Lateral movements of the outstretched tongue intact. (*e*) Retraction of the tongue occurs predominantly to the right. (*f*) Touching of left molars with tip difficult.

3. Paralysis of both Genioglossi: (*a*) Inability to protrude tongue. (*b*) When protruded it deviates to the left.

4. Paralysis of left Genioglossus and Longitudinalis: (*a*) Intrabuccal deviation of tip to right. (*b*) When protruded it deviates to left.

5. Paralysis of Genioglossus and Styloglossus on left: (*a*) Tongue at rest deviates to right. (*b*) In protruding, it first appears median, then with increasing action of the right genioglossus it deviates in a curve to the left. (*c*) Retraction occurs in the sense of the intact right styloglossus to the right. (*d*) Touching of left molars with tip is impeded. (*e*) At rest the right base of tongue is the more arched.

6. Isolated Palsy of the left Hypoglossus: (*a*) The tongue comes out straight, and has good lateral movement. (*b*) At rest the form is symmetrical. (*c*) In intoning of "a" the root of tongue sinks in its right half, while the left side remains arched or even arches more.

7. Paralysis of the central muscles: (*a*) Impossibility intrabuccal of moving the tip laterally, or upwards. (*b*) Lateral movements of the protruded tongue intact. (*c*) At the command to move it laterally inside the mouth, the hypoglossi start action and roll the tongue on its long axis."

On the practical side he proposes to classify these affections according to the plan now used regarding eye-palsies, into three groups: I. Glossoplegia totalis. II. Glossoplegia externa. III. Glossoplegia interna.

The various cortical and basal forms are considered. Mention is made of the late Dr. Féré's glossody namometer, and ten illustrative *cases* in brief are appended.—*Münch. Med. Wchr.*, 1908, Jan. 21, p. 109.

THE RELATION OF PHYSICAL TO MENTAL DEFECT IN SCHOOL CHILDREN.

Amongst our excellent special journals there is now one devoted to the medical and scientific consideration of backward children. A recent article therein, by Dr. W. S. Cornell, of Philadelphia, takes up the subject noted in the title. He includes the age-range from 6 to 15 years. During that time, "The mortality rate decreases progressively, and the probability of survival becomes steadily brighter."

"Rickets' anemia, and adenoid nasal obstruction * * * are these injuries to the health of the child also harmful to his mind?" "In the special classes for backward children conducted by our large cities the reports show that almost every backward child exhibits defect of some sort." It is the converse of this, whether viz.: "the physically defective among ordinary school-children show subnormal mentality," that is here studied. "The children were those of three Philadelphia public schools." The system of marking and comparison need not be detailed here. "The results showed that in each school, and in each individual branch of study in each school, the healthy or normal children stood higher in their classes than the average children, and the physical defectives, taken as a class, stood lower than the average children." Two additional and somewhat different investigations simply corroborated this.

"An effort was made to determine the exact degree of influence of defects of the nose and throat. The harmful results of those have been recognized in recent years. In the Claghorn school the four classes of bright and dull children were examined again. Their eyesight proved to be about the same. * * * Enlarged tonsils, adenoids, deafness, and nasal catarrh occurred much more frequently, however, among the two classes of duller children. In many, the adenoid expression was written only too plainly on their faces." A table of these findings is given, showing these troubles in about 11 per cent. of the brighter children, to 29½ per cent. in the backward.

"The educational result in our public schools suffers a discount of about 6 per cent. in the case of the physically defective children, as well as a waste of the time rightfully belonging to the normal children. The drain on the teacher's energies is more than proportionally increased by the presence of such children, because of their associated nervousness or stupidity."—*The Psycholg. Clinic.*, 1908, Jan. 15, 231.

GYNECOLOGY AND MENTAL ALIENATION.

After a review of the literature, the brief recital of four cases, and some discussion, Dr. Rezende Puech, in a paper before the Sixth Brazilian Medical and Surgical Congress, presents these six conclusions:

I. Concomitant affections of the genital apparatus are frequently seen in the insane.

II. In numerous cases close relations exist between genital disorders and the mental alienation.

III. The insane, who present gynecological disturbance, should have adequate treatment instituted. This may have a beneficial influence upon their mental disease.

IV. The gynecologist should not lose heart in dealing with certain classes of disease, because marked genital obsessions occur without organic disease. They at least serve as a guide to the disproportion between presumptive symptoms and the condition of the genital organs.

V. The insane should receive a gynecological examination at their commitment and periodically during their detention. For we often see perturbations in the course of a disease, which temporarily obscure the underlying condition.

VI. Our asylums should establish a special service in genital hygiene for the insane.—*Arch. Brasil. de Psychiatria, Neurol., etc.*, 1907, Nos. 3 and 4.

PEDIATRICS.

EDITED BY

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INHERITED SYPHILIS.

R Clement Lucas, in the *British Journal of Children's Diseases* (January, 1908) adopts the term "inherited" because it implies something from the parent which is detachable, "like a fortune or misfortune," and this more correctly expresses the passing on of the spirochetæ to the offspring. The term "congenital" he belives is objectionable in both form and suggestion, while hereditary suggests something that may be passed on indefinitely, which is not true.

The cause of syphilis, whether inherited or acquired, is the presence in the blood and tissues of the protozoön spirochetæ pallida discovered by Shaudinn and Hoffmann in 1905. This discovery of the cause of the disease necessitates a rearangement of our former views as to its transmission. The author believes that transmission from the father alone or infection of a mother by her syphilitic fetus can never occur. This is supported by Colles law that a syphilitic infant cannot cause a chancre on the nipple of its mother when suckling.

When virulent the spirochetæ penetrate the chorion or placenta and occasion miscarriage, etc. But when the virus is attenuated by time or treatment the placenta forms a protection to the developing fetus and it is the separation of the placenta at birth which allows the infection to pass through the umbilical vein. To support this view he calls attention to the regularity of the secondary exanthematous stage from two to eight weeks after birth. In these cases the separation of the placenta is the first stage, and corresponds to the chancre of acquired syphilis.

The author quotes a case which proves that the milk of a syphilitic woman taken by a healthy infant need not convey any infection to the child. He believes that the spirochetæ may be conveyed in the fluid parts of the semen, as they cannot be carried in a spermatozoön, as the greater cannot be included in the less. Finger has shown, in his experiments on monkeys, that the semen of syphilitic men is inoculable.

Another question still open for discussion is whether inherited syphilis is capable of transmission to the third generation. Fournier collected fifty-nine cases which he thought were to be relied upon as showing transmission to the third generation. Hutchinson and the author were unable to find any such instances. The question is beset with difficulties as the sexual privity of two persons up to the time of marriage must be proved, and these are generally persons in whom a tendency to vice is also hereditary. The subject of inherited syphilis is not immune from re-inoculation after a certain period.

After discussing the very high infant mortality in this disease, he concludes that the severity of the infection, and ineffective treatment, or lack of any, are the factors which determine the mortality.

THE CUTANEOUS TUBERCULIN TEST IN CHILDREN.

E. Feer, in the *Münchener Med. Wochenschrift,* No. 1, 1908, says that the diagnosis of tuberculosis presents many difficulties in children. The subcutaneous injection of tuberculin for diagnostic purposes is not serviceable in febrile disorders or in conditions suggestive of meningitis. There are, moreover, many physicians who believe it may lead to serious results. The cutaneous method recently advocated by Pirquet has won many adherents on account of its simplicity, harmlessness and rapidity of action. The author briefly describes Pirquet's studies on re-vaccination which led to the discovery of the cutaneous reaction of tuberculin in tuberculous individuals.

The old tuberculin of Koch is mixed with equal parts of a five per cent. carbol-glycerin solution and this is diluted with two parts of physiologic salt solution. One drop of this is placed on the arm and then scratched into the cutis with a needle. A control scratch is also made. The reaction is positive if within twenty-four hours a bright red palpable papule appears which lasts for about a week. Pirquet has tried this in over a thousand cases and reports that he obtained positive results in all cases of clinical tuberculosis in children, except in cases of miliary tuberculosis and in the last ten days of tuberculous meningitis. Severely cachectic individuals do not react.

The author gives the results he obtained in vaccinating 344 cases. Of these 65, or 19%, reacted positively. Twenty-five of the 344 cases gave clinical signs of tuberculosis and of these 24 reacted positively. The case that did not react was an infant 13 months old with tuberculous peritonitis. It is an interesting fact that not one of 70 infants under 6 months of age reacted. This has been observed by several other investigators.

Of 28 cases in which tuberculosis was suspected but without physical or clinical signs, 14 reacted positively. Of 291 in whom there was no suspicion of tuberculosis, 27, or 9%, reacted positively. All of these reactions were in children over 2 years, although 135 or nearly half of those vaccinated were under that age.

The author strongly believes in the value of this test. Its absence does not positively ex-

clude tuberculosis, however, as in cases of severe cachexia from tuberculosis, in miliary tuberculosis and in the late stage of tuberculous meningitis, it does not react.

The intensity of the reaction is no criterion of the extent or severity of the infection. Even after several vaccinations with pure tuberculin on the tender skin of young infants, no unpleasant results followed. Sometimes when the first vaccination gave a negative result, a second or even third would be positive. The author therefore recommends that two successive vaccinations be given in suspicious cases.

GENITOURINARY DISEASES.

EDITED BY

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VESICULAR PRODUCTS IN THE URINE.

Careful observation reveals a very large number of practitioners who in other branches of medicine are most precise in diagnosis, for example, in diseases of the heart and lungs, but who in urogenital diagnosis will be, comparatively speaking, careless of details, particularly with the genital subdivision of the cases. In few details is this more true than in the diagnosis of the vesicular elements in massage urine. De Santos Saxe (*New York Medical Journal*, Nov. 23, 1907), in a study of sago bodies and other vesicular elements with massage urine in their relations to diagnosis, makes the following points after a study of four years' duration including 300 private and public patients.

His method of obtaining the specimens was to have the patient present himself with a full bladder and pass half the urine into two glasses. If both were clear, the prostate was massaged and the vesicles stripped, after which the bladder was emptied. Pus or shreds in the first two glasses indicated irritation of the bladder and urethra. When the lavage returned clear some of it was left in the bladder, then the massage and stripping were performed and the voided fluid examined. The familiar anatomical relations between the prostate and the ejaculatory ducts makes it impossible to secure either prostatic or vesicular secretion absolutely pure each from the other, but in Saxe's study the careful washing of the vesicular elements removed all admixture of prostatic fluid, so that his observations may be regarded as concerned with true vesicular elements. Detailed chemical examination is omitted, for which Fürbringer and Lantwehr may be consulted. The elements examined by Saxe have little odor and grow more opaque and slowly dissolve in distilled water and salt solution. Variations in normal opacity may seem to be due to the number of spermatozoa mixed with them and the amount of chlorides in the urine. In dilute sodium chloride solutions they are translucent but whiter and opaque in concentrated solutions. Saxe describes:

1. "Sago bodies." These were originally described by Lallemand and Trousseau in the urines of patients with spermatorrhea and later by Curschman and Fürbringer. Under low power they consist of fairly homogeneous colloid matrix embedded with spermatozoa motionless and apparently at rest. Under high power the sago bodies contain very small numbers of epithelia from the vesicles, both cylindrical and cuboidal and a few large pale hyaline or colloidal cells identical with the testicular cells of semen. The sago bodies are certainly from the vesicles. Their motionless and resting spermatozoa are doubtless set free by the admixture with the thin prostatic fluid.

2. "Sugar Granules." These resemble granules of melting sugar and are smaller than the sago bodies, glassy, transparent and in good health, colorless or yellowish, rather numerous and falling rapidly to the bottom and dissolving. They seem to be the same bodies described by H. Cabot as frog's spawn. Microscopically they are practically structureless, being of glassy, refractive, homogeneous matrix imbedded with few or no spermatozoa and cellular elements usually epithelial from the vesicles. The origin of these sugar granules may be fragmentation of vesicular secretion at points where there are few spermatozoa; the bottom of the vesicle may fill with spermatozoa mixed with secretion while the upper part contains pure secretion without spermatozoa. This process is due to the fact that if ejaculation does not occur the semen recedes into the vesicle while the organ may fill up with secretion until the next ejaculation, thus making the vesicle a starting and secreting organ.

3. "Skins." These are delicate, opaque, yellowish white, skin-like fragments usually small, sometimes large enough to be lobulated resembling the shells of orange or lemon seed with hollows where the seeds were. They are viscid, collapse into lumps of gelatinous material, dissolving very rapidly and when dried and stained contain numerous spermatozoa vesicular epithelia and pigment. They are probably composed of thickened secretion and they are found in men of active sexual life. They seemed to be stripped lining of secretion from recesses of the vesicle.

4. "Vesicular Casts." These occur in great masses of whitish, opaque, ovoid or rounded bodies connected with pedicles or massed together, still preserving their outlines, of pea size or larger and composed apparently of mucoid material, float for a few seconds and then sink and fuse and slowly dissolve. Upon the slide they look like little cysts. Microscopically they are the same elements as the sago bodies save that their outer layer consists of condensed material identical with the rest of the cast, and im-

bedded with innumerable spermatozoa and a few epithelia. Pus cells occur in these cavities in diseases likewise, the gonococcus, the streptococcus and the staphylococcus.

5. "Vesicular Shreds." These are of considerable size, sink slowly, resemble egg albumin or egg membrane, collapse on the platinum needle into a ball of mucoid material. Microscopically their origin is demonstrated by the large number of spermatozoa imbedded in their homogeneous or finely fibrillated matrix. They contain in addition a number of highly refractive granules, some pus cells and less often all the foregoing bacteria. These structures are therefore, identical with the casts except that they are more condensed and probably represent thickened masses of secretion, pus and mucus. For further chemical and microscopical details of all these bodies, the reader is referred to Saxe's original article.

The significance of these elements rests upon the question whether they may be found in health as well as in disease. Saxe examined 26 young men between 17 and 23 years of age without venereal infection or venereal history; 8 having asserted that they nad never had intercourse. None suffered any inconvenience from massage of the prostate and vesicals which was gently performed and never repeated oftener than once in two weeks. Its one effect was that seminal emissions were decreased. In 12 of these 26 patients Saxe obtained (not always at the first examination) ; either skins, sugar, granules or sago bodies in the massage urine. In 8 only skins appeared, in 6 (with but a single examination) only slight turbidity resulted which indicated that the vesicles were empty. In none of these cases were vesicular casts or vesicular shreds seen. In 12 of these men under accurate observation, he found those who were under constant sexual excitement by association with women but without intercourse, to the largest amount of vesicular and prostatic secretion including sago bodies and sugar granules. Skin flakes occurred most frequently about a week after emission. In other words, if massaged just before an emission these organs contained the largest quantity of secretion.

It seems evident from physiology of the organ and from these observations that (1) the semisolid formed elements (sago bodies, sugar granules and skin flakes) are normal; (2) that the amount of vesiculoprostatic contents depends upon (a) sexual irritability (b) the opportunity for discharging the contents of these organs. In other words, upon the amount of secretion and the degree of condensation of the secretion.

Saxe next proceeds to discuss the massage elements in vesiculitis. In atonic forms of disease one finds few pus cells and bacteria in the sediment and smears. The vesicles distend and stagnate, although they may be stripped every five days. To the foregoing usual elements are added numerous sausage-like and grape-like casts. As this condition is not a true infection, Saxe wisely desires to change the term to spermatostasis, meaning stagnation of the secretion and being analagous to intestinal constipation. Acute vesiculitis does not, of course, permit such investigation as Saxe has carried out.

Chronic vesiculitis adds abundance of pus, epithelium and bacteria. The characteristic difficulty in the diagnostic features seems to lie in the distinction between the prostatic and vesicular elements. The latter, however, may be distinguished by being larger, more viscid and elastic and containing more spermatozoa. Prostatic shreds do not contain imbedded but rather adherent spermatozoa and show the characteristic prostatic epithelia.

Tuberculous vesiculitis is not discussed at length by Saxe for the reason that only four cases came under his observation. Manipulation aggravated the condition and stripping had to be abandoned. This, of course, fulfils the rule of experience with all tuberculous infection, namely: motion and irritation increase the disease.

Cancerous vesiculitis is altogether omitted by Saxe. Doubtless for the reason that the disease is very rare indeed primary in the vesicles.

This paper is a most valuable contribution to a neglected and difficult subject, and the following conclusions which the writer clearly draws should be carefully carried in mind at least by specialists in urogenital surgery:

"1. Neither the occurrence of semisolid masses nor the increased amount of massage material from the vesicles necessarily indicates the presence of vesiculitis.

2. The semisolid bodies in massage urine derived from the vesicles include "sago bodies," "sugar granules," "skins," vesicular casts, and vesicular shreds.

3. Sago bodies, sugar granules, and skins occur in normal massage urine, when there is a hypersecretion and a certain (physiological?) amount of stagnation of secretion (spermatostasis) due partly to retention and partly to the absorption of the fluid portion of the vesicular elements.

4. Vesicular casts indicate a more marked degree of spermatostasis in the vesicle, due to an atony of the walls, and favoring infection, but do not indicate inflammation unless they contain pus cells, considerable numbers of vesicular epithelia and bacteria.

5. Shreds from the vesicle containing a mucoid matrix, pus, epithelia, and many spermatozoa occur in chronic vesiculitis.

6. The diagnosis of chronic vesiculitis is incompletely founded unless stained smears from the semisolid vesicular bodies (when such are present) show the presence of a sufficient number of pus cells, usually streptococci, less frequently gonococci, occasionally staphylococci, and bacilli resembling morphologically the bacillus coli.

PREPARATION AND AFTER-TREATMENT OF OPERATIVE CASES.

In all surgery the care of the patient before and after operation is of the greatest possible moment. When, however, surgical interference involves a system of organs as delicately poised and as completely correlated as are the urinary and the reproductive systems, attention to the preparatory and after-treatment of operative cases becomes singularly important. Dr. L. Bolton Bangs (*Monthly Cyclopedia of Practical Medicine*, 1907, Vol. 10, page 529) sums up the various points in this matter in the following terms:

In hospital practice the fact that our patients are so depreciated by unhygienic conditions in their homes and places of work makes a short upbuilding of their constitutions prior to surgical interference doubly necessary unless, of course, the condition is one of extreme emergency. The after-treatment of these cases should also be continued until the functions are as nearly normal as possible. Too often is it the case that undue haste is made in hurrying them out of the hospital to make room for someone else.

The simpler genitourinary operations may be performed often without special consideration of the patient's condition. Excretion of urine is a paramount function and the vital function of reproduction affects the brain, spinal cord and heart, hence according to Bangs, the relation between these various organs, and between them and the general organism, should be as little disturbed as possible. For example, the relation between the penis or testicles on the one hand, and the kidneys on the other, is not so apparent as between the kidneys on the one hand, and the urethra, or bladder, or both, on the other. But the relation although distinct is slight, and may be overlooked. The response of the kidney to slight irritation of the penis is shown by a flow of urine, which in many patients occurs during phimosis, paraphimosis or balanoposthitis. The retraction of the testicle in kidney lesions, notably calculus, is another.

In the simpler operation of circumcision, preliminary preparation will often prevent such annoying conditions as cellulitis and gangrene. The same principles should be applied to the rather minor operations of varicocele, hydrocele and castration. In varicocele operations Bangs thinks the heart should be examined. If it is diseased the patient should be put to bed so as to quiet the circulation and aid the vital processes for three or four days before the operation. He implies that severe heart lesions may often neutralize the effect of an operation.

Operations upon the urethra are still more important, especially stricture. Topical applications to the inflammatory areas and regulation of the bodily functions should be given until the urethra is in as healthy a condition as possible.

Impermeable stricture is of still greater danger. Rest in bed, moist heat to the perineum, and, if imperative, suprapubic aspiration will often modify the patient's condition and make the stricture open sufficiently to pass a filiform.

In all classes of urethral stricture the postoperative treatment is important. The urethral splint, consisting of a catheter passed through the whole length of the anterior urethra and fastened in place is uncalled for, only irritates the mucosa, provokes erections and interferes with healing and tends to develop cicatrix.

Too frequent instrumentation of the urethra after operation is another point. As a rule the first instrumentation is given five or six days after operation and the second, ten to fourteen days thereafter.

The perineal tube in stricture cases rests the bladder, drains the perineum and protects the wounds of the anterior urethra from septic absorption. One point omitted by Dr. Bangs is that in passing instruments on stricture cases, it is well to irrigate the urethra before and afterward and the bladder, mildly, immediately afterward, so that as far as possible infection or septic absorption will be prevented.

Operations upon the bladder and prostate require both good preparatory and good after-treatment. Here knowledge of the pathology is required. Pus, mucus and blood are in the urine, the prostate is engorged, tender, hypertrophied and perhaps infected. Sleep has been frequently interrupted by urinary desire and the general condition has been lowered by slow septic absorption. Renal insufficiency may be present. In many of these cases a preliminary drainage of the bladder for a week or ten days is absolutely necessary. After, by this aid, the infection of the bladder, prostate and perhaps the general system have decreased, the prostate may be removed with much greater safety.

In many of these cases urinary antiseptics may be judiciously given for some time prior to operation. Irrigations of the bladder in prostatic diseases should always be mild. The stronger solutions should be carefully avoided.

Stone in the bladder is often a complication of prostatic disease and should always be searched for. In general, operations upon stone in the bladder require preliminary urinary antiseptics, rest in bed for several days and then the operation. Removal of the stone is only the first step in curing the patient, because, unless the urinary conditions, in virtue of which the stone formed, are relieved another stone will quickly appear. For this purpose the habits and diet, the constituents of the urine, the health of the bladder and gen-

eral causes of local inflammation should always all be carefully watched. A momentus point after lithotrity consists in examining the bladder with the cystoscope in order to be sure that no fragments remain.

Operations on the kidneys are so vital that the best of good judgment must be applied concerning them. Excepting in emergency cases, where delay is of course dangerous, resort must be had to all those measures which tend to improve the body at large and the urinary system in particular.

Bangs believes that even in many severe cases of kidney lesion a short period of rest is of benefit unless life is directly threatened. He states also that in many of these cases rest in bed prior to examination of the bladder with the cystoscope is advisable.

A paper of this description, based upon long-continued, careful observation, should be in the office of every operator. There can be hardly any question that many patients suffer more or less severe, and occasionally even fatal, results from the promiscuous and somewhat careless instrumentation of the urethra, cystoscopic examination of the bladder and operative interference.

BACTERIOLOGY.

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THE GRANULAR FORM OF THE TUBERCULOUS VIRUS NOT STAINABLE BY ZIEHL'S METHOD.

Hans Much (*Beiträge zur Klinik der Tuberkulose* (Brauer), 1907, VIII, 85), presents a somewhat more detailed account of his experiments than that given by von Behring before the Sixth International Conference in Vienna in September. (See also *Tuberculosis,* Sept., 1907, and Oct., 1907). He says that a remarkable fact, that has been known for some time but the significance of which has not been fully appreciated, is that, in the lungs of tuberculous cattle, though they are crowded with tubercles, it is frequently impossible to demonstrate a single tubercle bacillus by the ordinary methods. The same is true of the so-called cold abscesses occurring in men. Though culture tests and animal inoculation with the pus give positive results no tubercle bacilli can be found. At sanatoria where the sputum of patients is examined daily it is a common occurrence for the tubercle bacilli to suddenly disappear, though they have been found steadily for months. Then after a longer or shorter period they may reappear. These changes take place without any apparent relation to the patient's condition. At Behring's Marburg Institute it was so often found impossible to demonstrate tubercle bacilli in animals manifestly tuberculous that the author was led to a comparison of different methods of staining, especially the Ziehl-Neelsen and the Gram methods. He found that by the Gram method, in many cases, a large number of tubercle bacilli became visible where not a single one could be found by the Ziehl method. In the Gram preparations, beside the bacilli there were sometimes seen round granules. These often lay in rows; giving the appearance of beaded rods, or they were crowded together in masses. These granules took the same color tone as the bacilli. For the purpose of demonstrating them the author used three modifications of Gram's method of which the last was the most uniformly successful, especially when the preparations were heated.

Gram's Method I.—Solution of Gentian Violet in Aniline Water Lugol's Solution. Decolorize in absolute alcohol and oil of cloves.

Gram's Method II.—10 c. c. saturated alcoholic solution of Methyl Violet (B. N.), in 100 c. c. of 2 per cent. carbolic acid (boil up over the flame or leave for 24-48 hours at 37° or at ordinary room temperature). Solution of iodine in potassium iodide, 1-8 minutes. Five per cent. nitric acid, 1 minute, 3 per cent. hydrochloric acid, 10 seconds. Then acetone and alcohol aa.

Gram's Method III.—Methyl Violet (B. N.) solution as above (10 c. c. sat. alc. solution in 100 c. c. of 2 per cent. carbolic acid solution). Boil or leave as above at 37° or room temperature 24 hours. Solution of potassium iodide in hydrogen peroxide (5 g. KI in 100 c. c. 2 per cent. H_2O_2) up to 2 minutes. Absolute alcohol.

An interesting experiment of the author's consisted in placing several little pieces of tuberculous lung in serum tubes and examining them on successive days. For the first two days nothing could be demonstrated by either the Gram method or the ordinary Ziehl method for staining tubercle bacilli. After three days fine granules and rods could be demonstrated by the Gram method but not until after six days could any acid fast bacilli be seen in the Ziehl preparations but at this time they were found in abundance.

The exact significance of these granular forms of the tuberculous virus is hard to determine with our present knowledge of them. Experiments indicate that the larger granules are capable of reproduction, while the smaller ones decompose very soon into fragments, becoming still smaller until they are entirely disintegrated. Behring believes them to be related to the "Babes-Ernst granules."

The author describes further experiments with his methods of staining upon material derived

from the lungs of sheep and from cold abscesses in human subjects and closes with the following conclusions:

There is a form of the tuberculous virus which is granular and not demonstrable by Ziehl's method. This granular form is virulent. This can be present in tuberculous organs as the only demonstrable manifestation of the causal agent of the disease. There may be a transition from the granular forms not stainable by Ziehl's method to rods not stainable by Ziehl's method, and then to the ordinary form of the tubercle bacillus stainable by Ziehl's method.

A. T. L.

THE INFLUENCE OF NOURISHMENT UPON TUBERCULOSIS.

Richard Weigert (*Berliner Klinische Wochenschrift*, 1907, XLIV, 1,209) for about five years has been studying the chemical composition of the bodies of mammals and its influence upon resistance to infection. He started out with the conviction that the chemical composition of the body—its constitution—was the most important factor in resistance to disease, and that it might be possible by careful feeding to alter this composition. He states that mere fattening furnishes no protection against the destructive action of tuberculosis and in certain cases which have increased rapidly in weight while at a sanatorium, and then have rapidly lost ground it even seems that there might be some causal connection between the rapid increase in fat and subsequent unfavorable course of the disease.

That in scarlet fever the prognosis in fat children is especially unfavorable has long been known to physicians.

It was necessary to determine whether defective diet really produced in animals defective chemical constitution. Analyses have shown that the water content of the human body decreases from about 72 per cent. at birth to about 67 per cent. at maturity.

The author accordingly first sought to get some light on the relation of water content of the body to infection by studies of bacterial growth on media containing a quarter or less of water. Gelatin media were employed with content of water varying from 59 per cent. to 90 per cent. When this was less than 67 per cent. the growth was scanty.

The clinical observation that the mortality and morbidity of children is much higher than that of adults also suggested that there might be a causal relationship between the water content of the body and resistance to disease.

Artificially fed children are less resistant to disease than those nourished at the breast. Many of those fed on substitutes containing much cereal or sugar become fat but waste away quickly when attacked by diseases. The author's analysis of the body of such a child showed an abnormally large proportion of water. The conviction that in such cases the increased proportion of water in the body was due to the alteration in diet, and that the proportion of fat or carbo-hydrates in the diet had an influence upon the chemical composition of the body led to an experimental study of this matter which the author has previously reported. A series of dogs and guinea pigs were placed on different forms of diet. Animals from the same litter were used. Those animals fed with the form of diet containing the largest portion of carbohydrate, showed the largest percentage of water.

The conclusion drawn was that the percentage of water in an animal's constitution depends on its age and also upon its diet. The variations are not dependent as has been asserted merely upon the putting on or loss of fat, but also upon the proportion of other solid substances present.

The increase of solid substances found in the bodies of animals fed on fatty food consisted of nitrogenous matter as well as of ash.

The plan of the present experiment was first to determine how the increased percentage of solid substance resulting from fat feeding is produced, and second to determine whether animals possessing this larger proportion of solid substance were more resistant to infection than others. Swine were chosen for the experiment since they can be fattened readily on either a carbohydrate or fat diet provided sufficient nitrogenous food is added.

As bases for diet in each case whole milk or fat free buttermilk was used. For the fat diet sesam oil was added and later linseed oil was cooked in whole milk. For the carbohydrate sugar and wheat flour was added to buttermilk poor in fat. Later to save expense wheat bran and potato in milk were also employed.

Pigs six to ten weeks old were employed. The controls were always from the same litter. For producing infection suspension of tuberculous material of bovine origin in salt solution was used.

Five ccm. were injected under the skin of the back in each case. The injections were not made until the animals had been for two or three months on the so-called specific diet.

Of the ten animals reported upon, the course of the tuberculous infection was much less severe in those fed on the fat diet, than in those receiving the carbohydrate diet. All of the animals died of tuberculosis. Six of the autopsies were performed by veterinaries in the service of the City of Breslau who had not been informed regarding the preparatory feeding of the animals. They found the lesions much more pronounced in the carbohydrate fed animals, than in the fat fed. The author found similar conditions in the four he examined.

For instance, of two animals which had died within five weeks from their injection, the one fattened with full milk and linseed oil showed the following lesions:—Several small areas of broncho-pneumonia in both lungs, and in the

liver and spleen there was miliary tuberculosis of limited extent. A few caseous bronchial and mesenteric lymph glands were also found. The animals fed on a diet containing large proportion of carbohydrate, showed both lungs almost completely filled with tuberculosis pneumonia, beside thousands of caseous miliary tubercles, the spleen completely riddled with large caseous tubercles, extensive bronchial and mesenteric gland tuberculosis.

It will be noted that all the animals died of tuberculosis; not knowing just what the infecting dose of the virus would be for a healthy animal, the author gave enough to cause tuberculosis in all of them and then studied the varying course of the disease in each. This was practicable since as those familiar with the animals know well that swine can still be fattened in spite of extensive tuberculosis, yet in spite of this the autopsies showed a marked difference in favor of those animals whose diet contained much fat.

So far as the author could learn this is the first time that the course of tuberculosis in any given species has been altered by the management of the diet.

The only conclusion with reference to man which the author draws from these experiments is that mere increase in weight is not the only thing to be arrived at in the treatment of tuberculosis, that it makes some difference with what kind of food the increase in weight is obtained, and that a diet in which carbohydrates predominate is probably of less value than one containing a large proportion of fat it being presupposed in either case that sufficient albumin for the requirement of the body be included in the diet. The following conclusions are arrived at:

1. No sort of fattening brings about absolute protection from tuberculosis.

2. The rich diet of the more prosperous classes containing a large proportion of fats is better protection than the diet of the poorer classes containing much carbohydrate matter.

Fats should be used in feeding as much as possible without making the diet one sided.

A. T. L.

Among the many detractors of the delightful habit of smoking was a Mr. Trask, the author of several works against tobacco, who at the close of a public lecture, asked if any member of the audience wished to propound questions. There was soon a general cry for the Rev. Daniel Waldo, Chaplain of the Senate. Mr. Waldo then rose and said, rolling a quid of tobacco in his mouth: "Brother Trask has conclusively shown that tobacco is a poison; now, from the age of eighteen, I can remember no waking hour in which I had not some of this tobacco in my mouth; smoking much of the time, chewing when not smoking. I am now ninety-two years of age, sound in wind and limb, and have never had a day's sickness. I think therefore that while you will agree with Brother Trask that tobacco is a poison, you will agree with me that it is a very slow poison."—*Dining and Its Amenities, Rebman.*

New Books.

A Manual of Diseases of the Nose, Throat, and Ear. By E. B. Gleason, M.D., LL.D. Philadelphia, London, W. B. Saunders Co., 1907. 556 pp., 1 col. pl., 1 chart. 12mo.

The author very modestly calls this book a Manual; which, in an etymologic and mechanical sense it is—a small book. But, thanks to a practical publisher, Dr. Gleason has succeeded in encompassing within a relatively small volume a mass of instructive teaching much in excess of many a more pretentious text-book or treatise, padded to an unconscionable extent with thick, cumbersome paper and wide marginal wastes of vacuity.

The first part of the book is devoted to laryngoscopy, rhinoscopy, otoscopy, sterilization of instruments and examination of patients, in which many useful hints are given especially to the beginner.

After which, about one half of the volume is taken up with diseases of the Nose, and its accessory sinuses; the Pharynx, Naso-Pharynx and Oro-Pharynx; and the Larynx.

Most of the remainder of the work is occupied with a consideration of the diseases incident to the Ear.

At the end, about forty pages are usefully employed with a collection of formulas which represent more than a mere catalogue of prescriptions; a detailed description of the better methods of use of each of the more important drugs having been interpolated.

The book contains 262 engravings, a considerable proportion being original, or drawn from dissections made by the author.

Those drawn from dissections are rather too small to be extremely useful from an anatomical or surgical standpoint.

In carcinoma of the larynx, the author is in accord with the majority in teaching that extirpation of the larynx, either in part or as a whole, gives the only hope of bringing about a cure of the affection. But he advises that "Extirpation, either partial or entire, should not be undertaken, except the disease be intrinsic and limited entirely to the larynx."

In teaching the diagnostics of the diseases of the ear, the tests for hearing are explained in a very concise and lucid manner.

The author does not believe that *Phonomassage,* by means of sounds conveyed to the ear through rubber tubes from various musical instruments or *Pneumomassage,* with electro-magnetic and other machines, are in any way superior to massage with the ordinary pneumatic speculum.

In Sinus Thrombosis, Dr. Gleason does not advise operation upon the jugular vein unless the clot has extended down into it, as evidenced by tenderness along the anterior border of the sterno-mastoid muscle.

Mineral acids are highly extolled in the treatment of hay fever, and the author makes the very positive and somewhat startling statement that 5 to 10 drops of freshly prepared nitro-muriatic acid, four times a day, will, in a large proportion of cases of the disease, eliminate all symptoms within 48 hours.

The book is not only adapted to supply students with the essential facts of Rhinology, Laryngology and Otology, but is worthy of a foremost place in the library of every general practitioner—and specialist, as well.

Chas. N. Cox.

Diseases of Infancy and Childhood: Their Dietetic, Hygienic, and Medical Treatment; A Text-Book Designed for Practitioners and Students in Medicine. By Louis Fischer, M.D. Philadelphia, F. A. Davis Co., 1907. xxiii, 979 pp., 16 pl., 11 col pl., 8vo. Price: Cloth, $6.50 net; Half Morocco, $8.00 net.

It is unfortunate that the outside of this work is not as good as the inside, for with very bad taste the publishers have emblazoned upon the cover an offensive marking. The work of the author, however, is all that could be desired and the arrangement and detail of his

text is excellent. There will always be differences of opinion upon the mooted questions of pediatrics, but a review is hardly the place to discuss them. Dr. Fischer is a man with some peculiar ideas, but he has the honesty to state them and his wide experience gives them considerable weight. Taking a broad view of this present volume, we can commend it to the attention of all students and practitioners of medicine, for it is well written, splendidly arranged, its statements are concise and accurate and bear the ear marks of a large clinical experience by a close observer. Too often we tie ourselves up to one author upon a subject and the tendency is to make us narrow-minded—here is an opportunity to add a very valuable book to our library upon the subject of the diseases of childhood. The volume is so generally good that it is difficult to pick out any one section which seems to excel the others, but it does seem from our study of the book that the section on the infectious diseases and that upon feeding are particularly fine and, taken alone, would repay many times the purchase of the book.

The numerous illustrations are carefully selected and instructive. The colored plates are similar to most such—they are misleading, as the art of making them is far from perfected. L. K.

THE CLIMATIC TREATMENT OF CHILDREN. By FREDERICK L. WACHENHEIM, M.D. New York, Rebman Co. [c. 1907]. viii, 400 pp., 8vo. Price: Cloth, $2.50.

The author must have spent a very considerable amount of time and thought upon this volume—much more than is spent upon works of similar size, and it is unfortunate that so much labor must be spent upon a subject which will appeal only to the few.

This little book is a splendid contribution to the study of its subject, but will rarely be used by practitioners or even pediatricians, for we are so seldom consulted in regard to these matters. The author deserves all the credit that can be given to him for his work, which must have been as arduous as it is painstaking. L. K.

THE CAUSE AND PREVENTION OF BERI-BERI. By W. LEONARD BRADDON, M.B., B.S., F.R.C.S. London, Rebman Limited. New York, Rebman Co., 1907. xiii, 544 pp., 8vo. Price: Cloth, $6.00.

Beri-Beri is not a disease that is frequently seen in the United States, although it is apt to be common in our colonial possessions.

The author has made an exhaustive study of the subject and his conclusions are that spoiled rice causes the disease, and the prevention and cure is wrought either by excluding rice from the dietary or so reducing the quantity that it can be eaten with impunity.

While the work is of undoubted value in settling the etiology of this tropical disease, it seems as much could have been accomplished if the author had condensed the matter to one-half the size.

If spoiled rice is the cause of the disease, and there seems to be no doubt that it is, why multiply words and arguments to establish an obvious fact?

PRINCIPLES AND APPLICATION OF LOCAL TREATMENT IN DISEASES OF THE SKIN. By L. DUNCAN BULKLEY, A.M., M.D. New York, Rebman Co. [c. 1907]. xii, 130 pp., 8vo. Price: Cloth, $1.00.

This series of lectures by Dr. Bulkley cannot fail to be of benefit to the general practitioner, for if they do nothing else they will teach temperance in treatment, which seems to be the most difficult thing for those who have but a passing acquaintance with skin diseases to learn.

It is also more than probable that this little work will be found useful to the trained dermatologist.

BIOGRAPHIC CLINICS. Volume V. Essays concerning the Influence of Visual Function, Pathologic and Physiologic, upon the Health of Patients. By GEORGE M. GOULD, M.D. Philadelphia, P. Blakiston's Son & Co., 1907. 399 pp., 8vo. Price: Cloth, $1.00 net.

Volume V consists mainly of articles which have recently appeared in various medical journals.

Chapter II, "Etiology of Spinal Curvatures," was written by Professor Wilson of Philadelphia.

It is maintained that scoliosis may be caused by "head tilting," which usually occurs in people who have astigmia with an oblique axis.

The statistics in the chapter on suicide are somewhat confusing. But Gould concludes that the suicide rate rises in proportion to the school pressure. Bronc is quoted, who says that the number of suicides in the country could be calculated from the number of pupils in the public schools.

A brief review is not the place to discuss matters of controversy. However, it seems that Gould is justified in making a plea in behalf of a more extended consideration of topics relating to refraction. A large part of an oculist's time is spent in fitting or attempting to fit glasses. And yet this subject, the most important branch of ophthalmology, usually forms but a small part of the programs either of local or national societies. J. W. I.

HYGIENE OF NERVES AND MIND IN HEALTH AND DISEASE. By AUGUST FOREL, M.D. *Authorized Translation from the Second German Edition,* by HERBERT AUSTIN AIKINS, Ph.D. x, 343 pp., 8vo. Price: Cloth, $2.00.

The volume which appears under the above caption is primarily addressed to the layman rather than the physician, consequently the author has been obliged to occupy a great deal of space with elementary neurology, in order to make his conclusions at all intelligible to his reader. The first five chapters deal respectively with the elementary psychology, anatomy, physiology and embryology of the nervous system; the two following comprise definitions and descriptions of the common nervous and mental disorders, so that in a work of nearly three hundred and fifty pages, only one hundred pages really deal with the subject in hand—all the rest is prefatory. The medical practitioner can obtain practically the entire gist of the work by simply reading the Third Part, where Forel considers mental hygiene. The most interesting chapter in the book is the one dealing with pedagogics, in which the author describes the workings of the Swiss and German country home schools, whose system, he believes, will be that of the school of the future. He is very emphatic in his denunciation of the effects of alcohol upon the nervous system and is an ardent advocate of absolute prohibition. He has evidently also a strong leaning toward the use of hypnosis as a therapeutic agent in functional nervous diseases. The volume is excellently translated and well printed.

FREDERIC C. EASTMAN.

PRACTICAL DIAGNOSIS; The Use of Symptoms and Physical Signs in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., B.Sc. *Sixth Edition.* Philadelphia, New York, Lea Brothers & Co., 1907.

Those acquainted with this book, who have learned to value it by frequent use, in this present edition will find an advance over previous issues. For those who employ the inductive method in argument this is an example to study. To those seeking a ready reference work, to the busy practitioner, this volume will appeal with much force. Instructive and typical engravings and plates are liberally employed to illustrate the various subjects. It was the work of a genius to compile this mass of clinical data in such a novel form. It is a monument to industry and learning. The profession will profit greatly if they will study and use the book freely.

A MANUAL OF CLINICAL DIAGNOSIS. By Means of Microscopic and Chemical Methods for Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, B.A., M.D. xix, 682 pp., 2 pl., 22 col. pl., 8vo. *Sixth Edition, Thoroughly Revised.* Price: Cloth, $4.00.

Those who look askance at laboratory procedure in diagnosis will do well to peruse these pages. They will enable them to make some estimate of the hiatus existing between mere physical examination and accurate diagnosis. After such estimate perusal will be changed

to careful study, and frequent enlistment of laboratory and its agents will follow.

This is a wonderful book, wonderful for its completeness, its clearness, its exactness of statement and directions for procedure and application of tests. It is one of our treasures of untold value, and ever increases in value and freshness. It was fashioned by a master hand and that hand continually adds to it new strength and beauty. It will serve as an effective instrument to the worker and as an infallible argument against the stupid "cults" of the day.

PRACTICAL FEVER NURSING. By EDWARD C. REGISTER, M.D. Philadelphia, London, W. B. Saunders, 1907.

As in other departments of educational work the successful training of the nurse necessitates special instruction in the several classes of cases which she will be required to care for. This book deals with the skilful care of those ill with fevers and treats of typhoid, malaria, pneumonia, tuberculosis; the eruptive fevers, puerperal fever and some of those more rare diseases, bubonic plague, dengue, typhus and relapsing fever. There are excellent chapters on the prevention of infection and the sterilization and fumigation of infected material and apartments. The style is clear, the instruction practical, and there is a remarkable absence of technicalities when one considers the advanced state of our knowledge regarding the causation of many of the fevers.

The book may well be recommended to lecturers and nurses. The illustrations are very appropriate.

W. S. H.

PHARMACOLOGY AND THERAPEUTICS.. By REYNOLD WEBB WILCOX, M.A., M.D., LL.D. *Seventh Edition, Revised with index of symptoms and disease.* Philadelphia, P. Blakiston's Son & Co., 1907.

Professor Wilcox has compiled in very concise form a useful text-book of recognized Pharmacopœial Drugs.

This seventh edition brings the work up to date in accordance with the last edition of the United States Pharmacopœia and discusses as well those unofficial preparations which have been found useful.

One is pleased with the completeness of the book and with its convenient size.

The style is clear and the treatment of the subject of Therapeutics able.

The arrangement of drugs by their actions upon the various symptoms of the body is particularly convenient.

W. S. H.

MATERIA MEDICA, THERAPEUTICS, PHARMACOLOGY AND PHARMACOGNOSY: Including Medical Pharmacy, Prescription Writing and Medical Latin; A Manual for Students and Practitioners. By WILLIAM SCHLEIEER, Ph.G., M.D. Series edited by BERN. B. GALLAUDET, M.D. *Third Edition, Revised and Enlarged.* Philadelphia, New York, Lea Brothers & Co. (c. 1097).

Of the many Revised Editions which have followed the introduction of the United States Pharmacopœia of 1900 few are more worthy than the book before us. Small in size yet comprehensive in contents, it furnishes its students and practitioners a clear description of all the recognized drugs, their uses and their dangers. The arrangement of the material according to the effects of the drugs makes the book especially serviceable in class work. Space is allowed for the index of some sixty unofficial new remedies of recognized value.

The typographical display is singularly effective and the binding firm and fit for service. W. S. H.

DISEASES OF THE STOMACH.. By DR. I. BOAS. The sole Authorized English American Edition from the latest German Edition, by ALBERT BERNHEIM. Philadelphia, F. A. Davis Co., 1907.

In view of the eminence of the author and the favorable recognition accorded the originals as they have appeared it is strange that a translation of Boas's book on Diseases of the Stomach has not been previously presented. To the specialist the value of a belated translation is open to question; changes take place with great rapidity. For the general practitioner a text-book on such a special subject is generally of little practical value, but this book has been kept singularly free of useless matter.

Dr. Boas is fitted as are few men to write such a work: a pioneer in the field, he has attracted to him in the past twenty years some of the ablest investigating minds, and together they have given us a large share of the accurate knowledge we now have concerning the affections of the gastro-intestinal tract. His recently issued "Gesammelte Beiträge" is a monumental collection of monographs published by him and his scholars in the past two decades. They show very clearly the influence he has had on the thought of this period.

The chapter devoted to the Amnesis is a very striking one. Efforts to gain wider recognition of this essential element in diagnosis are particularly opportune, in view of the notion prevalent in some quarters that gastric chemistry can decide all gastric problems. This is well shown by the request often made on laboratories for a diagnosis of a case merely on a specimen of stomach contents, unaccompanied by even such data as have been secured. He details a very valuable series of questions as a basis in the establishment of the diagnosis. There is a noticeable lack of sufficient inquiry as to the mental state and the habits of living. Although this subject is gone into with care in the chapter on Neuroses and other places, it seems as if its importance justified greater elaboration in the very beginning of the book.

The examination of the gastric contents is discussed in all its details, and a novice dependent on the book for his instruction might well feel that such elaborate work could only be done by a highly trained chemist. As a matter of fact with the Topfer method, the one in common use in this country, we can gain all the needed information as to acidity even though possessed of little laboratory training. The German school have never found this method sufficiently slow and labored for their type of mind. Boas lays great stress on the microscopic examination of the gastric contents and states what to find and how to find it in a way not detailed in any other text-book.

The subject of foods and dietaries is handled with breadth and clearness. One feels throughout that the author has been alert to the advances in knowledge of the physiology of digestion and metabolism that have come through the work of Palow, Cannon, and other recent investigators.

The long vaunted virtues of the German water cures, the many mineral springs with mystic powers, have at last been subjected to scientific inquiry. It is evident that the author does not hold them in such high esteem as do the majority of his fellow countrymen; it has always been difficult to reconcile their scientific scepticism with their wonderful credulity on this particular subject. The suggestion of the possibility of substituting an artificial Carlsbad salt for the spring water or its derived salt would almost seem to be an act of *"lèse majesté"* if perpetrated in the Fatherland.

The section on the various gastric diseases gives strong evidence of the writer's broad-mindedness. He seems to fully appreciate the limitations of antemortem diagnosis; the irregular cases, the ones that actually seem to preponderate, are very fully treated. Clear, classic pictures are not demanded when the reader has imbibed the clinical wisdom of the author. Since the book was written, however, our knowledge of the great variation in symptomatology has been decidedly added to by exploratory surgery. On the other hand we have seen in this country the beginnings of an epochal development of the psychic treatment of functional disorders, and in consequence the teachings concerning these conditions must undergo decided changes. Through these widely different influences we have come to realize the incompleteness of our former judgments.

Boas did not have recourse to the work of the English and American surgeons, and as they have so largely blazed the way his old opinions on gastric surgery expressed several years ago have not the force they would no doubt have in revised form.

The translator's work has been well done, and many little items of interest have been added. In many places there is a tendency to retain the original expressions, and to those unfamiliar with the language there might be a resulting confusion.

On the whole, it is our opinion that this is the best text on Diseases of the Stomach to be found in the English language, at the present time.

DUDLEY ROBERTS.

RÖNTGEN RAYS AND ELECTRO-THERAPEUTICS: With Chapters on Radium and Phototherapy. By MIHRAN KRIKOR KASSABIAN, M.D. Philadelphia, London, J. B. Lippincott Co. [c. 1907]. xxxii, 545 pp., 46 pl., 4 col. pl., 4 charts, 8vo. (*Lippincott's New Medical Series*, Edited by Francis R. Packhard, M.D.) Price: Cloth, $3.50.

The number of works that have been written on these subjects is not large and we can welcome the appearance of another.

The book is naturally divided into two parts—the first dealing with the various general uses of electricity in medicine and the second with the Röntgen rays. The sections on electricity contain what the physician most desires to know—the various forms of currents and when and how to utilize each form.

The chapters on the Röntgen rays, which occupy by far the greater part of the book, should appeal to general practitioner and Röntgen specialist alike. For the former, there is the general scope of the uses of the rays for diagnosis and therapeusis, and for the latter, the special details of technic which are so important to one using this agent.

The chapters on diagnosis are commendable for the orderly manner and completeness with which the different conditions arising in them are discussed.

The much-discussed subject of radiotherapy is dealt with in a scientific and reasonable manner, particular attention being paid to the physiological action of the X-rays.

Dr. Kassabian has drawn not only on his own large experience in the citation of cases, but has borrowed freely from other authorities for material.

Illustrations are profuse and well executed, but it is unfortunate that skiagraphs cannot be reproduced with more detail and distinctness. CHARLES EASTMOND.

THE PRACTICE OF GYNECOLOGY BY AMERICAN AUTHORS. Edited by J. WESLEY BOVEE, M.D., Washington, D. C. Lea Brothers & Co., Philadelphia and New York, 1906.

This book is a companion to the books on Obstetrics and Pediatrics—three kindred subjects treated in much the same manner. It includes not only the female generative organs but the urinary system and rectum as well. The work cannot be described as full, as it purposely omits references and general discussions. It possesses the merit of being practical in that it is of immediate help to the gynecologist in his work. Enough of pathology is given to fulfil this requirement. In the consideration of vaginitis, endometritis, salpingitis, ovaritis and peritonitis the pathology is as full as could be expected in a work upon so large a subject.

The several parts of the book are written by Drs. Bovee, Goffe, Miller, Noble, Schenck, Watkins and Werder—all of whom are well and favorably known as gynecologists of the most advanced school. There are some 382 illustrations in black and sixty full-page plates. The work is a good guide for the gynecologist or for the general practitioner who must know the principles of gynecology. J. P. W.

Medical Society of the State of New York.

SCIENTIFIC SESSION.

DISCUSSIONS.

ANNUAL MEETING, JANUARY, 1908.

PANCREATITIS RESULTING FROM GALL-STONE DISEASE.

DR. WILLIAM J. MAYO, Rochester, Minn., read a paper with the above title, for which see page 169.

DUODENAL AND GASTRIC ULCERS.

DR. ALBERT J. OCHSNER, of Chicago, Ill., read a paper with the above title, for which see page 172.

THE GASTRIC NEUROSES.

DR. DUDLEY D. ROBERTS, of Brooklyn, N. Y., read a paper with the above title, for which see page 176.

THE DIAGNOSIS AND TREATMENT OF GASTRIC ULCER.

DR. DELANCEY ROCHESTER, of Buffalo, N. Y., read a paper with the above title, for which see page 180.

SURGERY OF THE LIVER AND GALL BLADDER.

DR. JOHN C. MUNRO, of Boston, Mass., read a paper with the above title, for which see page 183.

NON-PARASITIC CYSTS OF THE LIVER AND CONGENITAL CYSTIC LIVER.

DR. WILLIS G. MACDONALD, of Albany, N. Y., read a paper with the above title, for which see page 185.

Discussion.

DR. CHARLES G. STOCKTON, of Buffalo, expressed his appreciation of the excellent papers presented and regretted that in the time allowed he could only browse where he should much prefer to graze. He said that there can only be assent to the conclusions of Dr. William Mayo as to the frequent associations of biliary and pancreatic disease, but he continued that many cases of acute pancreatitis do occur without biliary involvement.

He believed that chronic pancreatitis occurs more frequently than is commonly supposed, and often entirely independent of disease of the liver or its ducts, and that such conditions should receive more attention than they heretofore have.

He expressed special interest in Dr. Ochsner's paper because it took up the treatment of gastric ulcer both before and after operation. He believed that operative procedures were instituted not so much for the sake of the ulcer itself, but as a means of treatment of the conditions which the ulcer had induced, viz., enterostomy as a means of draining a dilated stomach.

He stated that the motor function of the stomach, the spasm, was often overlooked, and it should be the object so to feed the patient that the least possible spasm should occur. In his experience he had not found the great amounts of mucus in the stomach referred to by Dr. Rochester.

He considered Dr. Robert's paper on Gastric Neuroses the most important one presented, inasmuch as it is of the greatest importance that this class of cases be properly understood, and as a matter of fact, they are but little understood. He deplored the tendency of the average physician to give cases too little attention when found to be upon a psychic basis.

DR. R. T. MORRIS, of New York, considered the subject too large to be properly discussed in the time allotted. He said that if he were to give advice to

young physicians it would be, "Keep out of debt, and remember that all cases of stomach and bowel trouble are not stomach and bowel trouble." He considered that hyperchlorhydria and similar names are high sounding, but they do not express any pathological entity. If the name is of any value at all, it is to impress the patient with the enormity of his disease so that he would carry out the physician's orders. In such cases he believed that eye-strain and the normal involution of the appendix must be eliminated.

Dr. W. L. Dunning, of Newburgh, requested help and explanation on two questions, viz., the formation of duodenal ulcer after burns, and the early diagnosis of cancer. He asked if the injection of trypsin in normal individuals would always give a negative trypoglycogenic reaction and if it would always react in the presence of malignant disease.

Dr. A. Jacobi, of New York, considered neuroses of the stomach to be but one form of nervous exhaustion, and stated that the pain was often mitigated by eating, but would return in two or three hours. Patients might eat again and the pain again disappear, but to return as before. He believed this to be not only of diagnostic, but of practical importance, because as the patient must eat five or six times in a day, the physician should advise him what to eat and how to eat it. He regarded pain immediately after taking food or even while eating as strongly indicative of ulcer, while pain in the intestines two or three hours after eating pointed to disease of the colon.

Dr. Jacobi never admitted as many articles of food as allowed by Dr. Rochester. His dietary was described as "milk, milk, milk," with rarely a little stale bread. He advised magnesium and bismuth during attacks of nausea. He stated that by this method of treatment a cure might be hoped for in five or six weeks, and also while this method of procedure was being carried out the patient would often gain in flesh.

Dr. L. D. Bulkley, of New York, cited the case of a woman who ate breakfast on the day of a proposed operation. She ate no dinner. When the anesthetic was administered, about 3 P. M., she vomited the breakfast taken that morning apparently unchanged. He believed that the fear of the operation retarded the digestion. He asked, "What would have happened if the patient had had no operation?" and answered it by saying, "Probably headache and fever which would never have been explained."

Dr. Albert Vander Veer, of Albany, moved that a vote of thanks be extended to Drs. Mayo, Ochsner and Munro for coming to Albany and presenting their papers. This was carried unanimously.

Dr. Joseph Collins, of New York, considered the papers presented a remarkable symposium and an indication of great progress, but the subsequent discussion certainly denoted corresponding retrogression. He denied the existence of reflex neuroses and lamented the fact that Drs. Munro and Roberts should jump back fifty years and try to classify gastric disorders upon a basis of obscure neuroses. He defended the term hyperchlorhydria as legitimate and signifying something.

Dr. E. B. Angell, of Rochester, wished to back up in every particular the sentiments of Dr. Collins and believed the question of gastric neuroses to be highly speculative and purely hypothetical.

Dr. William Mayo commended Dr. Stockton upon his able discussion and said that he always liked to discuss such a subject with a man like Dr. Stockton, because he thought that being a surgeon he was liable to overestimate his side of the question and disregard the viewpoint of the internist. He expressed the hope that this symposium would stimulate the medical side of the profession to investigate pancreatic disease not associated with biliary involvement.

Dr. A. J. Ochsner, of Chicago, considered all cases of gastric ulcer surgical that did not become permanently cured medically. He showed that at most operations secondary changes had occurred, as pyloric obstruction, or the ulcer may have attacked some other organ, as indicated in the paper, or extended into the duodenum, causing contraction and obstruction. The cause of ulcer following burns, he continued, in answer to Dr. Dunning, is purely theoretical, but is supposed to be due to the absorption into the blood stream of decomposing material. The early diagnosis of cancer he believed to be on the same basis, viz., theoretical. Some claim that a tryptoglycogenic reaction can be obtained even in early cases of malignancy.

THE PRESENT STATUS OF THE OPTOMETRY AND ANTI-VIVISECTION BILLS.

There was a joint hearing on the Optometry Bill before the Senate and Assembly Public Health Committees on February 27th, in the Senate Chamber. The Committee on Legislation of the Medical Society of the State of New York appeared in opposition to the bill, being reinforced by a member of the Committee on Legislation of the Medical Society of the County of New York, and the Opticians' League of the State of New York. The latter body, composed of representative business men of this State, voiced their opposition to this bill and divided the force of the opticians. The outlook after the hearing, seemed to be very favorable for the defeat of the bill, but it was finally reported to the Senate, and on March 26th was ordered to third reading in that body. What the fate of this measure will be, it is impossible at this time to say, but we have every faith in the intelligence and good will of the members of the Legislature, and that they will finally vote to protect the interests of the State by defeating this measure.

There was a joint hearing in the Senate Chamber on March 25th before the Senate and Assembly Judiciary Committees, on the Anti-Vivisection Bills. A delegation from New York City, representing the boroughs of Manhattan and the Bronx and Brooklyn, with other representatives from Buffalo, Syracuse and other parts of the State appearing in opposition. The argument in favor of the bills divided itself into two parts. The first declared that animal experimentation had not been of incalculable benefit to humanity, not only denying its benefits, but even that the antitoxin treatment for diphtheria and meningitis were not at all necessary. The principal argument made in favor of the enactment of these bills, by the second part, was that the doctors worked in secret, and that working in this way, their natural brutality led them to inflict most atrocious cruelties on weak and defenseless animals. Stories of wanton cruelties, unsupported by any evidence whatsoever, were presented by lawyers who would be ashamed to present such evidence in a court of law. The animus behind these bills was very plainly shown. The intent is evident on the part of certain misguided and ill-informed people to prohibit animal experimentation, and every step towards restricting it will be just one step nearer the desired goal. It was plainly demonstrated that

if the scientists of this State desire to retain the privilege of advancing the cause of science, they must be unequivocally opposed to any new laws designed to restrict animal experimentation.

The readers of this article are urged—if they have not done so to do it at once, and if they have done so to do it again—to write their representatives in the Legislature, urging the defeat of these iniquitious measures.

FRANK VAN FLEET, M.D.,
Chairman Legislative Committee.

ANNUAL MEETINGS OF THE DISTRICT BRANCHES, 1908.

First District Branch.

Second District Branch.

Third District Branch—October 27th, in Troy.

Fourth District Branch—October 13th, in Amsterdam.

Fifth District Branch—October 15th, in Utica.

Sixth District Branch, October 6th, in Binghamton.

Seventh District Branch, October 20th, in Auburn.

Eighth District Branch—Last week in September, in Batavia.

LEGISLATIVE NOTES.

The following bills of interest to the medical profession have been introduced in the Legislature:

SENATE BILLS.

To amend chapter 661 of the laws of 1893, entitled "An act in relation to the public health, constituting chapter 25 of the general laws," as amended by chapter 860 of the laws of 1895, and as amended by chapter 840 of the laws of 1896, etc., relating to the practice of veterinary medicine. Introduced by Mr. Ackroyd, and committed to the Committee on Public Health. Int. No. 118, Jan. 20, 1908. Printed Nos. 120, 580.

To revise and amend chapter 479 of the laws of 1892, entitled "An act to supply the city of Auburn with water," and the several acts amendatory thereof and supplemental thereto. Introduced by Mr. Wilcox. Int. No. 391, Feb. 17, 1908. Printed Nos. 444, 582.

To amend the insurance law, in relation to forms of health and accident policies. Introduced by Mr. Saxe, and committed to the Committee on Insurance. Int. No. 212, Jan. 28, 1908. Nos. 220, 667.

Making an appropriation for deepening and cleaning the outlet of Ballston Lake for the better preservation of the public health, and to prevent its waters from becoming putrid and unhealthy. Introduced by Mr. Wemple, committed to the Committee on Finance. Int. No. 546, Mar. 2, 1908. Printed No. 638.

Making an appropriation for the entertainment of the American Association for the Study of the Feebleminded. Introduced by Mr. Ackroyd, and committed to the Committee on Finance. Int. No. 548, Mar. 2, 1908. Printed No. 640.

To regulate the installation and use of gas-pipes in rooms used or intended to be used for sleeping purposes. Introduced by Mr. Sohmer, and committed to the Committee on Miscellaneous Corporations. Int. No. 51, Jan. 8, 1908. Printed No. 51.

To amend the insanity law, in relation to salaries of certain officers and employees of State hospitals. Introduced by Mr. Smith, and committed to the Committee on Finance. Int. No. 216, Jan. 29, 1908. Printed No. 227.

To authorize the trustees of the Amawalk Monthly Meeting of Friends to sell certain meeting-house and cemetery lands at Croton-on-Hudson, in the town of Cortlandt, etc., remove the remains therefrom and distribute the proceeds of sale. Introduced by Mr. Carpenter, and committed to the Committee on the Judiciary. Int. No. 573, March 4, 1908. Printed No. 679.

To amend chapter 416 of the laws of 1900, entitled "An act to establish a State hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor, in relation to admission of free patients. Introduced by Mr. Gilchrist, and committed to the Committee on Finance. Int. No. 586, March 4, 1908. Printed No. 692.

To amend the public health law, in relation to pharmacy. Introduced by Mr. Carpenter, and committed to the Committee on Public Health. Int. No. 589, March 5, 1908. Printed No. 708.

To amend the agricultural law, relative to the appraisal of and compensation for animals destroyed, and making an appropriation therefor. Introduced by Mr. Allds, and committed to the Committee on Finance. Int. No. 596, March 6, 1908. Printed No. 718.

To prevent cruelty, by regulating experiments on living animals. Introduced by Mr. Cobb, and committed to the Committee on the Judiciary. Int. No. 599, March 6, 1908. Printed No. 721.

To provide for a commission to inquire into the subject of the treatment of inebriates and persons addicted to the excessive use of narcotics and the relation of crime thereto, and the expediency of the establishment of a State institution for the care and maintenance of such persons. Introduced by Mr. Cobb, and committed to the Committee on Finance. Int. No. 600, March 6, 1908. Printed No. 722.

Authorizing and empowering the city of Mount Vernon to construct a sewerage disposal works and to issue bonds for the purpose of paying for the same. Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Cities. Int. No. 607, March 9, 1908. Printed No. 730.

To amend the agricultural law, relative to compensation to owners of animals quarantined or destroyed because of tuberculosis. Int. No. 609, March 9, 1908. Printed No. 732.

To amend the public health law, in relation to vital statistics. Introduced by Mr. Grattan, and committed to the Committee on Public Health. Int. No. 610, March 9, 1908. Printed No. 733.

To amend the agricultural law, relative to the appraisal of and compensation for animals destroyed. Introduced by Mr. Cobb, and committed to the Committee on Finance. Int. No. 612, March 9, 1908. Printed No. 735.

To amend the consolidated school law, in relation to the payments by the State to institutions for the deaf and dumb and the blind. Introduced by Mr. Agnew, and committed to the Committee on Finance. Int. No. 80, Jan. 15, 1908. Printed No. 83.

To provide for a commission to confer with the United States government relative to inland waterways in the State of New York and making an appropriation therefor. Introduced by Mr. Wemple, and committed to the Committee on Finance. Int. No. 136, Jan. 21, 1908. Printed No. 138.

To amend chapter 105 of the laws of 1891, entitled "An act to revise the charter of the city of Buffalo," in respect to the care of trees in the streets and public places of said city. Introduced by Mr. Hill, and committed to the Committee on Affairs. Int. No. 145, Feb. 13, 1908. Printed Nos. 146 and 399.

To amend the general city law, in relation to plumbers. Introduced by Mr. Foelker, and committed to the Committee on Affairs of Cities. Int. No. 173, Jan. 23, 1908. Printed No. 178.

To amend chapter 4 and chapter 9 of title fifteen of the penal code, by adding new sections thereto, relative to false and fraudulent representations of sales. Introduced by Mr. Grady, and committed to the Com-

mittee on Codes. Int. No. 403, Feb. 18, 1908. Printed No. 449.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement houses in cities of the first class," relative to bakeries. Introduced by Mr. Gilchrist, and committed to the Committee on Affairs of Cities. Int. No. 426, Feb. 19, 1908. Printed No. 447.

In relation to the selection and powers of the trustees and members of the New York Dispensary. Introduced by Mr. Agnew, and committed to the Committee on the Judiciary. Int. No. 648, March 11, 1908. Printed No. 793.

To establish a State farm for women, and making an appropriation therefor. Introduced by Mr. Armstrong, and committed to the Committee on Finance. Int. No. 654, March 11, 1908. Printed No. 798.

In relation to the payment of the costs and expenses of draining certain lands in the town of Eastchester, Westchester County, on the petition of Herbert D. Lent, as supervisor thereof, and to the discontinuance and abandonment of certain parts of said improvements. Introduced by Mr. Carpenter, and committed to the Committee on Internal Affairs of Towns and Counties. Int. No. 626, March 10, 1908. Printed No. 751.

To amend chapter 8, part three, title sixteen of the revised statutes, known as the drainage law. Introduced by Mr. Carpenter, and committed to the Committee on the Judiciary. Int. No. 627, March 10, 1908. Printed No. 752.

To amend the revised charter of the city of Auburn, by adding thereto a new title, relative to the Department of Public Health. Introduced by Mr. Wilcox, and committed to the Committee on Affairs of Cities. Int. No. 673, March 12, 1908. Printed No. 827.

To amend the labor law, in relation to sanitation and safety. Introduced by Mr. Page, and committed to the Committee on the Judiciary. Int. No. 675, March 12, 1908. Printed No. 829.

Making an appropriation for the purchase of a site for the Eastern New York State Custodial Asylum. Introduced by Mr. Armstrong, and committed to the Committee on Finance. Int. No. 544, March 2, 1908. Printed No. 636.

To authorize the mayor of the city of Utica to appoint a commission to investigate plans for developing or acquiring a water supply for said city and vicinity. Introduced by Mr. Ackroyd, and committed to the Committee on Affairs of Cities. Int. No. 691, March 17, 1908. Printed No. 865.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement houses in cities of the first class, etc., in relation to establishing a commission on appeal and defining the powers thereof." Introduced by Mr. Gilchrist, and committed to the Committee on Affairs of Cities. Int. No. 699, March 17, 1908. Printed No. 872.

Authorizing the trustees of the village of Peekskill to levy by tax, money for the support and maintenance of patients in the Peekskill Hospital, an institution conducted by the Helping Hand Association, a domestic corporation, and for other like purposes. Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Villages. Int. No. 704, March 18, 1908. Printed No. 887.

To amend the labor law, relative to licensing of tenement houses. Introduced by Mr. Davis, and committed to the Committee on the Judiciary. Int. No. 709, March 18, 1908. Printed No. 891.

Defining the powers and duties of local health officers and boards of health in the matter of the protection of the people of the State of New York from the disease known as tuberculosis. Introduced by Mr. Cassidy, and committed to the Committee on Public Health. Int. No. 727, March 19, 1908. Printed No. 921.

To amend the public health law, in relation to infectious and contagious or communicable diseases. Introduced by Mr. Cassidy, and committed to the Committee on Public Health. Int. No. 728, March 19, 1908. Printed No. 922.

To authorize the electors of the village of Peekskill to vote upon a proposition to erect a water filtration plant, and to authorize the issue of bonds for such purpose. Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Villages. Int. No. 735, March 19, 1908. Printed No. 929.

ASSEMBLY BILLS.

To amend the village law, relative to plumbing and drainage. Introduced by Mr. Surpless, and referred to the Committee on Affairs of Villages. Int. No. 906, Feb. 27, 1908. Printed No. 1084.

To legalize, ratify and confirm all acts and proceedings of the Board of Sewer Commissioners and Board of Trustees of the village of Lancaster, Erie County, relating to the establishment of a sewer system in said village, and to legalize and validate the adoption of a proposition authorizing the issuing of $150,000 in bonds for said purpose. Introduced by Mr. G. W. Walters. Int. No. 916, Feb. 27, 1908. Printed No. 1094.

To provide a survey and plans for the acquisition of harbor terminals by the State in the port of New York, by the construction of an artificial waterway between Flushing and Jamaica bays, and providing an appropriation therefor. Introduced by Mr. De Groot, and referred to the Committee on Ways and Means. Int. No. 949, Feb. 28, 1908. Printed No. 1131.

To authorize the trustees of the Amawalk Monthly Meeting of Friends to sell certain meeting house and cemetery lands, at Croton-on-Hudson, in the town of Cortlandt, Westchester County, N. Y., remove the remains therefrom, and distribute the proceeds of sale. Introduced by Mr. I. H. Smith, and referred to the Committee on the Judiciary. Int. No. 970, March 2, 1908. Printed No. 1160.

Making an appropriation for the entertainment of the American Association for the Study of the Feebleminded. Introduced by Mr. Blue, and referred to the Committee of Ways and Means. Int. No. 975, March 2, 1908. Printed No. 1165.

To amend chapter 428 of the laws of 1903, entitled "An act to amend chapter 609 of the laws of 1887, entitled 'An act to provide and establish a permanent system of sewerage and drainage in the village of White Plains,'" and in relation to the construction of said system. Introduced by Mr. Wainwright, and referred to the Committee on Affairs of Villages. Int. No. 838, Feb. 21, 1908. Printed No. 985.

To amend the poor law, in relation to hospital accommodations for indigent persons. Introduced by Mr. Miller. Int. No. 996, March 4, 1908. Printed No. 1202.

To amend the public health law, in relation to the cutting and sale of ice. Introduced by Mr. G. H. Whitney. Int. No. 1006, March 4, 1908. Printed No. 1212.

To amend the public health law, in relation to the vaccination of school children. Introduced by Mr. G. H. Whitney, and referred to the Committee on Public Health. Int. No. 1008, March 4, 1908. Printed Nos. 1214, 1396.

To amend the county law, relative to establishment of county laboratories. Introduced by Mr. Hemenway, and referred to the Committee on Internal Affairs. Int. No. 628, Feb. 10, 1908. Printed Nos. 707, 1355.

To amend the public health law, in relation to pharmacy. Introduced by Mr. Haines, and referred to the Committee on Public Health. Int. No. 1035, March 5, 1908. Printed No. 1261.

To amend chapter 416 of the laws of 1900, entitled "An act to establish a State hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor," in relation to admission of free patients. Introduced by Mr. Sargent, and referred to the Committee on the Judiciary. Int. No. 1042, March 5, 1908. Printed No. 1268.

To amend the agricultural law, in relation to the manufacture and sale of vinegar. Introduced by Mr. Eggleston, and referred to the Committee on Agriculture. Int. No. 1071, March 6, 1908. Printed No. 1309.

To amend the agricultural law, in relation to the sale

of certain substances used in spraying or fumigating fruit trees, or for other purposes, and repealing section 114 thereof. Introduced by Mr. Eggleston, and referred to the Committee on Agriculture. Int. No. 1073, March 6, 1908. Printed No. 1311.

To amend the agricultural law, relative to the appraisal of and compensation for animals destroyed. Introduced by Mr. Boshart, and referred to the Committee on Ways and Means. Int. No. 1079, March 6, 1908. Printed No. 1317.

To provide for a commission to inquire into the subject of the treatment of inebriates and persons addicted to the excessive use of narcotics and the relation of crime thereto, and the expediency of the establishment of a State institution for the care and maintenance of such persons. Introduced by Mr. Filley, and referred to the Committee on Ways and Means. Int. No. 1082, March 9, 1908. Printed No. 1332.

To amend the public health law, in relation to vital statistics. Introduced by Mr. E. J. Staley, and referred to the Committee on Public Health. Int. No. 1084, March 9, 1908. Printed No. 1334.

To amend chapter 682 of the laws of 1892, entitled "An act in relation to legislation, constituting chapter eight of the general laws," as amended by chapter 321 of the laws of 1906, relative to services of attorneys-at-law in legislative matters. Introduced by Mr. Frisbie, and referred to the Committee on the Judiciary. Int. No. 90, Jan. 8, 1908. Printed No. 91.

To amend the consolidated school law, in relation to payments by the State to institutions for the deaf and dumb and the blind. Introduced by Mr. Liebmann, and referred to the Committee on Ways and Means. Int. No. 228, Jan. 15, 1908. Printed Nos. 231, 632, 755.

To provide for the keeping of surgical supplies and appliances in factories. Introduced by Mr. Stern, and referred to the Committee on Labor and Industries. Int. No. 295, Jan. 21, 1908. Printed No. 296.

To amend the public health law, in relation to the housing of men. Introduced by Mr. Wagner, and referred to the Committee on Public Health. Int. No. 309, Jan. 22, 1908. Printed No. 312.

To amend the charter of the city of Buffalo, in respect to the care of trees in the streets and public places of said city. Introduced by Mr. Arnold, and referred to the Committee on Affairs of Cities. Int. No. 406, Jan. 28, 1908. Printed Nos. 419, 831.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement-houses in cities of the first class," as amended by chapter 352 of the laws of 1902 and by chapter 179 of the laws of 1903. Introduced by Mr. Sheridan, and referred to the Committee on Affairs of Cities. Int. No. 438, Jan. 29, 1908. Printed No. 459.

Enabling the board of supervisors of the County of Chemung to appoint and pay a county bacteriologist. Introduced by Mr. D. C. Robinson, and referred to the Committee on Internal Affairs. Int. No. 481, Jan. 30, 1908. Printed No. 503.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement-houses in cities of the first class," * * * in relation to establishing a commission on appeal and defining the powers thereof. Introduced by Mr. Strauss, and referred to the Committee on Affairs of Cities. Int. No. 629, Feb. 10, 1908. Printed No. 708.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement-houses in cities of the first class," * * * in relation to basements and cellars. Introduced by Mr. Strauss, and referred to the Committee on Affairs of Cities. Int. No. 654, Feb. 11, 1908. Printed No. 737.

To amend an act, entitled "An act in relation to agriculture, constituting articles 1, 2, 3, 4 and 5 of chapter 33 of the general laws," in relation to packages and barrels to be used in the sale of fruit. Introduced by Mr. Boshart, and referred to the Committee on Agriculture. Int. No. 725, Feb. 13, 1908. Printed No. 829.

Providing an appropriation for the education of the deaf Indian wards of the State of New York. Introduced by Mr. Hammond, and referred to the Committee on Ways and Means. Int. No. 1010, March 4, 1908. Printed No. 1216.

To amend chapter 8, part 3, title 16 of the revised statutes, known as the drainage law. Introduced by Mr. Wright, and referred to the Committee on General Laws. Int. No. 1113, March 10, 1908. Printed No. 1371.

In relation to the payment of the costs and expenses of draining certain lands in the town of Eastchester, Westchester County, on the petition of Herbert D. Lent, as supervisor thereof, and to the discontinuance and abandonment of certain parts of said improvement. Introduced by Mr. Wright, and referred to the Committee on General Laws. Int. No. 1114, March 10, 1908. Printed No. 1372.

To amend chapter 344 of the laws of 1907, entitled "An act to regulate the practice of medicine, and to repeal article 8 of chapter 661 of the laws of 1893, and acts amendatory thereof," in relation to use of X-ray machines. Introduced by Mr. Goldberg, and referred to the Committee on Public Health. Int. No. 1124, March 11, 1908. Printed No. 1401.

To authorize the mayor of the city of Utica to appoint a commission to investigate plans for developing or acquiring a water supply for said city and vicinity. Introduced by Mr. Hart, and referred to the Committee on Affairs of Cities. Int. No. 1137, March 11, 1908. Printed No. 1414.

Making appropriations for repairs, renewals and betterments for the several State prisons, the Matteawan State Hospital for Insane Criminals, and the Dannemora State Hospital for Insane Convicts. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1142, March 11, 1908. Printed No. 1419.

In relation to the selection and powers of the trustees and members of the New York Dispensary. Introduced by Mr. B. R. Robinson, and referred to the Committee on the Judiciary. Int. No. 1144, March 11, 1908. Printed No. 1421.

To amend the agricultural law, relative to the appraisal of and compensation for animals destroyed. Introduced by Mr. Bashford, and referred to the Committee on Ways and Means. Int. No. 1147, March 11, 1908. Printed No. 1424.

To amend the agricultural law, relative to the appraisal of and compensation for animals destroyed. Introduced by Mr. Boshart, and referred to the Committee on Ways and Means. Int. No. 1070, March 6, 1908. Printed Nos. 1317, 1431.

To amend the penal code, in relation to the sale of certain drugs. Introduced by Mr. A. E. Smith, and referred to the Committee on Codes. Int. No. 1162, March 12, 1908. Printed No. 1461.

Making an appropriation for the quarantine station at Swinburne Island. Introduced by Mr. Surpless, and referred to the Committee on Ways and Means. Int. No. 1163, March 12, 1908. Printed No. 1462.

To amend the public health law, in relation to infectious and contagious or communicable diseases. Introduced by Mr. G. H. Whitney, and referred to the Committee on Public Health. Int. No. 1170, March 12, 1908. Printed No. 1469.

To authorize and regulate the issuance of bonds by the city of Lockport in aid of obtaining its water supply and the construction of a water-works system, and of certain sewers made necessary thereby. Introduced by Mr. C. F. Foley, and referred to Committee on Affairs of Cities. Int. No. 1173, March 12, 1908. Printed No. 1472.

To establish the liability of employers for disease contracted through violation of the factory law of the State of New York. Introduced by Mr. McCabe, and referred to the Committee on the Judiciary. Int. No. 1195, March 13, 1908. Printed No. 1505.

Authorizing and empowering the city of Mount Vernon to construct a sewerage disposal works and to issue

bonds for the purpose of paying for the same. Introduced by Mr. Wright, and referred to the Committee on Affairs of Cities. Int. No. 1206, March 13, 1908. Printed No. 1516.

In relation to improving the water supply of the city of Albany. Introduced by Mr. E. J. Staley, and referred to the Committee on Affairs of Cities. Int. No. 1225, March 16, 1908. Printed No. 1554.

To amend chapter 631 of the laws of 1906, entitled "An act in relation to the water supply and water department of the city of Syracuse." Introduced by Mr. Hammond, and referred to the Committee on Affairs of Cities. Int. No. 1226, March 16, 1908. Printed No. 1555.

To amend chapter 334 of the laws of 1901, entitled "An act in relation to tenement-houses in cities of the first class," relative to bakeries. Introduced by Mr. Glore, and referred to the Committee on Affairs of Cities. Int. No. 1230, March 17, 1908. Printed No. 1568.

To amend the revised charter of the city of Auburn by adding thereto a new title relative to the department of public health. Introduced by Mr. Dudley, and referred to the Committee on Affairs of Cities. Int. No. 1244, March 17, 1908. Printed No. 1580.

To amend chapter 120 of the laws of 1886, entitled "An act to revise the charter of the city of Lockport," relating to the annual city hospital fund. Introduced by Mr. C. F. Foley, and referred to the Committee on Affairs of Cities. Int. No. 1245, March 17, 1908. Printed No. 1581.

To amend chapter 568 of the laws of 1901, entitled "An act to establish an hospital for the city of Lockport, to be known as the City Hospital, and to provide for the erection, government and maintenance thereof, and to repeal chapter 422 of the laws of 1900, generally, and to repeal section five thereof." Introduced by Mr. C. F. Foley, and referred to the Committee on Affairs of Cities. Int. No. 1246, March 17, 1908. Printed No. 1582.

To amend the agricultural law, in relation to the giving of bonds by manufacturers and shippers of butter, cheese and milk, to secure their patrons, and the posting of financial statements. Introduced by Mr. Lewis, and referred to the Committee on Agriculture. Int. No. 1259, March 17, 1908. Printed No. 1595.

To amend the Greater New York charter, chapter 378 of the laws of 1897, as amended by chapter 466 of the laws of 1901, with respect to the Department of Health. Introduced by Mr. Shortt, and referred to the Committee on Affairs of Cities. Int. No. 1260, March 17, 1908. Printed No. 1596.

Authorizing the trustees of the village of Peekskill to levy by tax, money for the support and maintenance of patients in the Peekskill Hospital, an institution conducted by the Helping Hand Association, a domestic corporation, and for other like purposes. Introduced by Mr. I. H. Smith, and referred to the Committee on Affairs of Villages. Int. No. 1281, March 18, 1908.

To amend the labor law, relative to licensing of tenement-houses. Introduced by Mr. J. S. Parker, and referred to the Committee on Labor and Industries. Int. No. 1283, March 18, 1908. Printed No. 1638.

To amend the railroad law, in relation to installing water closets on cars of certain steam, surface, and street railroads and at stations, and providing penalties. Introduced by Mr. Boyce, and committed to the Committee on Railroads. Rec. No. 46, Feb. 26, 1908. Printed No. 1618.

To repeal chapter 042 of the laws of 1896, entitled "An act relative to the supply of pure and wholesome water in certain counties in the State." Introduced by Mr. Geoghegan, and referred to the Committee on Electricity, Gas and Water Supply. Int. 1292, March 19, 1908. Printed No. 1674.

To amend section 42 of chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interest therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," as amended by chapter 314 of the laws of 1906. Introduced by Mr. Geoghegan, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 1293, March 19, 1908. Printed No. 1675.

To amend chapter 348 of the laws of 1901, entitled "An act to provide for sewer systems outside incorporated villages or cities," and the several acts amendatory thereof. Int. No. 1296, March 19, 1908. Printed No. 1678.

To authorize the electors of the village of Peekskill to vote upon a proposition to erect a water filtration plant, and to authorize the issue of bonds for such purpose. Introduced by Mr. I. H. Smith, and referred to the Committee on Affairs of Villages. Int. No. 1300, March 19, 1908.

To amend the agricultural law, relative to the purchase of milk and the powers and duties of the commissioner of agriculture. Introduced by Mr. Northrup, and referred to the Committee on Agriculture. Int. No. 1303, March 19, 1908. Printed No. 1685.

To amend the agricultural law, relative to the sale of the carcasses of calves. Introduced by Mr. Boshart, and referred to the Committee on Agriculture. Int. No. 1321, March 20, 1908. Printed No. 1713.

To amend the code of civil procedure, relative to preference of accounts of physicians and surgeons. Introduced by Mr. Little, and referred to the Committee on Codes. Int. No. 1327, March 20, 1908. Printed No. 1719.

To amend the section 208 of chapter 275 of the laws of 1899, entitled "An act to revise the charter of the city of Gloversville," in relation to the general powers and duties of water commissioners. Introduced by Mr. Mills, and referred to the Committee on Affairs of Cities. Int. No. 1335, March 20, 1908. Printed No. 1727.

County Societies

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, March 17, 1908.

Scientific Program.

1. "The Problem of the Pelvis, and What Can Pass Through It," by John O. Polak, M.D.

Discussion by Charles Jewett, M.D., and Robert L. Dickinson, M.D.

2. "The Early Diastolic Heart Sound," by William S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University, Baltimore, Md.

SECTION ON GENERAL MEDICINE.

Program.

Paper: "The Therapeutics of Exercise." Obesity, Constipation, Neurasthenia, etc., Dr. Watson L. Savage, New York Normal School of Physical Education.

Paper: "The Education of the Vaso-Motor System," Dr. Luther H. Gulick, Director of Physical Training in the Schools of Greater New York.

Discussion by Dr. George L. Meylan, Director of Physical Training, Columbia University; Dr. C. Ward Crampton, Assistant Director Physical Training, New York City Schools; Dr. Walter Truslow.

Memorial services for deceased members, 1906-1907, were held in the Library Building, 1313 Bedford Avenue, Sunday afternoon, March 8, 1908, at three o'clock.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, March 23, 1908.

Program.

Papers: 1. "The Correlation of Clinician, Pathologist and Laity," by Bond Stow, M.D.

Discussion by John Van Doren Young, M.D., and Beverly Robinson, M.D.

2. Symposium on Hospital Management:

(a) "The Public Hospital System of New York City," by Hon. R. W. Hebberd, Commissioner of Public Charities (by invitation).

(b) "The Relations of the Semi-Private Hospitals of the City to the Public Hospitals," by S. S. Goldwater, M.D. (by invitation).

(c) "The Ambulance System of Public and Private Hospitals." by Nathan Bijur, Esq. (by invitation).

Discussion by W. Gilman Thompson, M.D., Hon. Homer Folks (by invitation), Theodore Janeway, M.D. John Winters Brannan, M.D., Mr. Ludlum, Superintendent of New York Hospital (by invitation).

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

The last regular meeting of the Society was held at the Mohawk Club, Schenectady, March 19, 1908.

At this meeting about twenty-five members of the Medical Society of the County of Montgomery were present as guests of the former Society.

The Scientific Program consisted of a paper on "Milk Production, Old and New," by L. Emmet Holt, M.D., New York City. A dinner was served at the Mohawk Club immediately after the reading of Dr. Holt's paper.

The Post-prandial Program comprised talks by Dr. Stover, of Amsterdam, on The Fourth District Branch, and Reminiscences, by Dr. C. C. Duryee, of Schenectady.

MEDICAL SOCIETY OF TOMPKINS COUNTY.

A meeting of the Medical Society of Tompkins County was held at Ithaca, N. Y., on February 11, 1908. The following addresses were made:

"Medical Education," by President Jacob Gould Schurman, Cornell University; "The Doctor and Minister in their Mutual Relations," by Rev. Edward A. George, Ithaca, N. Y.; "The Lawyer's View of the Medical Expert, by Professor Frank Irvine, Dean of the College of Law; "Ithaca and Her Physicians," by the Hon. Jared. T. Newman, Mayor of the City of Ithaca.

MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

REGULAR MEETING HELD AT KINGSTON, N. Y., FEBRUARY 15, 1908.

Program.

"Diagnosis of Smallpox" (illustrated by lantern slides), by Frederick C. Curtis, M.D., Albany, N. Y., Medical Expert State Health Department; "Vaccines and Vaccination" (illustrated), by H. D. Pease, M.D., Director State Hygienic Laboratory; "Management of Smallpox Outbreaks," by Joseph D. Craig, M.D., Health Officer, City of Albanv.

Deaths.

PETER A. ALLEN, M.D., died suddenly at his home in Cobleskill, N. Y., January 31, from cerebral hemorrhage, aged 69.

WILLIAM BADGER, M.D., assistant surgeon in the army during the Civil War, and in charge of the Army General Hospital, David's Island, New York Harbor; died at his home in Flushing, N. Y., February 13, aged 73.

A. MATTHEW BEVIER, M.D., for more than forty years a practitioner of Owasco, N. Y.; died at his home in Niles, N. Y., January 27, aged 87.

CLARA E. BOWEN, M.D., died at the German Hospital, Buffalo, December 28, 1907, aged 47.

DAVID LOUIS CEDERHOLM, M.D., died at his home in Brooklyn, N. Y., February 7, aged 45.

JOHN HENDERSON COVERLY, M. D., L. R. C. S. and L.R.C.P., died at his home in Brooklyn, N. Y., February 25, after a prolonged illness, aged 65.

SAMUEL PRESTON CROPPER, M.D., inspector of the Department of Health, New York City; died December 19, 1907, aged 60.

CHARLES FRANCIS FITZGERALD, M.D., an alumnus of and assistant surgeon in St. Vincent's Hospital, New York City; died in that institution, February 27, from heart disease, after a brief illness, aged 33.

JOHN J. GRIFFITHS, M.D., died at his home in New York City, January 31, aged 48.

OLIVER JOHN DAVID HUGHES, M.D., town physician of Meriden, Conn., for four years; and a member of the board of school visitors and health board; in 1897 appointed United States consul at Sonneberg, Germany, and later consul general at Coburg; since 1904 a practitioner of New Rochelle, N. Y.; a veteran of the Franco-Prussian War; died suddenly at his office in New Rochelle, March 5, from cerebral hemorrhage, aged 52.

JOSEPH Y. MANGUM, M.D., lecturer on surgery in the New York Polyclinic; died at his home in New York City, aged 33.

HARRY R. NETTLETON, M. D., for more than a quarter of a century a practitioner of Rochester, N. Y., died at his home in that city, February 21, from cerebral hemorrhage, after a brief illness, aged 59.

JOHN S. PEASLEE, M.D., of Schodack Landing, N. Y., died February 7.

JAMES WALLACE PUTNAM, M.D., local surgeon for the New York Central and Hudson River Railroad at Lyons, N. Y.; president of the village for four years; physician of Wayne County for nine years, and pension examiner for thirteen years; died suddenly, from cerebral hemorrhage, in the New York Central station, Buffalo, N. Y., February 9, aged 58.

GEORGE A. ROBINSON, M.D., of Sayville, Long Island, N. Y.; for one term a member of the State Legislature; died at St. Augustine, Fla., February 22, aged 57.

DANIEL BENNETT ST. JOHN ROOSA, M.D., one time interne in the New York Hospital; assistant surgeon of the Fifth New York Volunteer Infantry during the Civil War; later surgeon of the Twelfth New York Volunteer Infantry; professor of ophthalmology and otology in the University of the City of New York since 1866; and for a time occupant of the same chair in the University of Vermont, Burlington; president and professor of ophthalmology in the New York Postgraduate Medical School and Hospital; for two years president of the American Otological Society; once president of the International Otological Society; member of the American Ophthalmological Society and corresponding member of the Medico-Chirurgical Society of Edinburgh; president of the Medical Society of the State of New York in 1878; died suddenly at his home in New York City, March 8, from heart disease, aged 69.

FAYETTE E. SCHLEY, M.D., died at his home in New York City, February 8, from heart disease, aged 49.

ELIZABETH SCHUGENS, M.D., died at her home in Buffalo, December 25, 1907, aged 42.

HENRY PRESTON SHARP, M.D., coroner for many years of Wyoming County, and at one time president of the village of Arcade, N. Y.; died at his home, January 29, aged 53.

GERALD SHEIL, M.D., died at his home in New York City, March 5.

NELSON BUELL SIZER, M.D., a veteran of the Civil War, died at his home in Brooklyn, January 22, aged 53.

CHARLES PECK SMITH, M.D., formerly a member of the surgical staff of Bellevue Hospital, died from heart disease at his home in New York City, February 8, aged 59.

STACY DWIGHT WILLIAMSON, M.D., died at his home in Malone, N. Y., aged 31.

EDWARD DUBOIS WOODHULL, M.D., of Monroe, N. Y., died in St. Augustine, Fla., March 8, aged 45.

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THE MOSQUITO: ITS RELATION TO DISEASE AND ITS EXTERMINATION.*

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THE mosquito and the means which have been employed to exterminate it are very properly considered in connection with malaria and yellow fever, as indisputable evidence has been presented to show that these diseases are transmitted only by this insect. Although it is only for the past few years that we have been in possession of definite knowledge regarding this subject, the parasitic origin of disease has not infrequently been referred to in the past. As far back as 1849, the transmission of malarial fever in this way was suggested by a distinguished American physician, Dr. John K. Mitchell; and afterwards in 1859, it was referred to by Doctor Barnes, a surgeon of the United States Army. Although other observers, both in this country and abroad, have from time to time admitted the possibility of this means of infection, it received but little consideration until 1880, when Dr. Laveran, a French army surgeon on duty in Algeria discovered in the blood of persons suffering from malarial fever an organism which he believed to be the cause of this disease. He announced his discovery to the Paris Academy of Medicine in 1881-82, and his statements were subsequently fully confirmed by investigators in different parts of the world. Laveran as well as King, Bignami, Manson and others, for various reasons, were led to believe that the mosquito might be the agent of transmission in this disease and the subsequent exhaustive researches of Dr. Ronald Ross, and others furnished full and conclusive proof that malaria is transmitted by a variety of mosquito known as the "anopheles," and, so far as it is known at the present time, in no other way.

The old theory that malaria is caused by miasma or poisonous emanations from swamps or low-lying districts, or by bad air as the name malaria implies has secured so firm a hold, not only on the laity but on the medical profession, that it has been reluctantly abandoned and there are to-day some observers who, while admitting that the mosquito is a medium of infection in this disease, believe that there are other means by which malaria is transmitted. Their arguments or theories thus far presented are neither logical nor based on scientific research and are therefore not entitled to serious consideration. Unfortunately for mankind the "anopheles" is so generally propagated that malaria is widely distributed throughout the world.

Twenty years after Laveran published the result of his valuable researches regarding malaria, it was discovered that the mosquito is also the medium of infection in yellow fever; this occurred in 1900. For many years Dr. Carlos Finlay, a distinguished physician of Havana, had persisted that the mosquito was in some way responsible for the transmission of this disease. He had observed that yellow fever was more active in years when mosquitoes were very numerous. He also presented other reasons in support of his theory; however, it received no more attention than numerous others which had been frequently presented as to the cause of this disease. During the Spanish war, the occupation of Cuba by the United States troops made it imperative that this government should take every means of protecting its people against yellow fever. For this reason a commission, composed of Dr. Walter Reed, Surgeon, and Drs. Carroll, Agramonte and Lazear, Assistant Surgeons, United States Army, was appointed by the President to proceed to Cuba for the purpose of investigating the cause of yellow fever and the means by which it could be prevented. Finlay's theory was brought to the notice of the Commission, and received prompt and careful consideration and was followed by many important and exhaustive experiments and resulted in the presentation by the Commission of conclusive evidence that yellow fever is transmitted only by the mosquito, and furthermore by only one variety of this insect, known as the "stegomyia." It was also shown that the clothing, bedding, discharges, etc., of yellow fever patients which formerly were supposed to be the active agents in the transmission of this disease are harmless and in no way a menace to the public health. Unfortunately the specific organism, the cause of yellow fever, has not yet been identified.

The time allowed for the presentation of this paper hardly permits of even a brief considera-

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tion of the details by which malaria and yellow fever are transmitted from the mosquito to the human being. However, I will state that the "anopheles" and "stegomyia" are as harmless as any other mosquito until after they have become infected by biting persons suffering from malaria and yellow fever. Even after this occurs they cannot immeditely act as a medium of infection as there must be an interval for the development of the malarial or yellow fever organism in the body of the mosquito before these diseases can be transmitted from this insect to the human being. This in the "anopheles" takes about one week, and in the "stegomyia" about two weeks. It is not probable that even at the expiration of these periods infection takes place if the temperature is much below 80 degrees.

It would be impossible to estimate the value to mankind of the discoveries to which I have just referred. Probably no disease has caused more widespread suffering and loss of life than malarial fever, and although the area included in the yellow fever zone is very much more restricted than sections of the world where malaria exists, the loss of life, the injury to commerce, and in this country the interstate friction, which yellow fever has caused in the past is incalculable. The knowledge we now possess regarding the medium of infection in malaria and yellow fever has placed in our hands means which if properly employed will prevent, or bring promptly under control, outbreaks of these diseases, and it is safe to say that the ravages which they have caused in the past need never occur again.

In addition to malaria and yellow fever it has also been shown that elephantiasis and probably other diseases which are due to the presence of filaria are also transmitted by the mosquito. Besides there is good reason to believe that investigations now under way will show that the mosquito may act as a medium of infection in bubonic plague. What future investigations will reveal to us in this direction will be determined largely by the energy we display in following out the clues already in our possession.

Much valuable information has already been secured regarding the mosquito; however, we need more complete knowledge regarding its habits, its methods of propagation, life cycle, food, breeding places, etc. We have yet to determine if other varieties of the mosquito than the "stegomyia" and "anopheles" may transmit disease, and if so, what diseases they transmit. This will naturally lead to the consideration of flies and other insects, which I am sure will be found to play an important part in the transmission of infectious disease. We have already learned enough to know that many of our theories regarding the means by which these diseases are transmitted are erroneous, and in order to deal successfully with them it is imperative that we should secure all possible information regarding their medium of infection.

We know that mosquitoes can breed only in water, and that the water in which they breed must be continuously present for about two weeks in order to allow of the full propagation of the insect. If the water is withdrawn before the expiration of this time propogation ceases. Therefore a temporary accumulation of water for two or three days or so does not produce mosquitoes. Breeding places may occur wherever there is standing water. This is frequently found in the most unexpected places, in old glass and tinware, wooden receptacles, defective roof leaders, crotches of trees, cess-pools, cisterns, rain-water barrels, etc. Mosquito larvæ are not often found in large bodies of water, but frequently in the little pockets along the edge. In these situations the larvæ may be quiet and secure richer nourishment by remaining close to the vegetation, which also furnishes them better protection.

Mosquitoes do not, as a rule, go far from their breeding places. If they are found about the house and are not of the "striped-legged" variety, it is quite certain that a breeding place exists in the immediate vicinity, although it is frequently overlooked. Filthy water or that which contains an excess of organic matter is generally preferred by the mosquito for this purpose. For this reason obstructed cess-pools, street gutters, etc., are found to be favorite breeding places. After selecting a breeding place, the mosquito deposits its eggs on the surface of the water usually during the night. The common inland mosquito, "culex pungens" or "pipens" lays from 250 to 400 eggs at one time. The eggs are shaped something like a banana, although one end is blunt. These are held upright and together in the form of a float. From the lower or blunt end of these eggs, which rest on the surface of the water, the larvæ are released and drop into the water usualy from 15 to 20 hours after the eggs are deposited. The larvæ are commonly known as "wigglers." When full grown they are about one-quarter of an inch or more long, and about the diameter of a very large thread and with a comparatively large head, and may be seen moving about the water in a rapid and jerky way. Although they can live only in water they are entirely dependent on air for existence, and for this purpose must every minute or so rise to the surface of the water and project above it their caudal extremity, which contains a tube, the inlet of the respiratory apparatus. In other words it may be said that the larvæ breathe through their tails. In watching this phenomenon through a glass of water it will be seen that in obtaining air the larvæ usually lie at right angles with the surface of the water with their caudal extremity protruded just above it. An exception to this occurs in the case of the "anopheles" larvæ, which do not arrange themselves at this angle, but lie parallel with the under surface of the water, and in this position project

their tails above it. The "anopheles" larvæ therefore may be detected in this way. After the larvæ have been in the water for 8 to 10 days, sometimes longer, depending on the season of the year, temperature, etc., they pass into what is known as the pupal stage in which the head of the larvæ is apparently enormously increased in size. This lasts about two or three days—at the expiration of this time the pupæ, which generally remain close to the surface of the water and probably require but little or no nourishment, burst the envelope which surrounds them and become winged insects.

Our present knowledge regarding the life cycle of the mosquito is by no means conclusive or satisfactory as experiments in regard to this part of the subject cannot be carried out under normal conditions. However, as the result of careful observation it may be said that mosquitoes under normal conditions probably live two or three weeks or even longer; I have kept them in captivity for two months with but little nourishment to feed upon. Late in the year they seek protected places as the interior of houses, cellars, barns, etc., and some survive the winter in the state of hibernation, deposit their eggs when the warm weather comes again, and afterwards die. Although larvæ may be found alive in the winter even in bodies of water, which are frozen, it is not at all probable that they play an important part in the perpetuation of their species.

The male of the mosquito does not bite, therefore the female is responsible both for the annoyance which the bite of this insect inflicts and also for the transmission of disease.

Mosquitoes are voracious eaters and the material which they use for food covers a very wide range. Although the female draws blood, it may be said that mosquitoes live upon plants, fruits, etc. The larvæ derive their nourishment from the organic and other material in the winter. therefore if the water is rich in this matter, it constitutes a very favorable breeding place. In this way filth plays not an unimportant part in the propagation of the mosquito.

Mosquitoes as a rule are most active at night. This is particularly so with the "anopheles"; therefore, it is true that malaria is usually contracted at this time. This was satisfactorily proved by the experiments made by Italian investigators on the Roman campagna. During the day mosquitoes conceal themselves in long grass, underbrush, etc. This should always be cut down or removed in the vicinity of breeding places. Shaded places, like groves or woods, are favorite abiding places for the mosquito during the day.

A word may be said in regard to petroleum oil, which is the most effective *temporary* agent we possess in destroying larvæ in receptacles which cannot be destroyed, or in ground depressions which cannot be drained, or properly filled in. It kills the larvæ by suffocation, as the oil on the surface of the water plugs up the end of the respiratory apparatus projected above it, and prevents the proper intake of air. It is quite certain that oil does not poison the larvæ as it was formerly believed. Crude oil is preferable for this purpose; about one pint is sufficient for an estimated water space of 20 to 25 feet in diameter; however, this estimate is largely arbitrary. There is no more effective or simple way of applying the oil than by the ordinary garden sprinkling pot, with the holes in the expanded nozzle enlarged to allow of the free exit of the oil. This application should be repeated every ten days or two weeks, as the oil does not remain equally distributed over the surface of the water, but is blown or otherwise carried to the edge of the pool. Oil is not only the most effective temporary agent for this purpose, but it is cheap and harmless. The use of solutions of bichloride of mercury, carbolic acid, permanganate of potassium, etc., for the destruction of mosquito larvæ may involve danger to persons or animals, who may come in contact with, or may use water treated with these agents, and therefore should not be employed. Besides, these agents are comparatively expensive, and act only slowly and imperfectly. In my own experiments, it was found that larvæ lived for two or three days in a 1-1,500 solution of bichloride of mercury, and also in a comparatively strong solution of carbolic acid, permanganate of potassium and other agents.

While the "anopheles" may be found in almost all parts of the United States, the "stegomyia" or yellow fever mosquito, is confined practically to the southern portion of it, and is not found in this section of the country, although if brought here, will undoubtedly propagate during the summer months, but there is no reason to believe that it will hibernate or survive the winter; therefore, its reappearance here the following year would be due to a fresh importation.

From 1780 to 1830, or thereabouts, numerous and serious outbreaks of yellow fever occurred in New York City, Philadelphia, and other sections outside of the so-called yellow fever zone. This, I believe, was due to the fact that vessels arriving at these places from yellow fever ports, contained persons sick with yellow fever, infected mosquitoes and the breeding places of this insect. Commerce with yellow fever ports was then carried on by sailing vessels, which made protracted stays at these places for the purpose of securing full cargoes. The crews were in close contact with the native population, which lived close to the shore, the vessels were usually defective and leaked, and undoubtedly contained many breeding places. Besides the perishable cargoes, which they frequently carried, supplied abundant nourishment for the mosquito. These conditions were not only responsible for the appearance of yellow fever on shipboard, but also for outbreaks of this disease on arrival at the ports of destination, as infected mosquitoes and

breeding places were transferred from the vessel to the shore.

The character of commerce has undergone a great change since that period. It is now carried on by steam vessels, which make quick trips, practically contain no breeding places, are kept in comparatively good sanitary condition, and remain but a short time in port. The residential portion of West Indian, Central and South American towns, where yellow fever is commonly present, have been driven further into the interior. This is an important factor, as the "stegomyia" or yellow fever mosquito notoriously does not go far from its breeding place or home. Therefore, under the present conditions, infected mosquitoes would be less liable to reach vessels lying at the docks. It is a significant fact that since this change has taken place, although commerce with these countries has enormously increased, outbreaks in New York, Philadelphia, etc., became fewer in number, and during the past thirty-five years, the disease has not appeared here except as individual cases which have arrived on incoming vessels.

In 1900, I began an investigation of the mosquito on Staten Island, with the intention of securing such information as would lead to the extermination of this insect. In the first experiment a space of about one mile square in the centre and northern end of the Island, was mapped out. This section was thickly infested with mosquitoes. Each house or building and its surroundings were carefully examined. Land depressions, acting as receptacles for water, cesspools, and old drains were also located, and in this way innumerable breeding places were found. These were, so far as possible, removed or treated with petroleum oil. Notwithstanding this, the results obtained during the summer of 1900 were not encouraging, as the number of mosquitoes was only slightly diminished. One thing was particularly noticed, that the mosquitoes found and captured were almost all of the "striped-legged" variety, but peculiarly enough, it was also found that the larvæ, which were removed from the receptacles to which I have above referred, brought to the laboratory and placed under wire netting and allowed to propagate, never developed into the "striped-legged" mosquito. In other words, it was impossible in the beginning to find the breeding place of the mosquitoes, which were always present in the greatest number. The fact that these mosquitoes were found in swarms along the coast suggested that somewhere in this vicinity the breeding places would be discovered, and further investigation proved this to be so, and also, that the breeding places of the mosquito that constitutes three-fourths of all those found on Staten Island, and along the entire Atlantic coast, and known as the "culex sollicitans" or "striped-legged" mosquito, breeds only in salt water swamp land, and nowhere else.

These conclusions are in harmony with the results obtained by the investigation of Dr. John B. Smith, State Entomologist of New Jersey. The "culex sollicitans" is present in such enormous numbers along the Atlantic coast, that it has prevented the normal growth of towns in these sections, and has seriously interfered with the comfort of those who seek permanent or summer residences in these places. Just why these swamps constitute the only breeding place of this variety of the mosquito, is not definitely known. They are more or less constantly covered with water, and are favorable for breeding places. However, this does not offer full explanation, as fresh water accumulations not far from the coast do not act as the breeding place of the "culex-sollicitans." The probable explanation is that the salt water vegetation contains some form of nourishment, which is found in no other place, and is necessary to this variety of the mosquito.

Those who are not familiar with the vast extent of swamp land along the Atlantic coast, cannot form an adequate idea of the enormous breeding places which these great stretches afford. The tissue of the ground is always water-soaked, and spongy and surface water cannot properly escape. This insures a permanent accumulation of water, which generally appears in the form of patches or pockets, which constitute the breeding places of the "striped-legged" mosquito. Thus far, investigation has shown that this variety of the mosquito hibernates during the winter in the form of the egg, and not as the winged insect, as in the case of the inland mosquito. The eggs of the "sollicitans" are laid in the soft earth of the swamp land during the fall, and when the water becomes warm again in the early summer, and the swamps are flooded, active propagation takes place. I have in a number of instances, cut out sods from swamp land, placed them under tepid water, and in this way have developed the larvæ practically out of the season for propagation. The "sollicitans" present another exception, as it is the only variety we know of, which voluntarily leave their home, and are constantly found in large numbers far from their breeding places.

The knowledge we now possess regarding the "culex-sollicitans" or "striped-legged" mosquito clearly indicates the means by which it may be exterminated, *i.e.*, by the proper drainage of the swamp land, which acts as its breeding place.

The details of the investigation to which I have just referred were presented to the Department of Health of the City of New York in 1905, and on the recommendation of this Department, the municipal government granted an appropriation for the drainage of the swamp land along the entire Staten Island coast and the work was begun in November, 1905.

The ditches were made about two feet deep, 10 to 12 inches wide, and from 50 to 200 feet apart. These connect with main drains, which

singly or together discharge into the sea. As this undertaking was practically pioneer work, the details were in a measure experimental. The drainage was begun in the swamp land on the south and east side of Staten Island. This was performed principally by hand, although ditching machines were used in some portions of the swamp. The winter of 1905-06, being very mild, it was possible to continue the work without interruption, and before the breeding season of 1906 began, a large portion of the swamp land on the south side of Staten Island was drained.

In this section along the edges of the swamps are small summer resorts, South Beach and Midland Beach, which in the past have suffered severely on account of the great swamps of mosquitoes. Here the results of the drainage were found to be eminently successful. Equally good results were also obtained in sections further in the interior, which were formerly supplied with mosquitoes from the swamps in this locality. The swarms of mosquitoes practically disappeared, screens were discarded, meals were served on the verandas of the hotels and the mosquitoes ceased to be a source of annoyance, although a few were present. In other places where drainage had not been completed, there was practically no diminution in the number of these insects. The work of ditching was continued during the remainder of 1906, and until the early part of 1907, when the drainage of the entire swamp land on both sides of Staten Island was completed.

A review of this work showed that although all the contracts made for this work had been complied with, in many instances the ditches were not close enough together to effectively drain the land. Furthermore it demonstrated that the proper policy to be followed in ditching for the extermination of the mosquito is not to have the ditches at regular intervals, but to increase or decrease their number as the conditions in the different sections present themselves. In order to conform to this, and to more effectively drain the swamp land already gone over, an additional appropriation was asked for from the municipal government. This was granted and the reditching began in June, 1907. This has been completed in the swamps on the entire south and east side of the island and the work on the north and west side of the island will probably be completed some time during the coming summer.

The land already drained has entirely changed its character; instead of being soft and dangerous to walk upon, as before drainage it was unable to support the weight of the body, it is now firm and hard, and may be driven over by trucks. During the past year the salt-water hay found on these swamps, which is used for packing, etc., and is worth $10 per ton, was actively harvested. Therefore drainage not only destroys the breeding places of the mosquito by allowing the surface water to escape through the ground into the ditches, but it also reclaims the land for building and agricultural purposes. Thus far there have been about 350 miles of ditches dug, and the success of the Staten Island drainage work is now practically assured.

In the drainage of large tracts of land for the extermination of the mosquito, it is absolutely necessary that the work shall be done under municipal, state or federal control in order to insure uniform and satisfactory results. All the land involved must be drained and not only portions of it as would occur if the work was under the control of individual property owners.

Although thus far no evidence has been presented to show that the "culex sollicitans," or "striped-legged" mosquito transmits disease, we have no positive evidence that it may not do so. I hope to continue my investigations in this direction during the coming summer.

A consideration of the subject of drainage as a means of exterminating the mosquito would be incomplete without a reference to the work of Dr. John B. Smith. Mainly through his efforts the sum of $350,000 has been recently appropriated by the State of New Jersey for the drainage of all swamp land along its coast in a manner similar to that carried out on Staten Island. This work is now under way. Other states along the Atlantic coast now have this subject under serious consideration and there is no doubt that the drainage of swamp land for the extermination of the mosquito will soon become general throughout this entire section.

It may be of interest for you to know that the crusade against the mosquito on Staten Island has not been confined to the breeding place of the "culex sollicitans." For the past three or four years, the Department of Health has taken active measures to exterminate the inland mosquito, of which the "anopheles" or malarial mosquito is one of the varieties. Orders have been issued to remove breeding places from the premises, to repair defective roof leaders, cesspools, etc. It is also required that rain-water barrels and cisterns, if they cannot be changed for more modern methods of obtaining water, shall be covered with wire netting. Land depressions have been filled in or drained, or if this is not possible, the water contained is treated with petroleum .Fifteen thousand circulars were distributed during the summer of 1906 and also during 1907 to the inhabitants of Staten Island, explaining the means by which mosquitoes breed, the way in which they can be exterminated and requesting the aid of house owners and tenants in this work. The result has been particularly satisfactory. The number of inland mosquitoes has been greatly diminished and but few of the "anopheles" have been found this year—an unusual occurrence.

In the time allotted to me to-day, I have been able to present simply a resumé of the subject of the mosquito, its propogation, its relation to disease and the means by which it may be extermi-

nated. However, I hope it will indicate to you the great advancement that has been made in our knowledge of this subject. Eight or ten years ago the extermination of the mosquito was regarded by many as impossible; to-day we know that it is a practical undertaking and can be successfully carried out. We have indisputable evidence that the mosquito transmits disease; therefore, efforts to exterminate it are not for the purpose of preventing the annoyance which the bite of this insect inflicts, but to remove a serious menace to the public health. The public is educated slowly in regard to these matters. However, its co-operation must be gained in order to secure successful results in this direction, and it is our duty to diffuse among the people such information as will stimulate and enable them to aid us in this important work. The removal from each house and surroundings of such receptacles as may act as breeding places, and the filling in or drainage of land depressions, which may be used for breeding is not difficult, and when thoroughly carried out, it practically means the obliteration of the inland mosquito in the sections where this work is carried on. While petroleum oil is useful in preventing the propagation of the mosquito, it is not a permanent measure, or the logical means of exterminating this insect.

The principle which we should follow so far as possible is the permanent destruction of breeding places—not to treat them. As I have already stated the extermination of the mosquito in swamp land by drainage can only be successfully accomplished and uniform results secured when the work is carried out under Federal, State or Municipal control. We must also have laws, which will enable public health officers to enforce regulations requiring the destruction of mosquito breeding places on the ground that they are indirectly responsible for the transmission of infectious disease. When these measures are in force we can confidently expect the practical extermination of the mosquito.

America will yet outstrip the other nations of the civilized world in building up accident, sickness, invalid and old-age insurance funds, based on just contributions of all parties in interest and obligation, and to such a fund any wounded or sick man can resort in the hour of trial without shame and without dishonor. The fund will be his own by right, for it was built out of the product of his labor when he could labor, and it will be adequate when State and nation perfect the legal arrangements for its creation, maintenance and wise administration. Then, also, members of the medical profession will be paid for the prevention of disease and for increasing the physical, industrial and moral energies of the nation. At present their pecuniary interest is in conflict with their social function, and their desire to be useful to the race. This conflict should be averted so far as possible, and when physicians are paid from funds of insurance associations, according to rates equitably fixed, they will be more directly free to put forth all their powers to further the higher interests of mankind.—*Prof. Chas. R. Henderson.*

THE IMPORTANCE OF AN EARLY EXAMINATION OF THOSE EXPOSED TO TUBERCULOSIS.*

By JOHN H. PRYOR, M.D.,

BUFFALO, N. Y.

THE annual death rate from tuberculosis in the State of New York presents certain peculiar characteristics which are worthy of reflection and careful study. I refer at this time to the remarkable uniformity of the mortality and the persistent maintenance of the relation to the general death rate. About 14,000 deaths are reported each year as due to tuberculosis, and this number constitutes one-tenth to one-eleventh of all deaths. Year after year, while population increases rapidly, the level is retained with surprisingly slight variations. The general death rate has diminished and the prevalency of tuberculosis decreased, but the actual morbidity from this cause is slightly changed or gradually increased. This strange behavior of a communicable disease can be partially explained by the fact that tuberculosis is essentially endemic in nature and seems to have a decided selective tendency. The influence of special preventive measures in limiting its spread is open for controversy. Thorough prevention has never been tried, except when spasmodic efforts were employed in the sixteenth and seventeenth centuries. Suspicion prompted more decisive action than knowledge has aroused since. Outside of New York City in this state prevention seems to be a delusion and a snare. Of 100 poor patients questioned within the last two years only one-third had received reasonably accurate or complete instruction. Even when methods of prevention are properly taught and supervised, in a home. infection may occur. The discipline and control which is possible in special institutions seem to be entirely successful, but elsewhere the danger exists in a comparative degree. The opportunities for communication are sufficient to maintain the yearly loss of life at about the fourteen-thousand mark. To maintain full ranks in the march to the grave, a ghastly procession of at least 50,000 doomed consumptives is required. A recruit must take the place of another as he advances. There must be four divisions: A group waiting to be relieved by death, the advanced, the moderately advanced, and the recently enlisted or incipient. Three of these groups are very rarely checked in their fatal progress and effects. The plan of prevention usually employed in a haphazard, careless manner does not effectually protect the public, and this fact might be mentioned casually while it is being assiduously educated. Undoubtedly registration is the first step in any campaign, but the

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vast majority of consumptives reported are in the advanced class, and danger has existed for an indefinite time. The chances for infection are only relatively reduced. Later a room or a house may be disinfected more or less thoroughly after the victim's death, and no more is heard from that source until another case has developed sufficiently to be easily recognized, or someone has found the bacilli in the sputum. The whole system of prevention, as it exists to-day, is largely a diplomatic game between the physician and the health authorities, and its chief purpose seems to be the encouragement of false security and the study of results instead of causes. Compare diphtheria, a disease claimed to be curable and preventable if attacked at the proper time, and note the difference in control and the effects of management. To secure any form of prevention which will promise to be effective in the suppression of tuberculosis, three remedies at least seem to be necessary: First, State control of prevention administered under rigid comprehensive laws to secure uniformity, execution and obedience. Second, the requirement of adequate knowledge on the part of health authorities before appointment and provision for special training to qualify them for performing the duties demanded by an enlightened community. Third, the more general introduction of the essential feature of any scheme designed successfully to combat tuberculosis; namely, the detection of the consumptive at the earliest possible moment when life may be saved and prevention made secure. The writer pleads guilty to frequent and insistent harping on this theme for the last ten years. He still hopes that more general recognition of the transcendent importance of reaching the incipient victim at the right time will render wearisome repetition unnecessary.

We must learn to find the victims when scientific and rational action is possible and gradually eliminate and diminish the number of those who perpetuate the disease. The history of infectious diseases has shown what can be accomplished by removing a percentage of those stricken before others are in danger. No consumptive should be allowed to reach a stage when he can communicate the disease to another without an attempt to supply rational relief and segregation. Fortunately some time must elapse after the disease can be recognized before the malady can be conveyed. It has been proved that we can no longer wait, in a large number of instances, for the patient to seek us with his complaints. He evidently must be searched for and found, and the place to look for him is among those who have been exposed. The hope of accomplishing what is plainly possible makes this necessary when dealing with a most insidious disease. The chances for an apparent recovery are admittedly greater than in any other chronic disease, but it is hard to ensure freedom from relapse even in the most favorable. The results of treatment in other stages of the disease have been exaggerated and skepticism of the benefits, aside from education, which are often ascribed to the so-called arrested conditions, will continue to grow. There can be no more humane method of decreasing a disgraceful death rate than by saving life, but the detection of the early case makes isolation or true prevention possible and progeny can be avoided during ill health. One consumptive should lead us to another. The fact should be emphasized that given an advanced case, an incipient should be traced who is following in his path. The principal places to search are the house and the workshop. Flick demonstrated years ago that tuberculosis was distinctly a house disease, but the force and meaning of his contention has not been appreciated in its practical significance. In examining those suspected or exposed, the number found will depend particularly upon several conditions. Ability to recognize beginning disease is, of course, essential. If a physician is not competent he is at least moving in the right direction to learn because the best way to find an early case is to look for it and gain an opportunity to study one. If he wishes to gain admission for patients at a sanatorium designed for incipient cases, let the advanced case be his guide to a more favorable one. Thoroughness, plenty of time and the careful search of a bare chest are absolutely necessary. Repeated examinations are often required. It must be remembered that the time of infection is problematical, the interval before signs of invasion can be perceived quite indefinite, and the dose, location, susceptibility and resistence constitute contributing factors, the influence of which cannot be fully determined. Scrutiny must be continued while possible sources of infection are present, and those exposed should be kept under observation for a considerable time after danger has apparently disappeared. Sometimes the second victim in a home is not detected until a year or more has elapsed since the death of the person previously afflicted. Disinfection after death may be most imperfect and simply give rise to false security. It is rarely thorough. The usual mistake is to wait for symptoms to direct attention to the chest and much valuable time has been lost by postponing the positive diagnosis until the appearance of bacilli.

Efforts should be made to discern evidence of disease while the symptoms may be not confirmatory, slight or absent. Personally I am fully satisfied that this can be done at times with sufficient accuracy to warrant action. The symptoms, many times, certainly bear no accurate relation to the extent of disease as revealed by physical signs. The important one not to be disregarded or underestimated in its meaning is hemoptysis. Fortunately that premonition lead the patient to seek examination and it is responsible for the saving of many lives where the diagnosis has practically been made by the patient. If a hemorrhage at an early time were more

common, that danger signal would change very much the aspect of the tuberculosis problem. All the other symptoms may be present, singly or grouped, for some time before the patient will consider them seriously. It makes much difference whether they are subjective or objective, and indefinite time may pass before the physician's attention is called to them. Consequently an exposed individual should be instructed concerning the symptoms which may appear, and the physician should insist upon prompt notification if he wishes to be alert. The poor and particularly the ignorant consumptives living in crowded and unhygienic environment, will, as a rule, be responsible for a higher percentage of infections. There are exceptions, however, some families certainly possess a susceptibility and mysterious tendency beyond our understanding. I have seen one where eleven of thirteen children died of pulmonary tuberculosis in seven years. The mother and father are living to-day in good health. About six months ago the mother informed me that the twelfth child, a son 30 years old, now had the disease. Of these children only six had lived in the same house. Of the other families with a bad record which have come under my observation, several were Irish, had red hair and pale, freckled skin. This type seems to be peculiarly susceptible. I have never seen a consumptive of this description recover. Others may have had a different experience. It is not alone a question whether people are poor, but whether they are underfed. The properly nourished person can live in dark, unventilated, unclean rooms, where the underfed succumb. Nevertheless tuberculosis to-day is largely a disease of the poor, if that word is used discriminately. Kaiserling and others have traced one victim by another, and their reports show that they were successful in from twenty to fifty per cent. of instances. Lowman, in an excellent article, reports that, "out of 500 children from homes where tuberculosis exists, twenty per cent. showed by physical signs, although general condition of the child is good, that ganglio—tuberculosis exists."

In the examination of children the tendency during the three periods of childhood must be considered: First, glandular; second, traceo-bronchial; third, pulmonary. One of the most tragic events in my experience has occurred from the introduction of a tuberculous nurse into a home where children were exposed. In the discussion related to, the possible avenues of infection, the pendulum may swing from inspiration to ingestion and back again. Still reliance must be placed upon watchfulness. The spots most apt to be overlooked, and where the danger from infection is greatest, must be reached by health authorities. Registration should include an answer to the question, "Have others in the same house or apartment been examined?" The reply may be most inconclusive many times, but some attempts at examination may be stimulated at least. The evidence seems to be only too strong that the average practitioner does not recognize early manifestations. He has not been taught at the medical school where instruction in the diagnosis of the most common fatal disease is usually lamentably deficient. Provision for the training of competent examiners will certainly have to be made in the near future. The demonstration of advanced lesions and especially the imaginary boundaries of cavities, too often illusory at the autopsy, should not constitute a modern course in physical diagnosis. Dispensaries for tuberculous patients have been established in many cities, and one of their chief functions will be to seize the opportunity to examine those exposed and seek for the otherwise hidden results of infection. Not more than one per cent. of the consumptives in this state are presented for treatment at the time when it is promising. In incipient cases, the lesion will be found at the apex in about 90 per cent. of all cases. That difficulty will be experienced in perceiving delicate changes and small areas involved is admitted. But there seems to be no escape from the necessity of depending upon physical signs for an early or exact diagnosis. Their presence and their meaning form a much more definite and reliable guide than any test thus far employed.

The tuberculin test, no matter how used, does not, as a rule, give the positive aid required to justify a decisive course of management. Its infallibility has of course not been proved, and conculsions based upon a reaction may be erroneous. While admitting that the evidence of a reaction may be valuable on rare occasions, its employment is seldom required. A negative finding should not upset an opinion based upon reliable physical signs. As a rule its chief purpose is to confirm or encourage careful search. Assume that a reaction is indicative of a tuberculous focus, and these questions immediately arise: Where is the seat of implantation? Is it single or multiple? In the lung or elsewhere? Is the focus old, quiescent, closed, or recent and active? What is the extent of the lesion? Will it require surgical or medical interference? If doubtful physical signs are present in the chest is it certain that the suspected disease is located there? Are we not obliged to wait until something tangible develops? At some future time I hope to make a report of a statistical nature upon the results obtained by an organized effort to find neglected consumptives among applicants for relief. At present a brief consideration of my experience during the last two years, in private practice, is offered to show that something at least can be accomplished by seeking for early indications of disease. I have collected twenty cases among the well-to-do where the histories are accurate. Only those cases are included who were examined because of exposure. Some came to me by request, and others sought an examination as a safeguard. All of them had lived for months in close contact with an advanced

consumptive. The previously afflicted bore the relation of husband, wife, sister or brother. In twelve instances the earlier victims were still living, and in eight had died. Five of the number had slight cough and an evening rise of temperature. Eleven had noticed some loss in weight, which might have been due to long strain, mental depression and sorrow. Six had no symptoms, and were apparently enjoying usual health. These six patients remained free from any symptoms for a period varying from two to nine weeks after the disease was discovered. In nineteen of the group the disease was truly incipient. One, considering the extent of involvement, would be called moderately advanced. This case illustrated what is sometimes very apparent, that the extent of lesion may be out of all proportion to symptoms. She had a sister in an advanced stage, and came to me for a wheezing in the chest which annoyed her at night and led to anxiety because of the fear of infection. There were no symptoms whatever, except some cough in the morning and a small amount of mucus expectoration. The upper half of the left lung was affected by massive infiltration. Apparently resistance to toxines was unusually marked but very slight for the bacilli. The complex elements combined to modify resistance or susceptibility are worthy of close attention in beginning patients.

In a few of these patients the signs might have been detected earlier. Five were examined repeatedly, and others were under observation for six months. Once when no signs were discernible they were distinctly so one month later. All of the number, except two, from whom I have not received reports, developed distinct characteristic symptoms later. Not one of them was ushered in by pleurisy or hemorrhage. With one exception, every case would have escaped notice and a chance for early recognition if the knowledge of exposure had not led to watchfulness. More could easily have been found if the general practitioner would encourage early examinations of those exposed. Our full duty is not performed if those endangered, especially by prolonged contact, are not kept under close observation. But conclusive proof of the importance of an early examination where exposure and suspected infection has occurred is furnished in a brief description of an outbreak in an institution. It affords, to the best of my knowledge, the most striking example of unsuspected infection and its discovery, through examination of those exposed, to be found in medical literature. A hospital nurse was sent to me for examination. Attention had been attracted to her because she coughed, was quite hoarse, and had grown thin. Active tuberculosis of the lung and larynx of a moderately advanced type was very evident. Inquiry brought out the fact that another nurse suffering from advanced tuberculosis had been confined to her room in the hospital for some months. The superintendent was strongly advised to have the other nurses examined, as further infection was quite probable. Finally it was agreed that any others with a cough, evening temperature, loss of flesh, langour, etc., should be brought to my office. Three more appeared within a few days. Two were afflicted with pulmonary tuberculosis moderately advanced, and one was in an incipient stage. My urgent request to be allowed an examination of the remainder of the nurses was denied, and stubborn resistance appeared. I had no affiliation with the hospital, but insisted that more incipient cases would almost certainly be found. The medical staff appointed two competent physicians to conduct a thorough examination of the other nurses in the institution, and four more were found to have incipient disease. Thus, of thirteen nurses nine were found to have pulmonary tuberculosis. Later I learned that a boy who was employed about the building was in an advanced stage of the disease. I am informed that two nurses were known to have tuberculosis and one was suspected. Therefore six were unsuspected. Five of the number had not complained of, nor noticed, any symptoms, and four were symptom free, unless slight loss of weight, probably due to other causes, is considered. Three of those examined were later found to have bacilli in the sputa. The examinations were confined to the nursing staff. Months must elapse before the full extent of infection can be known, and further information will probably be unobtainable. No thorough investigation of the sources and avenues of communication was made, and an excellent opportunity for an interesting study of rare conditions was lost. Disinfection was most inadequate, but later was properly performed under supervision of the Health Department.

Cornet and others have produced evidence showing the prevalency of tuberculosis in institutions where members of a sisterhood reside and work. Unhygienic conditions and mode of life account largely for this dissemination, but they do not explain the outbreak described. In this instance a contributing cause might be found in the fact that nurses were not selected who were physically robust. The chance for infection was present and uncontrolled, and a hard-worked nurse who leads an indoor life makes susceptible material. Finally the results of suspicion and a search for more victims are as follows: Five were discovered who may recover, three will be benefited by treatment, and an unknown percentage may recover. Prevention and segregation were made possible, and further damage from an exceedingly dangerous hotbed of infection may be eradicated. This illustration should be convincing and demonstrate the value of a method in management and care seldom practiced. That its general adoption has been so long

delayed will cause chagrin and wonderment when at last it is realized that the culminating struggle in the battle with tuberculosis must be won by attacking the hidden, insidious, often unsuspected host which unseen joins the ranks of the enemy and prolongs a frightful devastation, the history of which, when written, will form the bitterest, blackest indictment of ignorance, incompetency and apathy in the medical annals of our time.

THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS.*

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ON the value of early diagnosis in pulmonary tuberculosis all are to-day agreed, for it is now fully realized that full recovery can follow only early diagnosis. At the Adirondack Cottage Sanitarium patients in the incipient stage formed only 28% of the total number, and yet they furnished 69% of those apparently cured on discharge. In other words, from less than one-third of the patients, in whom early diagnosis had been made, came more than two-thirds of all those apparently cured.

It will be impossible this afternoon even to mention many procedures valuable to the diagnosis of early pulmonary tuberculosis, and if I omit or fail to emphasize sufficiently some points of value I trust they will be duly brought before the society in the discussion.

Frequently, when attempting to reassure some patient with a "bad" family history, he has replied, "Why is it that if you say not much importance is to be paid to this all physicians ask me first about my family?" Family history has been given undue importance and should occupy in regard to the diagnosis of pulmonary tuberculosis much the same position that the Widal test does to typhoid fever—if it be positive it is a help, if negative it has little weight. A history of exposure to tuberculous infection sufficiently prolonged and intimate, whether occurring in the home, the workshop, the bank, or where not, is of vastly greater importance than the fact that a forebear of the patient, one whom he has never seen, has had or died of tuberculosis. A history of great anxiety, sorrow, overwork, of close confinement, of frequent parturition, of excess in alcohol or venery, and of debilitating diseases is of importance and should be carefully noted.

Pulmonary tuberculosis may be a disease of symptoms or of physical signs. All of you have seen many instances of each class, and most of us have learned from that stern and inexorable teacher, Experience, that to depend exclusively upon either the one or the other, in giving a clean bill of health, leads us often into error. A frequent course is, however, for symptoms to appear before physical signs can be detected in the lungs. In few other serious diseases do we have to depend so much upon such slight symptoms for early diagnosis. These symptoms, too, may occur in many other illnesses, and only by a careful study of the patient are we enabled to say tuberculosis is present. A slight but constant rise of temperature, occurring at any time of the day, and possibly then only for a period of one or two hours, a persistently rapid pulse even while at rest, increased nervousness (often diagnosed as neurasthenia), a little loss of weight extending over a period of some weeks, and some loss of strength, exhibited more often as lack of endurance, are of especial significance and occur usually some time before the localizing symptoms. These constitutional symptoms closely simulate those of neurasthenia and other diseases, and are frequently overlooked by the patient, but when taken in connection with a history of exposure to tuberculous infection, demand careful consideration, for the insidious onset is of frequent occurrence in pulmonary tuberculosis.

Localizing symptoms, such as cough, expectoration, pleurisy, dyspnea and hemoptysis direct us at once to the lungs, and one or more of these, if added to the previously mentioned constitutional symptoms, lend great probability to the diagnosis of pulmonary tuberculosis. There are in pulmonary tuberculosis no pathognomonic symptoms, but hæmoptysis of any amount is in this latitude rarely due to any other cause. In fact, the patient who coughs and spits one or more drachms of blood should always be assumed to have pulmonary tuberculosis, whether or not abnormal physical signs are present in his lungs, and whether or not his previous health has been perfect. Pleurodynia no doubt does occur, but let us always treat it seriously and subject the patient to a most careful examination. Let us also always bear in mind that a diagnosis of "chronic bronchitis" or "pleurisy" will not suffice to-day. We must seek to discover the etiological factor. Slight dyspnea may occur early. Cough and expectoration point directly to the lungs, and whenever a simple bronchitis persists, whenever recurring attacks are frequent, whenever a "summer cold," or, indeed, any "cold" occurs without apparent cause, we should be on our guard. I am sure it is to-day unnecessary to remind any of you of the importance of *always* examining the sputum whenever it occurs in conjunction with any of the foregoing symptoms, however slight, and, if you are led to suspect pulmonary tuberculosis, request the patient to bring a specimen obtained by clearing the throat in the morning. If only saliva, no harm has been done. I would like to emphasize, however, the great danger to the patient of waiting until tubercle bacilli occur in the sputum before venturing a positive diagnosis of pulmonary

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tuberculosis. If you will but recall the pathology of the disease and remember that not until ulceration through the wall of the bronchus occurs are tubercle bacilli found in the sputum, you will readily see why Fraenkel holds that when tubercle bacilli are present in the sputum the disease is no longer in its earliest stage. However this may be, do not fail to examine and re-examine the sputum on a number of *successive* days. The search may not prove successful until your patience is nearly exhausted. The other secretions are of far less value in diagnosis and the urine and common blood examinations help little. The agglutination test of Arloing and Courmont is now recognized as of little aid, and the opsonic index of Wright requires so much and so prolonged laboratory experience, that for most of us it can be looked upon as a negligible factor in diagnosis. Cytodiagnosis from the fluids of blisters (eosinophiles below 8%), and of serous effusions some hold of value, but this needs confirmation. The examination of the feces I believe of more importance than many of these, particularly in women, who in spite of many protests and of serious admonitions, continue even before our very eyes to swallow sputum which they say they cannot raise. In others the sputum is swallowed unconsciously during sleep. The fæces should be mixed with water and allowed to settle. From the top layer of the sediment and the lower layer of the fluid portion a small amount is withdrawn by a pipette. This should then be mixed with three or four volumes of alcohol and allowed to sediment or be centrifugalized. This final sediment should be examined for tubercle bacilli. If the blood from the hæmoptysis has been saved it should be carefully examined for tubercle bacilli. When all other research has proved fruitless, inoculation of the sputum into a guinea-pig will at times reveal the presence of tubercle bacilli.

Time will not permit me to discuss Penzoldt's phenomenon, the difference in the rectal temperature taken at rest and after return from exercise, the difference in the blood pressure and the pulse when lying or standing, the variation of the pupils, persistent hoarseness, fistula-in-ano, the variation in the respiratory quotient, much vaunted by Robin and Binet, and many other interesting phenomena of more or less importance in early diagnosis.

Pulmonary tuberculosis, as I have said, may be a disease of symptoms or a disease of physical signs. While it is true that such sharp distinctions can rarely be drawn, yet instances come under our notice of individuals apparently in perfect health who, applying for life insurance or seeking advice because some member of the family or fellow workman is affected, often present marked physical signs at the apex of one lung. I cannot but believe that these patients, if their sputum contains tubercle bacilli, are most dangerous members of society. *They* are well, *they* can expectorate whenever and wherever *they* wish; and, alas, when they finally seek medical advice, it is not infrequent to learn that they have lost a child from "brain fever." These patients are usually in an advanced stage when the diagnosis is made. I will not burden you with the details of the physical examination, but would like to emphasize a few points that have proved of help in my experience. In the first place in early pulmonary tuberculosis, do not expect to find physical signs so evident that a second-year medical student can detect them. I am firmly convinced that more men fail to detect abnormal signs in the lungs through failure to examine the chest bared or from lack of knowledge of how to produce adventitious sounds than through failure to recognize these sounds when they are brought out. In the majority of patients in early stages râles are heard only during full inspiration following cough. In some a full expiration, followed by a cough, which in turn is followed by a fairly quick, full inspiration, will produce râles heard in no other way. Râles heard on quiet breathing indicate that the disease is past incipiency. Damp weather, lying for some minutes on the suspected side, and examination practiced in this position (hypostatic congestion), the exhibition of potassium iodid or some other alkaline mineral waters, examination of the patient before he arises, all are said to render the detection of râles more easy. Pay especial attention to the apices, and note the slightest departure from normal of the vesicular murmur, the vocal resonance, and the transmission of the heart sounds. I have dwelt more fully upon auscultation, for I believe it is the procedure, above all others, that aids us in recognizing early pulmonary tuberculosis. Next to auscultation I have come to rely upon inspection, especially upon differences in the relative movement of the two sides of the chest; but when this contradicts auscultation, I place more dependence upon the latter. Percussion as ordinarily practiced is of little aid, but careful delimitations of the movement of the bases of the lungs and more particularly of the resonant areas above the clavicles are of real value. This latter method is best practiced by noting the width of resonance along the upper anterior border of the trapezius muscle while the patient stands relaxed with the head perfectly straight. A comparison of the two sides often reveals a shrinking or narrowing at the suspected apex and forms a link of no mean importance in the diagnostic chain. Do not expect to discover all the physical signs present in any patient on a single examination, and when in doubt re-examine on several occasions, always selecting first the suspicious areas. The site of the physical signs is of great importance. If they occur at one apex the patient should be looked upon as tuberculous until the contrary be proved, but if at one or both bases he should be held as non-tuberculous until the contrary be demonstrated. This rule has been of great aid in my experience. Some of us, however, attach

too much importance to the detection of physical signs. When we realize the extent of involvement necessary to produce changes in the percussion note, when we consider how large an area exists in the centre of the lung which cannot be explored by ordinary physical methods, we see that absence of physical signs is no proof of absence of pathological changes in the pulmonary tissues. In this class of cases, where the lesion is deep-seated, the X-rays may prove of great value, and skiagraphs in the hands of an expert often reveal signs that otherwise defy detection.

Myoidema is suggestive, but persistent pallor of the larynx, enlarged cervical glands, or scars from a former adenitis, are of real value.

I have left until last the use of tuberculin in the diagnosis of pulmonaary tuberculosis, for I believe that is the position it should occupy. When we have exhausted all other methods of diagnosis, when it is important to know at once whether or not a patient has pulmonary tuberculosis, when a patient wishes a positive opinion which signs and symptoms fail to give, then I believe we should resort to tuberculin. At the Adirondack Cottage Sanitarium we give the tuberculin test to all patients in whose sputum after careful and repeated examination tubercle bacilli have never been found. When properly administered this test is perfectly harmless and the majority of intelligent patients prefer to undergo it when we deem it necessary. I cannot give you this afternoon the details of the test, my time is too short, but he who fails to have the greatest respect for tuberculin may come to grief. The first "dose" should be sterile salt solution to exclude a "nervous reaction," then 1-5, 1 and 5 mg. of the original tuberculin (Koch) should be given, and, if necessary, 10 mg. twice repeated. The interval between injections should be at least two full days, and when large doses are reached the reaction must be typical. A typical reaction consists of a rise of temperature (one or more degrees Fahrenheit), some local swelling, soreness and redness at the site of injection (best made in the subscapular region), the usual symptoms of fever, to which may be added a slightly increased tendency to cough. The fever usually persists for twenty-four hours and the fall of temperature is gradual, which is in sharp contrast to its sudden rise. A number of other diseases have been said to react to tuberculin, but up to the present time no proof has been adduced to show that any afebrile patient who has received the proper dose of tuberculin has reacted without having tuberculosis. More recently von Pirquet has suggested scarifying the skin, as for vaccination, under a couple of drops of diluted tuberculin. If tuberculosis be present a papule forms, but this test is said to be of most value during the first year of life. Calmette, Wolff-Eisner and others have within the last few months suggested dropping into the eye a small quantity of putrified tuberculin dissolved in physiological salt solution. The usual dose is 0.0025 cc. of a 1:100 solution warmed before using but inasmuch as this at times causes too severe a reaction it is wise to inject first into one eye the same quantity of a 1:250 solution, then a week later the stronger solution into the other eye. If a tuberculous focus be present in from three or four to twenty-four hours the conjunctiva, both palpebral and ocular, but chiefly the former and more especially about the caruncle, becomes reddened and at times more or less œdematous. This "reaction," due to anaphylaxis, or allergie, may persist for several days, is rarely followed by any untoward effect, provided the eyes be normal, is practically never accompanied by any general symptoms and bids fair to replace the subcutaneous use of tuberculin in many instances. But in its very simplicity lies its danger. The wholesome dread of the subcutaneous test has always been in its favor and has deterred many from using it rashly or unnecessarily. Some individuals apparently in perfect health, who react to tuberculin or to this ophthalmic test, present no physical signs and need no treatment for tuberculosis. Tuberculin does not prove that physical signs in the lungs are of a tuberculous nature, but when a patient with suspicious symptoms, whose health has not been good, reacts to tuberculin, he should subject himself to suitable treatment. The indirect tuberculin test (of Merieux), *i. e.*, inoculating a tuberculous guinea-pig with serum from a suspected individual, has not been sufficiently tried to enable any opinion to be formed in regard to its value; while Marmorek's early tuberculin reaction (injection into the brain of a guinea-pig of 1-80 drop tuberculin one-half hour after injection of the suspected fluid) cannot be recommended.

The differential diagnosis of early pulmonary tuberculosis from some diseases is most difficult. Influenza, simple bronchitis, malaria, chlorosis, exophthalmic goitre, Hodgkin's disease, latent suppuration and nervous dyspepsia, all present symptoms closely similar to those of incipient pulmonary tuberculosis, which should always be borne in mind in atypical cases. Symptoms of "malaria," when the plasmodium cannot be found, always demand careful attention. The public are becoming better educated every day, and I believe it is now high time that the medical profession should cease to diagnose a symptom complex, of unknown cause, as a "touch of malaria" or as "gastric fever." Many patients with pulmonary tuberculosis have unfortunately received this "assurance" and have gone on their way with rejoicing, soon, alas, to be replaced by lamentation and denunciation.

In conclusion I would like but to emphasize what I have already said. Tuberculosis is a most widespread disease, and no one, even in our own families or in the circle of our immediate friends, is immune to it. Symptoms may precede physical signs, but the reverse occurs frequently. Marked symptoms or marked physical signs seldom occur in early pulmonary tuberculosis. Constitutional symptoms precede localiz-

ing symptoms. Slight elevation of temperature, rapid pulse, loss of weight, with hæmoptysis or cough, even in absence of all physical signs, should be considered as due to tuberculosis until disproved. Tubercle bacilli are present only when the disease has advanced to ulceration, and he who has always to wait for tubercle bacilli to make a diagnosis of pulmonary tuberculosis acknowledges his deficiency in the art of diagnosis.

THE DIAGNOSIS OF TUBERCULOSIS IN INCIPIENT CASES BY THE ROENTGEN METHOD.*

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AN X-ray picture is the shadow registration of tissue densities on a sensitive plate. The lung being of a vesicular structure (and bounded on all sides by tissue of denser structure as ribs, liver, heart and the shoulder girdle of bones and muscles) lends itself well to X-ray examination.

Williams described the limited excursion of the diaphragm in inflammatory lesions of the lung. This phenomenon was observed with the fluoroscope. The development of "radiophobia," has practically relegated this method to disuse. This sign can be shown, however, in a Roentgenogram by an irregularity of diaphragmatic outline.

Owing to the long exposures rendered necessary by inefficient apparatus, the details of soft parts in the lung and elsewhere were formerly almost all lost. Clinicians only expected bone pictures. The technique was improved. Holtzknect, Rieder and others were able to radiograph the chest while the patient held the breath. For accurate chest work, fifteen seconds is a maximum exposure; five or ten second exposures are better; and some operators insist on one second exposures. With good technic, the blood vessels of the lung, and the lymph nodes at the base of the lungs, can be shown. These interpretations of the shadows on the plate have been verified accurately by post-mortem examinations. The detail in a skiagraph made with a quick exposure is distinctly linear, if the lung is normal; distinctly dappled if the lung is tubercular.

I believe that any inflammatory conditions of the lungs can be shown on a plate. This fact becomes one of tremendous importance in the study of the prevention of the "great white plague."

I believe that tubercular lesions can be recognized, and located earlier, more accurately, and more easily by this than by any other method. However, it must be borne in mind that there are other diseases that are characterized by enlarged glands at the root of the lung, notably the various conditions of pneumonokoniosis. I do not advocate this method to supplant the older methods of examination, but as a worthy addition to our diagnostic methods. In examining a suspected patient, a complete and careful history is of the first importance; a careful and thorough physical examination of second importance. If there is still doubt as to the diagnosis, the patient should be advised to have a tuberculin test or a radiographic examination. The advantages of a radiographic examination over a tuberculin reaction are:

1. The complete X-ray examination can be made in thirty minutes (time in dressing and undressing included), whereas, a tuberculin reaction (injection method), requires rest in bed, under conditions that enable accurate temperature registration to be charted at intervals of two hours for at least three days.

2. In the hands of an X-ray expert there is no danger nor discomfort to the patient; whereas, a tuberculin test subjects the patient to a mild toxemia with local aggravation of the symptoms; there must also be like symptoms in another patient, known to have tuberculosis, used as a control, to be sure that the tuberculin is active.

3. The skiagraph is an accurate record of the size and location of the lesions, which is of value to the physician to estimate the worth of his therapeutic procedures; and to the patients as a visible and convincing argument to impress them with the fact that they must treat their condition seriously, no matter how well they feel, for you are all familiar with the blind optimism that is almost a pathognomonic sign of the consumptive. As a record, and as an argument, I believe the skiagraph is superior to a wave in a temperature chart.

4. After an experience of some years with tuberculin, I find that it can be used with advantage in institutional work, but that private patients submit to it reluctantly.

Ophthalmo, or skin scarification tuberculin reactions may be of use as rough indication tests, but entirely too many individuals with inactive tuberculosis and no symptoms whatever, give positive reactions by these methods. Many bone lesions, for instance, which are chronic, are not tubercular, and yet these same cases may have enough quiescent, or healed, tuberculosis elsewhere in their bodies to give a positive reaction by these newer methods. Such a coincidence of a tuberculin reaction and a chronic bone lesion might lead to error. Those of my patients who have submitted to the ophthalmo reaction are not enthusiastic over their sore eyes; nor do they, in the absence of localizing symptoms, know just where their tubercular lesion is situated in their bodies.

When using tuberculin in lung cases I prefer the ophthalmo reaction to the injection method, but I prefer the Roentgenogram to either. When using tuberculin in bone cases I prefer the Roentgenogram to the ophthalmo reaction, but I prefer the injection reaction to

*Read before Albany County Medical Society, January, 1908, and by request before New York State Homeopathic Medical Society, February, 1908.

either for accuracy; the local increase of symptoms with the injection method being invaluable to distinguish between a local tubercular lesion and a simpler pathological process occurring in a patient who has sufficient healed tubercular lesions elsewhere in the body to give a temperature reaction.

The criticism of any accurate method of diagnosing tuberculosis will be that it is too accurate. Anyone who has an intimate experience with post-mortem work recognises the truth of Virchow's dictum, "Every man has a little tuberculosis." The patient that has a healed tubercular lesion will give quite as positive a tuberculin reaction by the injection method, or by the ophthalmo reaction, as an active case of tuberculosis will. Recently a case was reported to me that had given a positive tuberculin reaction, although his tubercular lesion had been healed and quiescent seventeen years. What we need is a diagnostic method of tuberculosis that will distinguish between active and inactive lesions. The ability to do this I would state as the fifth reason for considering the Roentgen method more valuable than a tuberculin reaction. The most serious objection to the Roentgen method is its expense.

The commonest locations of tubercular lesions are at the apices, or at the hilum of the lungs. Very often they are present as healed lesions. "The proper interpretation of the negative is more important than the making of it, and fully as difficult. The negative itself should be studied." (Pfahler) As a rule healed lesions have sharply defined edges, while the active lesions are surrounded by a hazy shadow representing the area of advancing infiltration and congestion. "Old calcified tubercles give the most decided shadows. Consolidations vary in the density of their shadows with the size of the lesion; but an area one-half inch in diameter can be recognized. Consolidations seldom occur singly, therefore they give the lung a mottled appearance except when there is a mass of consolidation. The tubercular deposits or the effected areas lying in different planes, are thrown on the plate in one plane; therefore, on superficial observation, one might conclude that a greater proportion of the lung was effected than actually is involved. That is, the whole lung might show a mottled appearance, and the false conclusion be drawn that no healthy tissues remained. Even when the whole lobe is involved, the shadow is rarely uniformly dense, because the lung is seldom uniformly consolidated. There are likely to be small or large areas of cavity or compensatory emphysema associated with a consolidation.

Cavities are usually recognized by their increase in transparency surrounded by the shadow of consolidation. If the cavity is large there will be little difficulty in recognizing it. If, however, the cavity is small or is resting on a large area of consolidation, or thickened pleura, it is less easily recognized.

Emphysematous areas are also noticeably transparent. A dense shadow may be found on one side of this area, but is likely to have the other side continuous with more or less healthy lung tissue, and therefore can be differentiated from cavity."—*Pfahler.*

Valuable information can be obtained from a skiagraph in cases of pulmonary abscess, pneumonia, emphysema, atelectasis, pleurisy, effusion, pneumo-thorax, hydro-thorax, hemo-thorax, mediastinal tumor, fatty, arterio-sclerotic and valvular heart lesions.

The employment of the Roentgen method presupposes a competent and experienced X-ray operator. If the operator cannot skiagraph the chest within ten seconds he should not be trusted to do this work. Burns and discredit will certainly result if the average X-ray man with the average X-ray machine attempts this grade of work. "Glowing reports of cases, beautiful Roentgenograms and the enthusiastic claims of manufacturers lead many physicians to conclude that all they require to get good results is an instrument. This is as absurd as to conclude that all a physician needs to do good surgery is a set of good surgical instruments. Much harm has been done, both in diagnosis and treatment, by the possessors of this erroneous idea. Much skill, both in the preparation and the interpretation of the negative, is needed. The ability to read a negative will also depend in great part, on the physician's knowledge of general medicine, pathology and diagnosis."

The following reports of cases show the diagnostic value of the X-ray in pulmonary tuberculosis:—

CASE I.—A young bank clerk went to his physician in August, 1907, and asked him to look him over to see if he would pass an examination for an increase of industrial insurance. The physician examined him and told him that he would pass. The patient mentioned uneasy subjective sensations in his chest and also spoke of having lost ten pounds during the summer. Patient was advised to take his vacation and go to the country. He did so and regained his loss in weight in ten days. About a week later patient had a hemorrhage from the mouth accompanied with coughing. His physician again examined his lungs with negative results. Hoping to find some explanation other than consumption, the patient was referred to a nose and throat specialist, who found an abrasion in the larynx, hardly sufficient to have caused the hemorrhage however. The patient consulted another physician who thought he could distinguish slightly prolonged expiratory sounds on the left side at the base of the left upper lobe and a few adventitious sounds on the right side. The Roentgenogram shows an area of lung infiltration covering three square inches at the base of the left upper lobe and on the right side shows a cavity about the size of one's little finger. This case was recommended for admission to Ray Brook. One of the official examining physicians said, after carefully going over the patient's chest that he could find the lesions as his attention had been directed to the exact location of the lesion by the previous examination, and as the Roentgenogram confirmed these lesions, but that he was perfectly frank to state that had the patient presented himself as a regular office patient he would not have discovered the signs which he could just barely distinguish when his attention was concentrated to the areas of suspicion.

CASE II.—A patient was examined by one of the best known consultants in New York City, who found no definite physical signs of lesions in the patient's lungs. The X-ray showed the presence of a cavity, which was verified later by the development of physical signs over this area. Patient recovered.

CASE III.—A well nourished young woman presented symptoms of malaise, loss of appetite, slight loss of weight and was easily fatigued. A prominent consultant in the West examined the patient and located signs of a tubercular lesion in the left apex of the lung. The skiagraph showed that all five lobes of the patient's lungs were riddled with tubercles. The patient recovered.

THE EARLY DIAGNOSIS OF PHTHISIS.

By WILLIAM MEYER, A.B., M.D.

WEST HOBOKEN, N. J.

THERE is no doubt, to my mind, that we can arrive at an early diagnosis of tuberculosis in its very beginning stage. When we consider the immeasurable value to the individual, to his immediate surroundings, and to the community, we should not spare that little additional effort required to get at the earliest diagnosis. Through it we save time, expense, and a great deal of unnecessary suffering, not mentioning the danger an uninformed tubercular individual is to others.

It is a fact, that with the very first beginning of phthisis, physical signs are presented which may be detected by a careful and trained examiner. However, the earliest signs are more often overlooked than detected. On the other hand, it is true that a centrally located small process cannot be detected by any one; this holds often good when the thoracic gland is affected alone, yet even while these processes go on, certain suspicious signs are revealed under a careful investigation. An important fact is that these very beginnings cannot be discovered by any one when the patient keeps his clothing on during the examination. A diagnosis thus made is unjust, and no one should be satisfied with it. Nobody can make a thorough and scientific examination of a chest without a complete baring of the skin surface over the part to be examined. The mistaken diagnosis is quite frequently made through this neglect.

We assume that the normal signs are well known, since no abnormal sign can be found without that knowledge; we shall begin with:

Inspection. The patient should be placed in a well-lighted part of the room so that nothing escapes our eyes. We first observe the face, neck, chest, the eyes, complexion, color of hair, the arms, the skin and the general appearance, frame, muscles, etc. We find whether he is thin, pallid. Are the veins prominent and easily visible? Are there grooves above and below the clavicles? Winged scapulæ? Are the ribs prominent, and do the interspaces seem to be smaller? Is the pulmonary expansion diminished on one or both sides? If several of these symptoms are present, the case is suspicious. Are the eyes moist, melancholic with a distant stare? Is the face triangular, rings around the eyes? Is there any muscular waste of the arms, shoulders, or otherwise? Is there impairment of motion over one apex, slight flattening of the infraclavicular spaces, round shoulders, stooping? Are there swollen glands, clubbed fingers, curved nails, a rapid visible apex beat, probably out of place? Hurried breathing? All these symptoms when present increase the probability of a positive diagnosis.

The typical tubercular chest is round instead of flat, and its average index is about 80, or about 10 degrees above normal. This chest type precedes the disease, as a rule. The clavicle on the affected side stands out more prominently than normal; there is slight atrophy of the scapulo-humeral muscles, and the scapular margins are more prominent than on the other side; in front the shoulder muscles are slightly wasted —a very typical symptom.

Quite often the subject appears in full health to the casual observer, with no visible signs on inspection. Yet he may be tubercular. On careful inspection signs are not wanting that are suggestive. Even if all or most all signs are absent and the patient be tubercular, his hands will be clammy. If the apex be involved at all, four or five deep respirations will bring to light a diminished expansion over that apex. Both sides must be compared, and the picture of a normal chest must always be before us. Rectal fissure or fistula is very suggestive, and should caution us.

Litten's diaphragm phenomenon may at times lead to a conclusion. Again the cardiac motions may seem to spread over a larger area than normally. A distinct cardiac pulsation may be observed in the third, fourth, or fifth interspaces. Spinal curvature, or pigeon chest is suggestive of tuberculosis. One dilated pupil should direct our attention to the lungs. Red lines along the gums indicate an acute, blue lines, a chronic process. Cyanosed extremities are now and then observed in incipient cases.

Palpation. Palpation affirms generally the signs of inspection. It also brings out local points of pain or tenderness, vocal or friction fremitus, i. e., a thrill like the purring of a cat, while the patient speaks. This thrill increases over consolidated areas. Persistent rapid pulse is a highly suspicious sign. Cold, clammy extremities are found in 90 per cent. of incipient cases. Contours can be made out by the sign.

Percussion. Percussion, if rightly employed, throws much light on the early changes of incipient tuberculosis. The fingers may be used, but it is often more advantageous to use the hammer and pleximeter. The slightest degree of consolidation can be detected by careful percussion and by comparing one side with the

other. The posterior and superior portion of the apex, more so on the right side, should receive most careful attention. The primary change is almost universally more pronounced over the back. Slight differences are of extreme significance in the incipient stage, especially when there is a difference of pitch in two corresponding areas over the two apices. The examiner should stand behind the patient when he percusses the anterior apices. Careful percussion in the incipient stage reveals that one tip of the lungs does not extend as much above the clavicle as the other on the opposite side, denoting pulmonary change. When we do not find an appreciable difference over the two apices, we let the patient take four or five deep breaths, and quite often the suspected apex will be heard less resonant either in whole or in a localized area than the other one. If we cannot get any difference in that way, let the patient take a deep breath and hold it while percussing, and often an obscure dulness may come to light.

In a catarrhal condition of the apex we often get a tympanitic resonance (which is common in cavity formation), this sound precedes any dulness. A trained finger will often experience a resistance over the site of the trouble.

I will mention here one sign which should come under inspection: If a healthy person sits with arms lightly crossed in front, to relax the shoulders as much as possible, the head bent slightly forward, it will be seen that the inner upper angles of the scapulaon each side move in harmony during respiration. To prove this, we draw a line on the back, crossing the fifth thoracic vertebra, uniting the two axillæ, and another short horizontal line, crossing the seventh cervical vertebra. Connect this with the first by a vertical line in the middle, the highest point of excursion of the upper angle of the scapula is marked with pencil, first on one then on the other side. Combine the two marks by a line and see the symmetry. In morbid changes one will be lower than the other. This is a very early sign, before any other is noticeable. It occurs in a few other diseases, but the differential diagnosis is easily made by other symptoms.

Auscultation. The signs of auscultation are generally conclusive in connection with other symptoms. The auscultatory findings are most important and can be relied upon. One of two symptoms is first to appear either a diminution of respiratory sounds or an increase, i. e., harshness, especially of the inspiratory sound. The pitch of a prolonged expiratory sound is higher than normally; its pitch and its prolongation are very suspicious. When the expiratory and inspiratory sounds are of equal length the sign is just as suspicious. As the disease advances the inspiration sound assumes a tubular admixture and becomes later on altogether tubular. The sound is heard first posteriorly over the apex, near the inner angle of the scapula, later also anteriorly, mostly below the clavicle. It is found only in small area in incipient phthisis.

In the same areas we find the voice sounds, both whispered and loud, likely to be intensified. As the disease progresses the breath-sounds become more distinctly roughened, even jerky, and if dulness is present, they become bronchovesicular or bronchial. The "bronchial echo" is another early sign. Have the patient utter the word "ninety-nine" after taking a deep inspiration. Shortly after the sound has died away there will be heard a high pitched bronchial, distinctly observable, air sound.

Râles. The very first râles heard are fine clicks or crackles in very limited areas posteriorly on inspiration. They are often crumbling in character, now and then friction-like, sibilant or "silky," as I call them. They are audible over the extreme summit or high up in the arm pit. These râles resemble very much those of an early croupous pneumonia. They occur on one side only in a small area in incipient cases. When present, and we can exclude syphilis and influenza, the diagnosis is made. A subclavian murmur is often an early symptom, but more often a late sign. When the ear is placed before the patient's mouth, and he inspires, if we notice at the end of inspiration, a scratchy sound, it is a positive sign. It is of laryngeal origin and not often present.

The heart sounds become more pronounced over an infiltrated area which aids us in locating deeper or obscure lesions. Congested areas intensify the sound of a tuning fork placed upon them.

The administration of potassium iodide for a few days prior to examination intensifies the râles; so does tuberculin. The fine crepitant râles increase in clearness and number quite often on coughing or directly after a light cough. The auscultation should be made at the beginning, at the end, and during expiration and inspiration, on and after and during cough; on holding the breath; again after a hard cough, light cough, and a mere effort at cough.

Pulse and Respiration. The pulse is slightly faster in the incipient stage than normal. There is often palpitation on slight exertion. The first pulmonary sound is quite often everywhere more accentuated than in health. There is now and then shortness of breath, or a difficulty to begin an inspiration after expiring. On climbing there is often a sharp or dull pain in a localized area, cutting the inspiration short. A feeling of constriction in the chest is not rare. Pain in the affected side is not rare and is an early symptom. It may be dull, aching, acute, sharp or often pressing. It is often noticed along the sternal edge, the upper border of the scapula, or shoulder. Some complain of a distinct constrictive feeling in the apex.

Cough. Almost all patients can date their trouble back to a cold or cough of which they could not rid themselves. Some tubercular cases begin with a lobar pneumonia; more start

with an attack of influenza; now and then with some other acute ailment. The earliest sign is an effort to clear the throat, a hack, which may disappear temporarily to return shortly with more severity. Some begin with a hemorrhage followed by a cough which persists. Persons who easily catch a cold are suspicious and should have their lungs carefully examined. If an early diagnosis were made we would have about 60 per cent. more cures than we actually have now. It is the early treatment which is of the greatest and most lasting benefit. Many advanced cases were at one time treated as mere cases with a severe or light cold, until the family noticed that it must be more. Had they been carefully examined they would probably never have reached the third stage.

Expectoration. In the incipient stage we may find about 20 per cent. with no sputum at all. When the bronchi are involved sputum becomes more abundant. The color and consistency of sputum varies from clear, frothy mucus secretions to pus-laden and blood-streaked masses. Examination may reveal staphylococci, streptococci or diplococci. If tetrageni occur we may expect the baccili of Koch to be present, but rarely in the very incipient stage. If the diplococcus semilunaris of Klebs is present we have a fever case before us. Elastic fibres are rare in incipient cases. The presence of Koch's bacillus settles the diagnosis at once. Its absence does not prove a free case. Bacilli are present in all sputa of tubercular patients at some time during the disease, unless the disease is arrested before they ever appeared.

Weight. Loss of weight may be an early symptom, more often it is a late one. Some incipient cases gain steadily with or without treatment, but sooner or later they begin to fail; others lose weight at once, and that seems to be the only symptom for a while. In conjunction with more symptoms it is always suspicious.

Fever. About 75 per cent. of incipient cases run a subnormal temperature. Cases with 99 or 99½ in the afternoon have generally only 96, 97 or 98 in the morning. In a good number of incipient patients we find an afternoon raise of temperature before any other symptom can be found. Tubercular patients quite often feel this low temperature and complain of being very cold and unable to get warm, the face having a chilly, slightly cyanosed appearance.

Digestive Disturbances. Sometimes digestive disturbance or gastric pain precedes any other symptom in about 15 per cent. of cases. A tender spot near the pylorus, simulating an ulcer is no rare occurrence. Gastric neuroses with cephalgia, vomiting of greenish matter, and scintillations before the eyes are met with in some early cases. The garlicky odor of the breath is present in 80 per cent. sometime during the day.

Night-sweats. They may usher in the disease and stay with the patient; but generally night-sweats occur in the later stages.

Hemorrhage. Be it a drop or a pint hemorrhage is always a typical and highly suspicious symptom, no matter whether cough appears shortly afterwards or three years later. Treat it always as the first sign of tuberculosis, unless there is positive assurance to the contrary. The blood pressure is invariably lower in tubercular subjects, both the systolic and the diastolic pressure. It is slightly lower in females. The blood pressure in tuberculosis, bears an inverse ratio to the pulse rate. The rate is higher in childhood and lower in old age, but the difference between standing and lying diminishes with age. The time of the day, the fever, and the degree of involvement have no influence on the blood pressure. It is higher in improving cases and lower in progressing and unfavorable cases. Alcoholics show a slightly higher pressure. The tension is generally low. The heart is, as a rule, weaker and smaller in tubercular cases than in healthy individuals. Hemoglobin is reduced in the majority of cases, the fibrin is increased. The red cells are reduced in incipient cases, in the second stage they are increased. The white cells are increased at least later on.

The Nervous System. Most patients are hopeful, but less so in the early stage, where they are despondent, and discouraged. Patients who have no hope at all must be given a bad prognosis. Many cases are irritable, excitable, moody, and often find no sleep or rest. They often overrate their strength or ability. Sexual excess is not rare. Mental control is weak.

Tests. The ophthalmic test is very useful in the cases tried, but not enought tests have been made to draw any conclusions. There are several modes of making it. One is to use ½ per cent. old tuberculin and instill two drops in the eye. The reaction consists of a conjunctivitis, slight swelling, and an oozing from the affected eye.

Tuberculin. This test gives us positive assurances in 90 to 95 per cent. Its use in experienced hands is as safe as the ophthalmic test.*

The X-ray shows a beginning consolidation, but not always. It also shows Litten's sign, the diaphragm excursions. It is rarely of any use in incipient cases. Before concluding, it might be well to draw the attention to a few details of examining the patient and to give a few diagrams and tables for elucidation.

History of cases. In no disease is the history more important than in phthisis. The family history should be as complete as possible. Next comes the personal history—the cause and date of infection, the living apartments, city or country, occupation, previous health, the inquiry in such diseases as swollen glands, suppuration of the ear, eczema, sore eyes, pneumonia, grippe, Bright's, diabetes, cancer, lues, genito-urinary diseases, digestion, colds, pains, rheumatism, alcoholism, nervous ailments, etc. It is furthermore essential to inquire into the number of

*See Author's articles in *Medical Record*, February 23, 1907, and September 14, 1907.

sisters, brothers, their health, etc. Then we ask about the patient's appetite, weight, strength, sleep, bowels, sputum, respiration. Examine his general appearance, complexion, hectic flush, fingers and nails, color of hair, physical development, tongue, teeth and gums, his pupils. By scrutinizing all these details we are in a position to draw relatively good conclusion.

The following table of symptoms as they appear successively is made up of 165 cases from different authorities. The first symptoms were:

(1). Cough in 85 per cent.
(2). Pain or discomfort in chest in 85 per cent.
(3). Sputum in 80 per cent.
(4). Palpitation in 82 per cent.
(5). Loss of weight in 6 per cent.
(6). Hemorrhage in 48 per cent.
(7). No bacilli in 45 per cent.
(8). Night sweats in 38 per cent.
(9). Bacilli in 55 per cent.
(10). No sputum in 20 per cent.
(11). Subnormal temperature in 85 per cent.
(12). Positive history in 80 per cent.
(13). Digestive disturbance in 50 per cent.
(14). Slight fever in 12 per cent.

From the foregoing description it is evident that a positive diagnosis may be reached in 95 per cent. of incipient cases if the observer proceeds as heretofore described.

As to the etiology of phthisis there is good reason to assume that about 50 per cent. of phthisis is caused by infection by way of the intestinal tract, through the lymph channels, bronchial glands, and lastly to the lung. One symptom of which I have never read in literature in connection with this theory is the enlarged temporal vein or veins on the side where the bronchial gland is affected. This symptom is visible before any other change whatever has taken place. I have found it in about 20 children, fairly healthy to all appearances, with no pulmonary symptoms; I have found it also in most incipient cases. This sign may be explained by the pressure the bronchial glands exert on the vessels. This same pressure is the cause of cough when the pressure is exerted upon the laryngeal nerve (reflex cough). I merely mention this symptom to stimulate investigation along these lines. If the symptom is not quite plain, slight compression of the vessels of the neck will make it more visible, and, to be sure, on the affected side. In connection with this sign we find a bronchial whisper on careful auscultation.

As a rule I use the ordinary rubber-stamp diagram, showing the outlines of the chest structures.

When I examine the chest I place the diagram before me and mark upon it the signs and abbreviations for the conditions as I find them in a given chest. When the examination is completed I interpret the signs for myself.

These signs I vary sometimes according to circumstances; for instance, when the signs are strong I mark them heavier, etc. A number of these signs are used in the leading sanitaria here and in Europe, and are seemingly practical and satisfactory.

446 Clinton Avenue.

THE IMPORTANCE OF REGISTRATION, SPECIAL DISPENSARIES, AND EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

By BERTRAM H. WATERS, M.A., M.D.

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NEW YORK.

THE pleasure I have in accepting your kind invitation to talk to you on this subject is not merely personal. It is, in addition, a most agreeable task to participate at the inauguration of still another organization, which, cooperating with numerous others throughout the country, will attack the most important sanitary, social, economic and humanitarian problem of the age, and become part of a world movement which has for its object no less a thing than the eradication of this greatest of all plagues—tuberculosis.

When one seriously considers the fact that, in the United States alone, tuberculosis annually claims 150,000 victims, the cost of whose invalidism and death has been estimated at $330,000,000, it is difficult to understand the slow development of systematic and efficient preventive measures for its limitation and control. Since the epoch-making discoveries of Koch were announced to the world twenty-five years ago, no new facts have been added to our knowledge which are really essential to intelligent sanitary surveillance of the disease. Its universal prevalence, its communicability, its preventability were as evident then as now, while only within the last few years have these propositions received the consideration they deserve, or has any practical application of them been attempted.

The explanation of this tardy appreciation of the situation may be found in the reluctance of the medical profession and of the sanitary authorities to include tuberculosis in the group of reportable diseases; also in the fact that the cold logic of scientific fact has lacked the impelling living force of popular enthusiasm; and finally, in the ignorance and apathy of the general public.

You are, therefore, to be congratulated that in this special meeting of your distinguished society, in the public meeting soon to be held, and in the awakening interest of your city, you have a timely combination of the elements nec-

*Read at a special meeting of the Oneida County Medical Society at Utica, N. Y., November 29, 1907, called to consider measures for the preventing of tuberculosis.

essary for successful organization. In such an undertaking as this, the experience of other communities, their successes and failures, provide an invaluable object lesson, and I feel that I can do you no greater service than to urge upon you the necessity of a measure, which, in the light of our experience in New York, is perfectably feasible. Compulsory notification and registration of all cases of pulmonary tuberculosis is essential, and depends for its acceptance entirely upon the education of the public to regard this disease as communicable, preventable and curable, and to realize that its registration, far from interfering with their privileges and privacy, protects and benefits them. This measure, clothed with the authority of municipal or state legislation, is the cornerstone upon which any satisfactory system must be built, and that it is possible to accomplish it without engendering serious or permanent opposition by medical men or causing discomfort or hardship to their patients, has been fully demonstrated. True, in 1887 when it was first proposed, it was considered inexpedient both by the sanitary authorities and by the various medical bodies of the city. Long accustomed to think only of the contagious diseases as reportable, slow to accept modern theories of the etiology and infectious nature of tuberculosis and prejudiced against an imagined interference with their authority as medical men, or an invasion of the rights and privacy of their patients, the bonds of tradition were difficult to break, and it was not until 1893 that the first step toward the present system was taken. Even this was a compromise by which reports of hospital and dispensary cases only were required, the notification of private cases being voluntary. A year later, sentiment in favor of this procedure had grown; physicians and the public in general, had come to understand that the records of private cases were not open books, that such patients were not visited or inspected or annoyed in any way, while for the indigent cases, assistance and hospital care were provided more promptly than was possible for the individual physician and through agencies not readily accessible to him. Thus was the registration of *all* cases established in New York, upon lines, the details of which have been enlarged or modified from time to time, but which are the basis of the present system; a system which has been widely copied both in this country and abroad. There is no opposition to these requirements to-day, and careful comparison of deaths reported from this cause and from pneumonia, with the records of living cases of tuberculosis shows, year by year, fewer attempts to evade them.

In 1894, from the boroughs of Manhattan and the Bronx, 4,166 cases were reported; in 1906, there were 13,891. This enormous increase is due, not so much to a greater number of cases, as to more general and willing compliance with the law; for while in 1900, only seventeen per cent. of all cases were reported again for the second or third time, in 1906, this ratio had increased to thirty-four per cent.

In obtaining reports of cases, free examination of sputum has proved to be of the greatest assistance, and for this and other diagnostic examinations, a special laboratory is maintained. The busy practitioner has not the time, often not the laboratory facilities, for such work and for his less well-to-do or charity patients, the fees of the private laboratory are prohibitive. By means of stations throughout the city, where special containers may be secured and which are collected daily, reports of the result of laboratory examination can be made on the following day.

In this way the necessary data for the proper registration and control of open cases are readily obtained, when a formal report would be evaded or neglected. In 1895, the year this work was begun, 511 specimens were examined for Manhattan and the Bronx; while in 1906, the number was 11,384, and for the whole city, 21,779.

Second in importance only, to the instruction of the general public on the subject of tuberculosis, must be considered the provision of institutions, dispensaries, hospitals and sanatoria, for the proper care of its victims. We can no longer regard the consumptive as a school of physical signs or a therapeutic test tube, hopeless from the start; and the day of the class of "Heart and Lungs" or "Diseases of the Chest" in our general dispensaries, has passed; at least, so far as he is concerned.

In place of this, we now have the special tuberculosis dispensary, or class, under care of competent men, expert diagnosticians, specialists particularly interested in their work. This is the first factor in the disposition of cases—the clearing house, so to speak. Here instruction is given, the patient is made aware of his condition, the progress of the disease is closely watched, the incipient and early favorable cases are sent to sanatoria, the advanced cases to special tuberculosis hospitals, the "closed" or non-progressive case, or the one who for any reason cannot thus be disposed of, is kept under observation, and is, if possible, supplied with extra diet in the shape of milk and eggs, is encouraged to take the treatment—rest in the open air—as far as is possible, at home, where from time to time, assistance and instructions are given by a visiting nurse; or special small tuberculosis classes may be formed, as has been done in Boston, by Pratt, and in New York, by Niles. In these, a smaller number of patients are kept closely under observation by weekly visits to the doctor, by visits of nurses in their homes, and by their own systematic daily record. Home treatment is encouraged and assisted by food, money, removal to better quarters, or by means of window-tents, roofs, or improvised balconies for living in the open air. Such classes, and these means of providing "home treatment" are especially suited to, and successful in, the smaller cities and towns, where the type of dwelling house more readily permits

the use of porches or roofs, or the cheaply constructed balcony, and where the purer air of the suburbs is more easily reached.

However, the "special dispensary" idea may be modified to suit local conditions, the object of such an institution should be:

I. Early diagnosis of the disease.

II. Prompt removal of early or favorable cases to sanatoria, and of the advanced and hopeless, to a suitable or special hospital. When necessary, the sanitary authorities should have the power to enforce the removal of the latter, for there is no more dangerous source of infection than the helpless, careless, hopeless "open" case. In all instances of removal or death, thorough fumigation of the apartment should be done.

III. The institution of "home treatment" for those who, for any reason, cannot enter the sanatorium or hospital, and, for the "closed" or favorable case which may profit by it.

IV. The constant education of patients.

If possible, such a dispensary should be established at a point convenient to the poorer and more densely populated portion of the city and easily accessible by the common routes of travel. An especially constructed building is, of course, desirable but not essential, and should be built in the modern hospital style with free, direct ventilation, concrete or tile floors, adamantine finished and painted walls and rounded floor, ceiling and wall angles. If provision can be made on a second floor for a few bed patients, for the temporary use of tuberculin test cases, or those requiring immediate bed treatment, it is an advantage. However, almost any house can be adapted to dispensary work without great expense. Modern white enamelled iron furniture, not only presents a neat and pleasing appearance, but can be kept aseptic. There should be a history or record room, provided with suitable filing cabinets, waiting rooms for men and women, a separate examining room with scales and examining table with dressing rooms adjoining, and a well-equipped laryngoscopic room. Facilities for radiographic examination and the administration of medicinal inhalations, add much to the interest and efficiency of the work.

The clerical routine of such a dispensary should be reduced to the simplest form consistent with the proper preservation of accurate records. The careful physical examination of a patient should occupy at least one-half hour, and to save the physician's time and relieve him of the burden of history taking, I have found it quite satisfactory to make use of printed forms which any competent nurse may fill out. This, stamped with a serial number, which also appears on an admission card given to the patient, on an index card giving the name and address, and as a part of the entry in a daily journal, makes a systematic record which is always accessible, and by which any one of a number of histories, can readily be found.

Before the history is taken, each patient should be briefly warned of the danger of "spray" and "droplet infection" and the necessity of using small folded squares of gauze and the sputum bottle which are provided, while in the building. On leaving, the gauze is deposited in a receptacle at the door and the sputum bottle, showing again the patient's serial number, is kept for laboratory examination.

In the examination room, the patient, stripped to the waist, is presented to the physician, with the completed history, upon which has been recorded the height, weight, temperature, pulse and respiration. Thorough examination is then made, which includes examination of the larynx, blood and urine, sphygmomanometry, and in many instances, radiography and a tuberculin test. The results of this, for the most part, are dictated to and recorded by a nurse, use being made of the chest diagrams and symbols. When a diagnosis is made, such medication as is necessary is prescribed, instruction is given, seeking to interest the patient in improving such opportunities as he has for proper daily hygiene, a subsequent visit is arranged for and preparations made either to remove the patient to a sanatorium or hospital, or to keep him under observation with the aid of a nurse's visit in his home, and by regular attendance at the dispensary. For needy patients, assistance and extra diet are obtained through some one of the various charitable organizations.

Much can be done for these "at home" cases, especially when it is possible to provide for them a means of resting by day and sleeping by night in the open air; when needed, food and better dwellings can be furnished, and when by means of the close personal interest of the visiting nurse, and the stimulus of the dispensary association with other "home cases," impaired nutrition can be built up, discouragement gives way to renewed hope.

Early diagnosis is of paramount importance. By means of it, months can be anticipated in undertaking a cure; failure to make it, often seals the patient's doom; to arrive at it, should be the endeavor of every practitioner. It is not uncommon to hear and read much criticism of his shortcomings in this respect, and he is often blamed unjustly for disappointing sanatorium results. The onset, the pretuberculous stage, if you like, is slow and insidious, and many patients do not come under observation until well-marked physical signs or constitutional symptoms are present. Again, this is a laboratory age and we are prone not only to accept but to await the diagnosis of the bacteriologist. In the early case, or the difficult case, the physical examination, which may have to be repeated, requires more time than the busy family physician can spare, and some of the more modern and refined tests he is not sufficiently familiar with to

undertake. However, there is much room for improvement. A positive sputum report should confirm and not make the diagnosis, and time should be found for at least one careful search of the chest. Earlier diagnosis will come with the awakening interest in the subject of tuberculosis, and as a result of the fact that in the last decade the attitude of the world with respect to this disease has materially altered. It is no longer one of hopelessness or indifference. There is, instead, an eagerness both of the physician and patient, the one to work along the now well-established lines, the other to undertake the cure with confidence and not in despair.

Diagnosis is the reward of persistent, painstaking search, and while the specialist, through much practice, may be more skilled and acute, and is proficient in the use of new and special tests, his results are reached through inspection, palpatation, percussion and auscultation.

The patient, stripped to the waist, should be examined in a good light, and first the condition of his mucous membranes, his subcutaneous fat, his musculature, the general tone of his tissues and his state of nutrition should be carefully noted. The contour of the chest, its symmetry, the relative fullness of the intercostal and the supra and infra-clavicular spaces and the supra and intĕr-scapular areas, all speak plainly to him who sees. The chest and these tell-tale regions, or the diaphragm (Litten's sign), while the patient breathes slowly and deeply in a good light or with the fluoroscope, may indicate, by tardy or diminished action, the site of a lesion. Axillary perspiration, the cyanotic, markedly convex or "clubbed" fingers may be seen and are significant.

By the sense of touch, limited expansion of certain areas of the chest, or mobility of the shoulder girdle, already evident to the eye, may be confirmed, and even slight areas of consolidation, sometimes of infiltration and pleural thickening will be indicated, to the trained observer, by variations in the intensity of the vocal fremitus especially if careful comparison of the two sides, or of different regions of the same side, is made.

Small or early lesions produce extremely slight variations of the percussion note, and here, as in auscultating, much practice and a keen appreciation of the quality, duration and pitch of sounds is invaluable. Further, over the right apex there is uniformly a slightly higher-pitched note than on the left side. Frequently a careful comparison must be made of the relative and absolute difference between corresponding areas of the two sides. Often slight impairment of resonance, denoting an infiltration, will be found only by percussion upon the inner or middle third of the clavicle. For this, I prefer to use a small soft rubber hammer, always carefully comparing the two sides of the body.

My own feeling is that abnormalities of respiration and other adventitious sounds conveyed to the ear by direct or stethoscopic auscultation furnish the most reliable diagnostic evidence. Localized râles, whether dry or moist, fine or large, which are persistent, especially when there is even slight continuous afternoon fever, and a suspicious history, are pathognomonic, and should not require bacteriological confirmation. The patient should always be asked to cough, in listening for râles, as frequently they cannot otherwise be demonstrated. I believe diagnosis can be made even in the absence of râles, if, with such a history, and fever, slight impairment of resonance and prolonged blowing or high pitched expiration, especially at the apices, can be made out. Finally an increased rapidity of the pulse and respiration, without other known cause, when accompanied by an elevated afternoon and subnormal morning temperature, is extremely significant.

However, patients who present, without question, such symptoms and physical signs, have already passed the stage of true incipiency, and the cases which fail to give us even these slight evidences of disease should be given the benefit of the doubt and treated as positive, or tested with tuberculin. The latter, in the hands of those experienced in the selection of proper cases for its use and in the technique of its dosage and administration, seems to be without ill effects and of considerable value.

I cannot close without urging the importance of educational measures, and the co-operation of charitable interests. Upon these the success of the whole undertaking depends. The medical and lay public must be impressed with its magnitude and urgency, and must be made to understand the true nature of the disease, the necessity for its prevention, the possibility of its cure, and made acquainted with the measures directed to these ends. The development of preventive methods has proceeded step by step with the education of the public and cannot materially anticipate it. The means of bringing this subject before the people are numerous and ingenious. The distribution of literature, public lectures, notices in the daily press, upon street car transfer slips, upon telegraph poles, fences and lamp-posts, stereopticon pictures interspersed with short catchy observations and instructions, educational exhibitions—all these are being used with success. Each individual personally reached and impressed, either by these means, or as a patient in the dispensaries and sanatoria, becomes, in turn, a teacher of others. We should, moreover, endeavor to dispel the alarm of patients and friends and the public, and teach them that tuberculosis, properly managed and controlled, is deprived of its terrors. Otherwise, in our efforts to prevent its ravages, we will produce a phthisiophobia, which will but add to the hardships of its victims.

In every city and village where the anti-tuberculosis crusade is being established, charitable individuals and associations will be found inter-

ested and at work. Tuberculosis is essentially a social disease—a disease of the tenements, of the crowded quarter, of the poverty-stricken. Any successful attack upon it must be made from every possible vantage ground, in every possible direction, and there is no private or organized endeavor for the relief of the masses which may not become, which should not become, an auxiliary in the effort to eradicate this most terrible affliction.

32 East 53d Street.

TUBERCULOSIS IN CHILDREN.*

By CHARLES GILMAN KERLEY, M.D.

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IN a paper on tuberculosis in children a discussion of the prevention and the means of infection would seem most appropriate.

Two features relating to tuberculosis in children have impressed me strongly in out-patient, hospital, and private work. First: The marked resistance which children show to tubercular infection, particularly after the fourth year. Second: The readily traceable source of the infection in a great many cases.

The two chief avenues of entrance into the body will be referred to only, viz., the respiratory and the digestive tract.

In a review of the literature which has appeared during the past few years, one is impressed most by the contradictory opinions expressed as to these avenues of infection. Clinicians, as a rule, favor the respiratory tract, as the most important avenue of infection, while many bacteriological and laboratory workers believe that infection through the digestive system, particularly by means of infected milk, is the most frequent one. In the records of a great many cases of tuberculosis in children which have come under my observation, we were able to trace apparent, direct infection by means of inspiration. The intimate association of the tubercular child with a tubercular adult was the rule and not the exception. I will not weary you with a recital of these instances. I will give but three which typify all.

A strong, vigorous baby girl became ill with tubercular meningitis and died after three weeks' illness. No tubercular association could be proved upon close questioning, and it was thought that here might be a case of milk infection, although the milk was from the best supply that New York City possesses, and was pasteurized. In less than one year the mother, from whom the child had doubtless contracted the disease, died with pulmonary tuberculosis.

A girl three years of age developed pulmonary tuberculosis. An uncle too ill with pulmonary tuberculosis to carry on his work in a neighboring city, had taken up his residence with the family three months before.

Two dispensary patients, a brother and sister, aged six and eight years, strong, well children, developed pulmonary tuberculosis at the same time. A common source of infection was unsuccessfully sought for among the immediate family. I was about to give up the search, when I learned that the janitor of the apartment was sickly and had a cough. The janitor proved to be a carpenter, too ill for work at his trade, and had taken the position as an easier means of livelihood. He had advanced pulmonary tuberculosis and daily expectorated promiscuously about the halls and on the stairs of the dwelling.

The house physician at the Babies' Hospital, tells me, that out of the last 71 cases of tuberculosis admitted, in 34 there was a history of immediate tubercular infection. In several others there was an indefinite history of association.

Dr. Harlow Brooks, of New York City, has recently made some very instructive observations relating to tubercular infection in monkeys at the New York Zoological Gardens. He writes in a private communication as follows: "When I first became interested in the work at the New York Zoological Garden, I was at once struck with the great similarity between the cases of tuberculosis as they occurred among our apes, and the lesions of tuberculosis as I had found them in children. This led me to interest myself in the problem of the route of infection, by means of which the disease was transmitted among the higher members of the primates. Dr. Blair, the veterinarian at the Garden showed, by numerous examinations, that tuberculous monkeys infected their quarters through their saliva and the sputum which, when seriously sick, they smeared about their cages. The organisms found in this material, in that collected from the throats and nasal discharges of infected animals, and from their bronchi post mortem, morphologically correspond exactly to the human tubercle bacillus. It was not practical for us, at this time, to demonstrate the similarity by cultural or inoculation methods, but I have not the slightest doubt that the human and the primate tubercle bacillus are identical. We next showed that uninfected monkeys, when placed in cages previously occupied by tubercular animals, promptly developed the disease and eventually died. When these cages were, however, first thoroughly cleansed and disinfected, no such cases of infection followed.

The infection occurred much more certainly where dust, containing the dried secretions of previous tubercular animals had been allowed to collect and to remain in the cages. During all these observations the food supplied to the ani-

*Read before the Medical Society of the State of New York, January 28, 1908.

mals was identical with that given to the normal animals of the collection. Excepting those animals which had been directly exposed to the dried or fresh secretions of the infected animals, not one case of tuberculosis has developed.

As a result of these experiments, all new animals that are now added to the collection, are first placed in isolation quarantine, until such time as they are shown to be non-tubercular; either by physical examination, examination of the sputum in cases of bronchial or nasal secretion, and sometimes with the assistance of the tuberculin test, although this is very uncertain with monkeys. If the animals are found to be tubercular, they are not allowed to come in contact with the normal animals, and are killed, or if rare and expensive, are placed on exhibition in isolated cages. The results of these *simple* measures has been to reduce our mortality among the primates from tuberculosis from over 50 per cent. of all monkeys dying to 0, so that tuberculosis as a mortality factor among primates in the New York Zoological Garden has ceased.

We have shown, beyond question, by respiratory inoculations, that the infection among these animals is transmitted by the respiratory tract, and when measures obviating this means are taken, no new cases arise. No one case has appeared in which it seemed possible that the infection had taken place through the digestive tract, except in those animals where *primary* pulmonary or lymphatic lesions existed.

It seems to me that these experiments and observations bear very directly on the question of the route of infection in children, since the type of disease seen in the monkeys and even the organism present are apparently identical. With these monkeys we know that the food could not have been infected since animals not subjected to respiratory infection, in no case developed the disease.

Inspiration tuberculosis has been demonstrated experimentally by Flügge and others.

That the inspiration of tubercle bacilli is by far the most frequent cause of tuberculosis, is farther shown by the location and character of the lesion as proved by autopsy records. In my own cases bronchial gland and lung involvement were present, showing signs that here was the original site of the infection in 34 out of 35 autopsies.

Northrup states that in his cases the intestine was primarily involved in less than two per cent.

A very significant observation by Northrup is to the effect that, among 13 children dying from different acute diseases, such as scarlet fever, pneumonia, etc., tubercular nodules were found in the bronchial glands without tuberculosis elsewhere.

Holt states that in 119 autopsies upon tubercular children, chiefly infants, there was not found one in which the most advanced, and therefore, presumably the primary, lesion was in the intestine or stomach. While infection from milk is possible, it is certainly extremely infrequent. In my own autopsies, intestinal lesions have been found, with but one exception only, in marked cases of generalized tuberculosis. In not more than one-quarter of the cases in which such lesions were present were they severe. They were usually associated with advanced pulmonary processes and were doubtless due to the swallowing of tubercular sputum.

Infection by Means of Milk.—Vallee, Ravenell, and others, introducing the bacillus into the stomach through a tube, claim to have proved that, in animals the tubercle bacillus can pass through the intestinal mucosa, pass to the bronchial lymph nodes, and produce the first microscopic evidence of the infection. That this may occur in the human, remains unproved.

Behring* insists that practically all tuberculous infections in man, have a bovine origin, and he has even gone so far as to announce that not a single case of epidemiological human infection has been proved. Behring holds that the bovine tubercle bacillus is more virulent for man than the human tubercle bacillus. According to him the permeability of the intestinal mucosa in early infancy up to the second month, permits the penetration and passage of the bovine tubercle bacillus, ingested in milk directly to the lymphatic glands. Here it lies dormant, causing no alterations in the tissue, in most instances, until with the physiologic changes of puberty, or after intercurrent diseases, it is awakened to destructive activity. This period of latent infection constitutes the so-called predisposition, and without such infection in infancy, Behring says there can be no phthisis in adults.

In spite of the above views and experiments on animals, up to the present, there are less than thirty proved cases of bovine tuberculosis in man. A recent case has been reported by Alfred Hess in the January *Archives of Pediatrics*.

In refutation of Behring's statement, Speck, in the *Zeitschrift für Hygein*, volume xviii, 1904, No. 1, page 27, states that in an investigation of the cases in sanatoria for the tubercular, 73 per cent. of the patients had been breast-fed, 27 per cent. had received cows' milk.

Carter, in the *Medical Record*, volume lxv, 1904, No. 9, page 309, states that the mortality from tuberculosis in Havana is 21 per cent., and that raw cows' milk is never used in Havana.

Heyman, in the *Zeitschrift für Hygein*, volume xlviii, 1904, No. 1, page 45, states that in Greenland infants are almost exclusively breast-fed, and tuberculosis is so prevalent that it is easier to name those who are free than those who have it.

Shiga, in the *Zeitschrift für Hygein*, volume xlvii, 1904, No. 2, page 209, writes that, in Japan,

*Behring: *Beitrage zur Exp. Therapie* 1904. No. 8. *Deut. Med. Woch*, volume xxix, 1902, No. 29, p. 689. *Berl. Klin. Woch*, volume xvi, 1903, No. 12, p. 337.
Van Ruck: *Journal of the American Medical Association*, April 29 1905.

bovine tuberculosis was unknown until thirty years ago, but the disease has been widely disseminated in Japan for centuries, in spite of the fact that, up to a few decades ago, children, for religious reasons, had been nursed or wet-nursed only.

I hold no brief for the tuberculous bovine, they should be destroyed—boil all market milk if you will, I make no point against it. But let us be careful not to go before the people with fanciful theories, or only a portion of the truth. What we want is the whole truth as nearly as we can learn it, and this is to be laid before practicing physicians, legislators, educators of the young, and the masses generally. My own opinion, based upon twenty years' active work among all classes, is that the use of milk adds but little to the mortality from tuberculosis. Comby believes that milk plays no important part in the spread of tuberculosis in children. Shaw, in a paper read before the National Association for the study of tuberculosis May 6, 1907, states: "That tuberculous cattle are a menace to public health and that they give the disease through their milk in rare instances, has been proved. Efforts to stamp out the disease in cattle should be made, but the attention of the public should not be diverted from the great and very real danger of human contagion. Whether this takes place through the respiratory or digestive tract, is immaterial."

The lay press and a few physicians with the best intentions but with pronounced hysteria are doing much to direct the public mind from infection through the inhalation of infected dust, and center it on milk.

The public mind appears to be so constituted that it is capable of but one focal point on one object at a time. If we teach, if we dwell upon and reiterate that the spread of the disease is due to milk infection, a great deal of the effort toward education along the lines of effective protective hygienic measures will be nullified.

Tuberculosis is no new disease in bovines. If the dangers from milk were as true as they are depicted in sensational newspapers, there would be no meeting of the State Medical Society tonight for the reason that your great great grandfather and mother would never have been born. The tubercle bacillus would have exterminated the race.

If tuberculosis is to be eradicated, it is to be done by two means, education as to the nature of the disease and legislation to force the infected to observe reasonable sanitary laws. But little impression will be made on the spread of tuberculosis, as long as tubercular sputum is allowed to be deposited in every street of the cities and villages and in the highways, there to be dried and powdered and prepared for inhalation.

Every summer our cities send to the country, to the farm-houses, country villages and summer resorts, hundreds of tubercular subjects. Many of them take up light occupations at small pay. They are waiters, barbers, hotel and boarding house employees, as well as those better situated who are guests. Not one in one hundred pays the slightest attention to the disposal of his sputum. Not long since I chanced to be in the northern part of the State, in a well-known resort for those with tuberculosis. A man showing all the landmarks of advanced phthisis was sitting on the piazza of a small hotel which fronted on one of the principal streets of the village. Three times within an hour he arose and expectorated a generous amount of green tubercular sputum into the dust of the roadway. To my vigorous expostulation he replied, "I've got my dose, it can't harm me."

Every pleasant day in the year this criminal practice is going on in the parks of every city. The sputum is dried by the sun, powdered by passing feet or traffic and your children and mine inhale it. That more do not contract the disease is because of the immunity to which I have already referred.

We need education of the conscientious and thoughtful as to the care of the sputum and in their relation to others. We must have drastic laws and their enforcement for the ignorant and careless. We need laws that will require physicians to report cases under heavy penalty.

The prevention of the spread of tuberculosis among monkeys at the New York Zoological Garden has been solved by Dr. Blair and Dr. Brooks through protection of the healthy by suitable care of the sputum. This indicates the lines along which we must work with man.

Let it be devised and enforced that in some way, some how the infected destroy the means of infection.

Sentimentalists claim that such procedures would involve a hardship and convey an onus to the patient.

In the event of plague, cholera, diphtheria, scarlet fever and smallpox, stringent means are used to protect the community. We are not always so sensitive—observe our inconsistency. Against a disease which daily robs homes of beautiful children, which distorts bodies, mars their beauty and makes them cripples for life, which makes them fatherless and motherless, and which takes the life of one-seventh of the human race, we offer no protection.

Indeed I venture to assert that the present and prospective state of medicine and it relations to the well-being of individual men and of human society are such that there is no higher or nobler function of a university than the teaching of the nature of disease and how it may be cured and prevented, and the advancement of the knowledge on which this conquest of disease depends. If it be said that the medical art is largely empiric, I reply that this, while true, does not make medicine unworthy of shelter in the university. The empiric method of discovery by trial and error has its glorious triumphs as well as the scientific and is not to be disdained. To it we owe such beneficial discoveries as the curative properties of quinin in malaria, vaccination against smallpox and the anesthetic uses of ether and chloroform.—*Dr. William H. Welsh.*

CAN TUBERCULOSIS BE ELIMINATED FROM CATTLE?*

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I WAS invited to discuss the question, "Can Tuberculosis be Eliminated From Cattle?" I assume that it is limited to the animals of the Empire State. The discussion of this question, restricted to any locality or territory, necessarily implies a recognition of the condition relative to the extent and spread of bovine tuberculosis generally. It is a widespread disease. Its extent and rapid increase in various countries has, during recent years, caused some alarm, both because of its effect in reducing the general food supply, and its menace to human life. Its increase in swine† and cattle has caused much concern among the large packers, and already there are districts from which pork and beef animals are not, because of its prevalence, willingly purchased. The problems, therefore, which bovine tuberculosis present to the dairymen and the milk consumers of New York are not different in any essential particular from those which it may present in other states and countries.

It is well to appreciate the cause for an existing evil when remedies are sought. New York has been unfortunate in that the law has permitted, until very recently, the unrestricted entrance of cattle, thereby allowing many infected cows to be brought directly into the dairies of the State. Buyers purchased in the West without restriction, unloaded and tested their cattle at some point in New York *en route* to the Eastern market, and sold the reacting ones within our borders. While this freedom in trade may have benefited commerce, it helped in a most effective manner to spread and to augment tuberculosis in our cattle. New York has had the further misfortune of having within the ranks of her citizens, and at times in an official capacity, those who have publicly, and in the press, belittled the significance of bovine tuberculosis, thereby discouraging farmers from adopting the most approved methods for protecting their animals. These internal conditions and influences, existing at a time when the rapidly increasing demand of our cities for fresh milk was creating the practice among dairymen of selling their dry and buying fresh cows, have tended to disseminate tuberculosis as rapidly as possible. The "dangerous cows" have had great opportunity for spreading tubercle bacteria. That these opportunities have not been wasted is shown by the records of many herds.

I have tabulated the reports of the tuberculin tests of 421 herds, kindly furnished me by veterinarians receiving tuberculin from the New York State Veterinary College. This shows that of 421 herds, distributed in 39 counties, 302 contained reacting animals. Of the total number of 9,633 animals in these herds, 3,432 reacted. But a very small percentage of these exhibited physical symptoms of the disease, and the infection of the larger number was detected only by means of the specific re-agent, tuberculin. These figures, however, are restricted to less than one-half of one per cent. of the dairy animals of the State, and therefore cannot be considered as a general average of the infected cattle. They are quoted simply to show that there is a basis for the assertion that bovine tuberculosis does exist to a considerable extent. The findings of certain local boards of health, that are trying to obtain milk from uninfected cows, is revealing a more serious condition relative to the malady in question.

Tuberculosis in cattle, as in man, is a very insidious disease. Its period of incubation is uncertain, and its course may be a long or a short one. It may terminate in apparent recovery, in chronic cases of long standing, or in death after variable lengths of time. Its positive diagnosis in most living animals is impossible without the use of tuberculin.

Its propagation depends entirely upon the transfer of the tubercle bacteria from the diseased animals to the healthy ones. In this, we have a repetition of the means of their escape from tuberculous human subjects. In cattle the disease manifests itself somewhat differently, but in the end the virus escapes with the natural discharges of the body. In large numbers of infected animals the lesions are so located that the virus is not given off at least for a very long time, and in many cases probably never. If the lesions are discharging into the respiratory tract the specific bacteria escape from the mouth.* Some are scattered by the saliva, others are swallowed. If the digestive tract is involved the organisms escape with the intestinal contents.†

*Read before the Medical Society of the State of New York January 28, 1908

†The increase of tuberculosis in hogs is shown by the fact that in 1900, of 23,336,884 hogs which were inspected, 5,440 were affected sufficiently to cause a condemnation of some one or more parts of the carcass. In 1905, of 25,357,425 hogs inspected post-mortem, 64,919 carcasses and 142,105 parts of carcasses were condemned for tuberculosis. During the fiscal year 1905, there were inspected 6,134,388 carcasses of beef animals, of which 10,956 were condemned for this disease. It is not known how many suffering with localized tuberculosis were passed.

*Ravenel determined this by investigating the dissemination of tubercle bacteria with the saliva of cattle.—*Univ. of Penn. Med. Magazine*, Nov., 1900.

†Schroeder concludes that among tuberculous dairy cows that retain the appearance of health and are not known to be affected until they are tested with tuberculin, 40% or more actively expel tubercle bacilli from their bodies in a way dangerous to the health of other animals and persons.

Dairy cows that have been affected with tuberculosis three years or more, with possibly rare exceptions, are active agents for the dissemination of tubercle bacilli.

The general evidence justifies the conclusion that tuberculous cows do not expel tubercle bacilli until some time after they contract the affection. The practical importance of this is that it enables us to clean herds of tuberculous cattle by the periodic application of the tuberculin test and the segregation of all reacting animals.—*U. S. Dept. of Agric. B. A. I. Circular* 118, 1907.

If the lesions are located in the udder the tubercle bacteria find their exit through the milk.* If they escape from the lesions into the systemic circulation, they may be carried to any of these doors of exit. After being expelled from the infected body the virus finds itself in feeding mangers, stable gutters and yards, on the surface of water in drinking troughs, and in the milk. From these places the infecting bacteria are taken by other cattle that feed or drink after the infected ones, and by calves and pigs that are fed with the milk. It is not difficult, therefore, to understand how the disease may propagate itself when once introduced into a herd; or how the specific bacteria gain entrance to sound herds through the introduction of a tuberculous animal or animals, and by feeding the raw milk from infected cows to calves.†

The natural history of tuberculosis explains very clearly the method by which its virus is disseminated. Although tubercle bacteria cannot travel of their own volition or powers, nature has provided various channels for their transportation and transfer which man in his wisdom should long since have closed. The existing state of bovine tuberculosis is the natural consequence of neglecting to recognize as fundamental the habits of tubercle bacteria and the failure to institute and enforce methods in practice that would prevent the possibility of their spreading. In combating tuberculosis, we have simply to prevent the spread of a microscopic living organism.

With a knowledge of the cause and of the means by which tuberculosis is disseminated in cattle, together with a recognition of the parasitic nature of the tubercle bacillus and the resistance of the animal body to it, the answer to the question before us is not difficult. Because of the fallibility of man, the absolute will probably not be attained, but practically, tuberculosis can be eliminated from cattle. This can not be accomplished at once by the act of any man or legislature, but by the persistent application of an intelligent system of action that will check the further spread of the virus and eliminate, as promptly as possible, the animals already infected.

Tuberculosis has been growing in our cattle with little interference for several generations, and its seeds are already sown in many unsuspected individuals. Some of these are in the period of incubation, and in others the progress of the disease has been arrested. The number of such animals in the different herds depends upon the length of time the infection has been present, and the number of animals that are spreading the virus. These apparently well but actually infected animals cannot, by any means thus far vouchsafed to man, be singled out or identified until the disease springs into activity. They are like the "germ cases" with other diseases, dangerous individuals, and they add difficulties to the methods for elimination that have not generally been reckoned with.

As bovine tuberculosis is a specific infectious disease, the methods for its elimination are based on the recognized principles of segregating the diseased individuals and the protection of the uninfected. What use can be made of the infected animals is an important economic question* in itself, but the immediate problem is their detection and removal from the herds. There are thousands of such animals scattered through the dairies of the State. A small percentage of them can be detected on physical examination, the others must be found by the use of tuberculin.

The assumption has been that tuberculin will cause a reaction in all infected animals. Unfortunately, like other reagents, it has its limitations. Tuberculin does not give a reaction during the period of incubation; this is also true in many, if not all, cases where the disease is arrested, and possibly, when it is very advanced. This means that the records of tested herds do not necessarily point out all the animals that are infected, or those which may subsequently develop an active form of the disease. The recently infected and latent cases can not be detected until the disease becomes active. To catch them early requires repeated tests. It is not known how long the lesions may lie dormant, but we have cases where they sprang into activity after three and one-half years, and also a case where an apparently healed, calcified tubercle contained living virulent tubercle bacteria at the end of three years. It is these cases that have caused tuberculosis to reappear in many herds after the reacting animals have been destroyed. The owners of such herds are inclined to blame the tuberculin. The fault is not with the first application of this reagent, but in the failure to make subsequent tests.

Further, it has been shown repeatedly, that a considerable number of the animals that react to tuberculin do not respond to subsequent tests. Many of the arrested and apparently healing cases react later. Undoubtedly, a goodly number recover, as in man. These phenomena, which have been carefully observed, illustrate the

*The results of the various examinations and experiments relative to tubercle bacteria in milk show that about 2% of tuberculous cows have lesions in the udder. These animals are constantly giving off large numbers of tubercle bacteria in their milk. Of all tuberculous cattle in whicb the udder is not diseased about 15% are found to give off tubercle bacteria in their milk at some time during the course of the disease. In tbese cases the milk is not constantly infected, but it is impossible to know when tubercle bacteria may be present. For a summary see Mohler.—*Bulletin No. 44 B. A. I.*

†Russell. The spread of tuberculosis through factory skim milk with suggestions as to its control.—*Bulletin No. 143, Wisconsin Agric. Exp. Station,* 1907.

In one instance I found about 80% of 70 calves, 6 months of age, infected from feeding milk from tuberculous cows.

*There are at least three recognized metbods for tbe utilization of reacting animals: (1) The total destruction (except for fertilizer purposes) of the infected individuals. This is the only way to dispose of the advanced cases. (2) The slaughter for beef under proper inspection. This returns the meat value of the slightly diseased animal. (3) The separation of the infected individuals that appear to be well and keeping them for breeding purposes. The milk can be used after it is sterilized. This is known as tbe Bang method.

constantly changing condition of the lesions in the animals where the struggle is active between the tubercle bacteria and their hosts. Much additional investigation is needed along these lines.

Efficient methods for eliminating bovine tuberculosis will take into account not only its sanitary significance but also the great economic questions involved. The dismal failures of previous efforts in New York and Massachusetts to exterminate this disease by radical measures based entirely on its sanitary significance, and the phenomenal success in Denmark, Sweden, and Hungary, in eliminating it by conservative measures based on its economic importance, with the gratifying results reported from Pennsylvania and Wisconsin, where both the economic and sanitary phases are wisely considered, are convincing that efforts based solely on the transmission of bovine tuberculosis to the human subject are not promising.

The fact that the bovine variety of tubercle bacteria is much more virulent than the human form for most animals is generally recognized. The interim reports of the Royal Commission point to the frequency with which the tubercle bacteria virulent for animals are obtained from tuberculous human subjects. However, the literature shows a comparatively small number of cases, about fifty, in which tubercle bacteria of the bovine variety have been positively demonstrated in tuberculous people. Dr. Theobald Smith* has recently ventured the statement that probably not more than one per cent. of all cases will show bovine bacilli, and that in individuals over twelve they will be found only very rarely. These few cases are sufficient, however, to warrant every reasonable effort to eradicate the disease, for in the face of these findings we do not want to use the milk from tuberculous cows.

The economic problem is many sided. In some cases whole herds are infected. These are, in many instances, the only source of revenue for their owners. Large numbers of cattle are suffering with single or localized foci of the disease which leave the carcass fit for food. Our government inspectors pass for sound beef thousands of animals similarly affected every year. Again, there are many herds of cattle valuable for their pure blood or special strains that have been obtained after years of expensive effort in breeding. These have a value to the dairy industry that is difficult to measure. Many of these herds may be tuberculous. We know that some of them are. Of the infected individuals a very large percentage are but slightly diseased. Because of this infection they are a menace to the healthy animals, but most of them still possess their essential value, the ability to breed. These can be segregated and their offspring procured free from the taint of tuberculous parasitism with which their dams are suffering. The Bang method* amply provides for this class of animals.

The elimination of a disease like tuberculosis, after it has become so widely disseminated, presents many perplexing problems. The mere testing of such a large number of cattle† requires much time and many men. The men must be trained and competent or the results will be unsatisfactory and untrustworthy. The use of tuberculin is comparatively recent and it is also a very delicate reagent not to be trusted to the unskilled. Its application must be repeated to detect the later cases of active disease that develop from the latent ones. An equitable and just disposal of the reacting animals must be provided for. The co-operation of the owners must be secured by teaching them the nature of the disease and its disastrous effects upon the herd if allowed to continue unchecked.‡ A state meat inspection service is a necessary complement to afford a ready and legitimate exit for many reacting animals. The whole proposition is complicated. However, the principles are clear and their application is not necessarily difficult. Because of the great values and the large number of animals involved and the necessity of supplying a constantly increasing quantity of milk, new methods may be necessary to meet the conditions. These are details that must be formulated by those having the work in charge. If the whole situation relative to bovine tuberculosis is carefully analyzed for the purpose of finding means whereby to check the spread of the virus and to eliminate the infected animals, the following code of action suggests itself. It is applicable both to the individual owner and to the State.

1. Protect the healthy herds by keeping all infected animals from entering them.

2. Promptly eliminate all animals exhibiting tuberculous udders or evidence of generalized

*Smith, Theobald. The channels of infection in tuberculosis, together with some remarks on the outlook concerning a specific therapy.—*Trans. Mass. Med. Soc.*, 1907.

*Bang, B.: The struggle with tuberculosis in Denmark.—*The Veterinarian*, Vol. LXVII (1895), p. 688.

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Harding, H. A., Smith, Geo. A., and Moore, V. A.: The Bang method of controlling tuberculosis, with an illustration of its application.—*Bulletin No. 277, N. Y. Agric. Exp. Sta.*, Geneva, N. Y., 1896.

Regner, Gustav: The suppression of tuberculosis among domesticated animals.—*Eighth International Veterinary Congress*, Budapest, Sept., 1905.

Russell, H. L.: The history of a tuberculous herd of cows.—*Wis. Agric. Exp. Sta., Bull.* 78, 1899.

†The year book of the U. S. Dept. of Agric. for 1906 gives New York 1,826,211 milch cows and 944,734 other cattle.

‡The loss to the owners of tuberculous herds may be summarized as follows:

1. It destroys by death a certain number of animals after the disease has become established in a herd.

2. It causes a waste of food by feeding it to animals that are diseased and can not give an adequate return.

3. It causes heavy losses by infecting other animals, such as swine, calves and adult cattle, through the milk and by contact. The enormous annual loss from tuberculosis in swine illustrates this point.

4. It reduces the production and market value of the animals. As soon as there is physical evidence of its existence the animals have practically no market value.

5. It destroys the good reputation of a herd, which renders it difficult to sell the animals and often their products.

tuberculosis thereby greatly reducing the danger from the milk.

3. As quickly as possible test with tuberculin all animals in the suspicious herds and segregate the reacting ones. Retest at frequent intervals until every infected animal is found and removed.

4. Dispose of the reacting animals by one of the following methods: (1) destruction; (2) slaughter for beef under proper inspection; (3) isolation for breeding purposes after the Bang method.

5. Never return to the sound herd animals that have reacted to tuberculin although they cease to react and appear to be perfectly well.

6. Change the practice of maintaining a milking herd by buying in fresh cows and selling the dry ones, to keeping more of the cows during the dry period and raising more calves. This is important unless cows can be purchased from perfectly sound herds.

7. Cattle should not be purchased for dairy purposes unless they pass the tuberculin test. They should not be accepted at all if the herd from which they came is extensively infected. All new animals should be carefully watched and retested.

The application of the fundamental elements of prevention and elimination herein set forth have driven tuberculosis from many extensively infected herds. What has been accomplished for small and larger herds can be obtained for them all. The importance of bovine tuberculosis is of sufficient magnitude to warrant such changes in the practice of handling dairy animals as may be found necessary to check its spread and to replenish the infected herds with sound animals. Many dairymen are weeding it out and many others are anxious to purify their herds. They do not want tuberculous cattle but all too often such animals constitute their entire source of revenue.

As the elimination of this disease is a benefit to all, it seems right that the State should provide ample funds to assist in a systematic manner those who are willing to bear their share in eliminating this parasitism from their cattle. However, the mere official purchase and destruction of reacting animals will not accomplish the desired result without the sympathy and intelligent co-operation of the owners who must adopt methods to prevent subsequent infection. Tuberculosis has been sown into the cattle of this State; it must be cultivated out.

The horizon of the average man's interest in medicine scarcely extends beyond the circumference of his own body or that of his family, and he measures the value of the medical art by its capacity to cure his cold, his rheumatism, his dyspepsia, his neurasthenia, all unconscious, because he does not encounter them, of the many perils which medicine has removed from his path through life. What does he know of the decline in the death-rate by one-half and of the increase in the expectation of life by ten or twelve years during the last century?—*Dr. William H. Welsh.*

WHAT RIGID INSPECTION OF MILK IS DOING FOR NEW YORK CITY.

By RUSSELL RAYNOR,

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NEW YORK.

TO gauge accurately the results of what has been accomplished since a systematic and rigorous inspection of the milk supply of New York City was instituted, it will be well to outline briefly the conditions which confront the Health Authorities of the City. The milk supply of New York City is obtained from portions of the following states: Vermont, Massachusetts, Connecticut, New York, New Jersey and Pennsylvania. This area, for lack of a better name, is usually spoken of as the Milk Shed, and covers about 43,734 square miles. The milk is brought into the City over ten different railroads. The nearest point from which milk is shipped is Turners, Orange County, N. Y., 48 miles, and the farthest point is Massena Springs, St. Lawrence County, N. Y., 415 miles distant. The trains carrying milk are scheduled, under the present practice, on express train time. These trains arrive at the New York terminals between 9.30 P. M., and midnight. The milk in cans which is intended for sale in the grocery and dairy stores, is removed from the station in the early morning and delivered immediately throughout the city; bottled milk is hauled to distributing stations in large wagons, there the loads are broken and the retail delivery wagon is started on its route.

New York City, with its population of nearly 4½ million inhabitants, uses about 1¾ million quarts of milk daily. To be accurate, 1,741,880 quarts of milk were received daily in New York during the month of June, 1907, this being exclusive of 645,800 quarts of milk received daily in the form of condensed milk and cream. One third of this is shipped in bottles and additional 15 per cent. to 20 per cent. is bottled in the city, bringing the total delivered to customers in bottles to approximately 50 per cent.

The authority of the Department of Health to examine the conditions under which this milk is produced is established in this manner: The Sanitary Code of the city provides in Section 56, "No milk, condensed milk or cream shall be received, held, kept, offered for sale or delivered in the City of New York without a permit from the Board of Health and subject to the conditions thereof." The Board can withhold, or rescind this permit if unsanitary conditions exist at the dairy or creamery where milk is produced or handled. It is, therefore, understood that while the Department of Health has no authority outside of the geographical limits of the city, it has the right to say what pure milk shall be and to forbid entrance to the city of any milk which has not been produced in a sanitary manner.

This question has been before the courts many times, and has been taken before the Court of Appeals of this State and the Supreme Court of the United States. In the case, People ex rel Lieberman vs. Vandecarr, the right of the Department of Health to make a regulation requiring a permit for the sale of milk was contested unsuccessfully by the milk dealers of the City of New York.

In the case of the people of the State of New York ex rel. George Lodes, against the Department of Health, City of New York, the Court of Appeals sustained the right of the Department of Health to regulate the sale and inspection of milk, and to revoke, at will, a permit for the sale of milk.

Prior to 1904, the efforts of the Milk Inspectors of the Department of Health had been directed almost entirely towards procuring a milk supply which was chemically pure. At times, inspections were made of local producers, but no systematic method was followed. In the fall of the year just mentioned, 1904, two inspectors were detailed to inspect all places in the milk shed, where milk was handled, and to report all abuses found. During 1902 and 1903 a few trips had been made to ascertain the general conditions as to shipping points and transportation methods on the various milk carrying roads.

In November, 1904, two inspectors, the first to start out, inspected a creamery in Orange County, New York, operated by a company who conducted a wholesale business in New York City, owning and operating twelve milk wagons. The manager was found busily engaged in removing cream from each can, and preparing a shipment of 61 cans of skimmed milk, which, contrary to the law, were to be shipped to New York City. In the cooling room where the milk was handled, the inspector found a keg of "lactone," a coloring matter warranted to give weak, sickly and anemic milk, the rich creamy color of Jersey. In this same room was found a large quantity of "Preservaline," a solution of formaldehyd in water. This, it was learned by affidavit from the former manager, was used regularly, and the small glass dropper that was found, was used to gauge the quantity that was squirted into each can before it was shipped. Photographs were taken of this creamery, the adulterated milk was followed to the city and destroyed, and a report, embodying the conditions and abuses found, was made. The company was immediately notified by the Board of Health to appear and show cause why their permits should not be revoked. After the hearing, the permits were revoked and this company was compelled to discontinue business in New York City.

As a result of this case the work in the country was pushed with additional vigor, and within the next few months of this occurrence, official inspection trips were arranged for and taken over each of the large milk-carrying roads that enter New York. The Chief Sanitary Inspector and his assistants made these trips, and all of the important creameries and milk-shipping stations were inspected, reports made, and a limited time given to the operators of each creamery to comply with the recommendations made by the Department.

The problem met with in the creameries was almost universally the same. Defective floors and drainage were the rule rather than the exception. In at least 75 per cent. of the creameries examined, pools of stagnant water of the most offensive character were discovered beneath the floors, and it was found to be a most common practice to ignore the existing drains, such as they were, and to sweep the wash water mingled with sour milk and other refuse from the milk cans through a hole in the floor to a dark, unventilated space beneath where rapid putrefaction gave rise to the foulest of odors. In some instances, little, if any, attempt was made to reduce the temperature of the milk before shipment, and almost invariably the vats or vessels containing the milk were uncovered from the time of its receipt until just prior to the time it was necessary to load the cars for shipment.

At an early period of the work it was realized that a suitable set of regulations was vital to a uniform inspection. Such regulations were drafted and duly adopted by the Board of Health. They are built upon the watchword "Cleanliness." They require essentially a watertight floor, preferably of concrete or some other non-absorbent material, graded toward a drain through which all waste is carried to a suitable point of disposal. Walls and ceilings must be of such a construction as will admit of being frequently and readily cleaned, and must not invite the collection of dirt and the accumulation of dust and cobwebs.

The water supply must be pure and uncontaminated. Proper facilities must be provided for cooling the milk received. The milk must be exposed to the air as little as possible.

No person suffering from a contagious disease or one in attendance upon such cases, shall be employed in the handling of milk or milk utensils.

The promulgation and enforcement of these rules has revolutionized creamery practice.

On June 1, 1906, the systematic work of dairy inspection was commenced. A Corps of Inspectors for country work was created. Fifteen new inspectors were appointed and assigned to dairy work. The territory supplying New York City, was divided into districts and a systematic inspection of the dairies was commenced.

Regulations for the conduct of dairies had been previously drawn up and adopted by the Board of Health. Copies were printed on muslin and a sufficient number furnished each creamery manager, to supply each of his patrons with at least one copy. These were intended to

prepare the dairymen for the visit of the inspector, and in many instances answered the purpose well.

There are about 60 of these regulations, divided into, care of cows, care of stable, water supply, milkers and utensils. The regulations relating to the care of the cows, require that the cattle must be kept clean at all times, and, that long hairs upon such parts of the cow as will be likely to shed hairs or drop dirt into the milk pail during the process of milking, be clipped. It requires further, that all cattle be examined by a veterinarian and his report placed on file with the Department. The Department, as yet, has not required the application of the tuberculin test, as there are many problems connected with this requirement which have not been fully studied out.

The requirement in relation to stables are that they shall be well lighted and cleaned. That the floors shall be tight and properly drained, that the manure be removed from the stable daily; that the walls be so constructed as to prevent dust and dirt falling on the floor or into the milk. Whitewashing, at least once a year, is also required. As in the case of creameries, a pure water supply for washing utensils is insisted upon. The rules further require that a milk house be provided which is separated from the stable and dwelling house, the purpose being to use this for all operations connected with the milk supply.

In regard to the milk, the usual necessary regulations requiring straining and protection from dust and dirt, are insisted upon. No farmer is allowed, in any manner, to adulterate the milk which he produces, nor is he allowed to furnish to the New York market any milk which has been drawn from diseased cows.

The regulations adopted by the Board of Health for creameries and dairies cannot be considered in any way oppressive; they have been prepared solely for the purpose of surrounding the production of milk with due precautions, and their observation is a fundamental necessity in the protection of the milk supply.

The use of the printed regulations in the inspection of creameries and dairies very naturally led to the necessity for a uniform report. This was met by the preparation of 5x8 filing cards, upon which were printed all of the regulations with blanks in which can be written the inspector's report of conditions found. These cards had been used but a short while when it was realized that it was extremely difficult to compare the report of one place with that of another, consequently these cards were abandoned and new ones prepared, in which, values were assigned to each condition which might exist in a dairy or creamery. The total of these values being 100, it being, of course, understood that separate cards were prepared for the dairy inspection and the creamery inspection. The inspector, in making his report, assigns the proportionate values to each item and then determines the total, the result giving the percentage score of the premises inspected.

The score card system has been in vogue for nearly two years and is giving most satisfactory results. In November, 1907, the system was extended to stores within the city selling milk, and promises to be as beneficial as in the country work.

For purpose of administration, the milk shed is divided into five districts, to each of which is assigned a group of inspectors, one of whom is designated as leader or supervisor, and he is responsible for all work within his district. He details the members of his group in such a manner as to expedite the work as much as possible. Each inspector, upon the completion of his daily work, fills out the report cards as described above, then mails them to the office of the Department of Health, where they are examined, and a letter is prepared and sent to the dairyman, telling him what his dairy scores and specifically outlining to him the improvements or changes that are necessary in order that his product may continue to enter this city. A reasonable time is given in which these improvements are to be made, or at least, in which they are to be started. If the conditions are bad, the time is shortened in which improvements must be made. If upon a reinspection, no effort has been made to improve the dairy, and the recommendations that pertain exclusively to matters of cleanliness are still uncomplied with and ignored, the milk from that dairy is refused entrance to the market of New York City. The person operating the creamery to which this dairy draws its milk, is notified that the milk produced on that farm is not desired in New York City, and the reason for this decision is given. He is also informed that failure to comply with this notice will result in the entire milk from that creamery being forbidden entrance into the city for sale. As in most cases, the farmers are without a market unless they comply with the requirements laid down, but few instances are known where absolute refusal has been met with.

In addition to the routine sanitary inspection of the milk shed, there are other safeguards thrown around the supply which have led to beneficial results.

It is the duty of physicians to report all cases of typhoid fever to the Department of Health. These cases are investigated by Medical Inspectors. Every possible source of infection is inquired into, and if by a process of elimination it would seem reasonable to suppose that the milk supply is suspected, the facts are referred to the corps of Milk Inspectors for further investigation. If more than two cases are reported in the supply of a single dealer, a thorough inspection is made of his supply at every point.

On March 13, 1907, the following resolutions were adopted by the Board of Health:—

Resolved, That after April 1, 1907, every creamery or milk station which ships milk or cream, or both, to the City of New York, shall be required, through its agents, to furnish to the Department of Health of the said city on Monday of each week a report stating the existence or non-existence of any one of the following infectious diseases in the households of all persons employed in the collecting or handling of milk, either at the creamery or at the farms or dairies supplying it; namely, typhoid fever, tuberculosis, scarlet fever, diphtheria, dysentery, or any other infectious disease.

Resolved, That every creamery or milk station shall require each dairyman or farmer sending milk or cream, or both, to such creamery or milk station to report in writing on Saturday of each week as to the existence or non-existence of any one of the above mentioned infectious diseases in the household of every employee in his farm or dairy who is connected in any way with the care or handling of milk.

175 F—1907

DEPARTMENT OF HEALTH

CITY OF NEW YORK

DIVISION OF INSPECTIONS

Perfect Score 100
Score Allowed .....%

CREAMERY CARD

File.....Inspection No.....Time.....A. P. M. Date.....190.....
Location.....P. O. Address.....
County.....State.....
On.....R. R.....Branch.....Miles to N. Y.
Owner.....Address.....
Operator.....Address.....
Manager.....is.....licensed. Number of help.....
All persons engaged in handling milk are.....free from any infectious disease. Number of patrons.....
Average Butter Fat test for dairies at present.....Milk received daily.....Lbs., Qts., Cans
Milk train leaves daily at.....A. P. M. Arrives at.....N. Y. Milk Platform
Method of Pasteurizing.....Machine used.....
Cream is made by hand-skimming, separating.....Living quarters are.....located in Creamery
Butter, Cheese, Condensed Milk, Casein or Milk Sugar are.....made on the premises
Car left for loading is.....delivered cold. Cans are.....wired or sealed before shipping

SHIPMENTS TO CUSTOMERS

Name.....{.....Cans Pasteurized Milk} Marks.....
Address.....{.....Cases " Cream}
Name.....{.....Cans " Milk} Marks.....
Address.....{.....Cases " Cream}
Name.....{.....Cans " Milk} Marks.....
Address.....{.....Cases " Cream}

1374 '07, 5,000 (P)

In accordance with these regulations, blanks were furnished to the milk dealers and farmers. Considerable opposition has been met with however, and they are not being returned as completely as required, although there is a steady improvement from week to week. This system undoubtedly is of great use, but it is questionable

whether it can be thoroughly enforced without a corps of Medical Inspectors, with no other duties than to control this branch of the work.

In these inspections of the milk shed, very close attention has always been paid to the water supply. In all instances where there is the least question as to its probable purity, samples for analysis are obtained. Many hundreds of samples have been analyzed and the use of many impure supplies discontinued.

A reform in the milk condition which has only indirect connection with the methods of inspection, was instituted in the middle of last year. A section was added to the Sanitary Code providing, "It shall be the duty of all persons having in their possession, bottles, cans or other

	PERFECT SCORE	ALLOWED
CREAMERY is.....located on dry and elevated ground	1	.....
Is.....at least 100 feet away from any hog-pen, privy-vault, factory, manure loading platform or anything else objectionable	2	.....
Premises surrounding creamery are.....clean	2	.....
RECEIVING ROOM is..... partitioned off from main milk room	1	.....
Air is.....free from dust, dirt or objectionable odors	2	.....
Weigh vats and storage tanks are.....covered	2	.....
MILK HANDLING ROOM is.....used exclusively for handling milk	1	.....
Is.....separate from where cans are washed	1	.....
Is.....separate from where engine or boiler is located	1	.....
Is.....well lighted by.....windows	2	.....
Has.....good ventilation	2	.....
All odors and steam from washing apparatus are.....carried off	1	.....
WALLS AND CEILING are.....sheathed and dust tight	2	.....
Are..... .....painted with some light colored paint	1	.....
All ledges are.....clean and free from dust and dirt	2	.....
FLOORS are.....free from dirt, rubbish or pools of drainage	2	.....
Are.....made of concrete, stone or some non-absorbent material	4	.....
Are.....water-tight	2	.....
Are.....so graded that all drainage is discharged at one or more points	2	.....
Strainers in floor are.....at least 12 inches in diameter	1	.....
SPACE BENEATH CREAMERY is.....dry	2	.....
Is.....free from waste or rubbish	1	.....
DRAINS are.....of earthenware or iron	2	.....
Are.....water-tight	2	.....
Are.....continuous from the floor level to point of disposal	2	.....
Are.....protected against freezing	1	.....
DRAINAGE is.....satisfactorily disposed of	5	.....
Discharged into a stream	.....	.....
Discharged into a covered cesspool and pipes properly trapped	.....	.....
Land disposal at least 500 feet away from creamery	.....	.....
.....	.....	.....
MILK PUMPS AND PIPES for milk, can.....be readily taken apart	1	.....
Are.....thoroughly cleaned daily	2	.....
All steam and water pipes are.....painted and clean	1	.....
STORAGE TANKS OR MIXING VATS are.....in good repair	1	.....
All tin joints are.....soldered flush	1	.....
Are.....thoroughly cleaned daily	2	.....
MILK CANS are.....washed with hot water and washing solution	2	.....
Are.....rinsed out with clean water	1	.....
Are.....exposed to live steam for at least two minutes	2	.....
ALL MILK is.....protected from dust and dirt while in pools	1	.....
Is.....protected while in mixing vats or over aerators	2	.....
Is.....received at a temperature not above 60° F	2	.....
Is.....kept below 50° while held or handled on premises	2	.....
COOLING TANKS are..... water-tight	1	.....
Are.....made of some non-absorbent material	1	.....
Are.....supplied daily with clean water or filled with clean ice	1	.....
WATER SUPPLY is ample for all the needs of the creamery	5	.....
Water supply is..... .....apparently free from all contamination and is from	10	.....
ICE POND is.....polluted by privy or creamery waste	2	.....
STORAGE TANK for water is.....cleaned regularly	1	.....
Is.....covered or protected against dirt	1	.....
ATTENDANTS are.....cleanly in their habits	2	.....
Garments worn by such employees are.....clean	2	.....
PRIVY, water closet, earth closet, tight vault is..... satisfactorily located	2	.....
Is.....in a cleanly condition	1	.....
SPITTING OR SMOKING in any part of the building is.....allowed	2	.....
Remarks		
.....		
.....	100	.....

Inspector of Foods

receptacles containing milk or cream which are used in the transportation and delivery of milk or cream, to clean or cause them to be cleaned immediately upon emptying * * *.

milk. The Country Inspectors report that they no longer find cans containing sour milk, garbage and other offensive material in the creameries.

184 F—1907

Perfect Score 100%
Score Allowed.....%

File No.....

DEPARTMENT OF HEALTH

CITY OF NEW YORK

Dairy Inspection **Division of Inspections**

1 Inspection No.....Time.....A. P. M. Date.....190
2 Tenant.....P. O. Address.....
3 Township.....County.....State.....
4 Owner.....Party Interviewed.....
5 Milk delivered at.....Since.....
Formerly delivered at.....
6 Creamery on.....R. R.....Branch.....Miles to N. Y.....
7 Creamery operated by.....Address.....
8 Distance of farm from creamery.....Occupied farm since.....
9 No. of Cows.....Breed.....No. Milking.....
Quarts milk produced.....
10 All persons in the households of those engaged in producing or handling milk are.....free from all infectious disease.....
11 Date and nature of last case on farm.....
12 A sample of the water supply on this farm taken for analysis.....
190.....and found to be.....
13 Size of cow barn, length.....feet. Width.....feet. Height of ceiling.....

		Perfect	Allow
	STABLE		
14	**COW STABLE** is.....located on elevated ground with no stagnant water, hog-pen, or privy within 100 feet.....	1	.....
15	**FLOORS** are.....constructed of concrete or some non-absorbent material	1	.....
16	Floors are.....properly graded and water-tight.....	2	.....
17	**DROPS** are.....constructed of concrete, stone or some non-absorbent material.....	2	.....
18	Drops are.....water-tight.....	2	.....
19	**FEEDING TROUGHS**, platforms or cribs are..... well lighted and clean	1	.....
20	**CEILING** is constructed of.....and is.....tight and dust proof	2	.....
21	Ceiling is.....free from hanging straw, dirt or cobwebs.....	1	.....
22	**NUMBER OF WINDOWS**.....total square feet.....which is.....sufficient	2	.....
23	Window panes are.....washed and kept clean.....	1	.....
24	**VENTILATION** consists of..... .....which is sufficient 3, fair 1, insufficient 0	3	.....
25	**AIR SPACE** is.....cubic feet per cow which is.....sufficient (600 and over—3) (500 to 600—2) (400 to 500—1) (under 400—0).....	3	.....
26	**INTERIOR** of stable painted or whitewashed on.....which is satisfactory 2, fair 1, never 0.....	2	.....
27	**WALLS AND LEDGES** are.....free from dirt, dust, manure or cobwebs	2	.....
28	**FLOORS AND PREMISES** are.....free from dirt, rubbish or decayed animal or vegetable matter.....	1	.....
29	**COW BEDS** are.....clean	1	.....
30	**LIVE STOCK**, other than cows, are.....excluded from rooms in which milch cows are kept	2	.....
31	There is.....direct opening from barn into silo or grain pit.....	1	.....
32	**BEDDING** used is.....clean, dry and absorbent.....	1	.....
33	**SEPARATE BUILDING** is.....provided for cows when sick.....	1	.....
34	Separate quarters are.....provided for cows when calving.....	1	.....
35	**MANURE** is.....removed daily to at least 200 feet from the barn (.....ft.)	2	.....
36	Manure pile is.....so located that the cows cannot get at it.....	1	.....

The enforcement of this section by the City Inspectors of milk has undoubtedly gone a long way toward assisting the preparation of clean

At the time of the regular inspection of the 700 creameries supplying New York City, very many conditions were found that were most

unsanitary, and numbers of them were immediately closed until after these conditions had been remedied. In many instances entirely new cement or concrete wall 6 feet high and in perhaps half a dozen instances the buildings are all solid concrete.

		PERFECT	ALLOW
37	**LIQUID MATTER** is.....absorbed and removed daily and.....allowed to overflow and saturate ground under or around cow barn.....	2	.....
38	**RUNNING WATER** supply for washing stables is.....located within building.....	1	.....
39	**DAIRY RULES** of the Department of Health are.....posted.....	1	.....
	COW YARD		
40	**COW YARD** is.....properly graded and drained.....	1	.....
41	Cow yard is.....clean, dry and free from manure.....	2	.....
	COWS		
42	**COWS** have.....been examined by Veterinarian..... Date.....190..... Report was.....	3	.....
43	Cows have.....been tested by tuberculin, and all tuberculous cows removed	5	.....
44	Cows are.....all in good flesh and condition at time of inspection.....	2	.....
45	Cows are.....all free from clinging manure and dirt. (No. dirty.....)	4	.....
46	**LONG HAIRS** are.....kept short on belly, flanks, udder and tail	1	.....
47	**UDDER AND TEATS** of cows are.....thoroughly cleaned before milking	2	.....
48	**ALL FEED** is.....of good quality and all grain and coarse fodders are.....free from dirt and mould.....	1	.....
49	**DISTILLERY** waste or any substance in a state of fermentation or putrefaction is.....fed.....	1	.....
50	**WATER SUPPLY** for cows is.....unpolluted and plentiful.....	2	.....
	MILKERS AND MILKING		
51	**ATTENDANTS** are.....in good physical condition.....	1	.....
52	Special Milking Suits are.....used.....	1	.....
53	Clothing of milkers is.....clean.....	1	.....
54	Hands of milkers are.....washed clean before milking.....	1	.....
55	**MILKING** is.....done with dry hands.....	2	.....
56	**FORE MILK** or first few streams from each teat is.....discarded	2	.....
57	Milk is strained at.....and.....in clean atmosphere	1	.....
58	Milk strainer is.....clean.....	1	.....
59	**MILK** is.....cooled to below 50° F. within two hours after milking and kept below 50° F. until delivered to the creamery.....°.....	2	.....
60	Milk from cows within 15 days before or 5 days after parturition is.....discarded	1	.....
	UTENSILS		
61	**MILK PAILS** have.....all seams soldered flush.....	1	.....
62	Milk pails are.....of the small mouthed design, top opening not exceeding 8 inches in diameter. Diameter.....	2	.....
63	Milk pails are.....rinsed with cold water immediately after using and washed clean with hot water and washing solution.....	2	.....
64	Drying racks are.....provided to expose milk pails to the sun.....	1	.....
	MILK HOUSE		
65	**MILK HOUSE** is.....located on elevated ground with no hog-pen, manure pile or privy within 100 feet.....	1	.....
66	Milk house has.....direct communication with.....building	1	.....
67	Milk house has.....sufficient light and ventilation.....	1	.....
68	Floor is.....properly graded and water-tight.....	1	.....
69	Milk house is.....free from dirt, rubbish and all material not used in the handling and storage of milk.....	1	.....
70	Milk house has.....running or still supply of pure clean water.....	1	.....
71	Ice is.....used for cooling milk and is cut from.....	1	.....
	WATER		
72	**WATER SUPPLY** for utensils is from a.....located .....feet deep and apparently is.....pure, wholesome and uncontaminated.....	5	.....
73	Is.....protected against flood or surface drainage.....	2	.....
74	There is.....privy or cesspool within 250 feet (.....feet) of source of water supply.....	2	.....
75	There is.....stable, barn-yard, or pile of manure or other source of contamination within 200 feet (.....feet) of source of water supply.....	1	.....
		100	

1587, '07, 50,000 (P) Inspector of Foods

buildings have been constructed, almost invariably having concrete or asphalt floors, with a

As an indication of the present conditions of the creameries, the following figures have been

gathered from the Inspection Cards of the last 326 creameries inspected:

Below 60%	42
Between 60% and 70%	69
" 70% " 80%	94
" 80% " 90%	73
" 90% " 95%	23
" 95% " 100%	25

These 326 creameries have an average score of 75 per cent.

These same conditions undoubtedly exist to a moderate degree amongst the dairies. As an example, a number of dairies were examined in October, in Putnam County and found to have an average score of 67 per cent. The lowest score being 49 per cent. and the highest score being 74 per cent. These same dairies were re-inspected during the month of January of this year and found to have an average score of 70 per cent., the lowest score being 58 per cent., and the highest being 83 per cent.

Upon reinspection of the dairies, it has almost invariably been found that the objectionable accumulation of manure in and about the stables had been removed to a distance from the buildings. Additional light and ventilation has very frequently been found. A thorough cleaning and whitewashing has almost invariably taken place and in many instances the creamery manager or an association of farmers have purchased a whitewashing machine which is being used to good effect.

Within the last few months several auction sales of farms have been advertised, in which the statement has been made that the barns and milk houses had been inspected and were up to the requirements of the New York City Board of Health. This being considered a valuable asset. Furthermore, as new leases are being made with tenants, it is almost invariably specified before signing the lease, that the premises must be kept sanitary and suitable for the production of clean milk.

As a further indication of the valuable importance of this work now being performed by the Inspectors of the Department of Health, I will close by quoting this note taken from the published list of prices of one of the largest companies, operating creameries and selling milk within the City of New York:

"NOTE: These prices apply only to those dairymen whose places have been scored 60 per cent. or higher by the Inspector of the Department of Health of the City of New York. There will be a reduction in the prices paid to the dairymen scoring less than 60 per cent., and the product of any dairy scoring less than 50 per cent. is not desired, and will not be accepted."

Men talk of the victims of wars and epidemics, but who considers the battlefields of arts, science, and letters, and the dead and dying that fierce struggles for success pile upon them?—*Balzac.*

A SUBSTITUTE FOR THE SPUTUM CUP.

By HORACE GREELEY, M.D.,

BROOKLYN-NEW YORK.

AS the sputum cup, or bottle, commonly recommended for use by consumptives is so conspicuous as to be objectionable I have thought that the suggestion of a practical substitute would be welcome, one equally efficient at home, upon the streets, or within an institution.

There are upon the market, handled by the drug and rubber goods trades, pouches of various sizes, made of silk or gingham, lined with adherent rubber tissue, called sponge bags, around the mouth of each of which is a purse string running under a band, attached upon the cloth side about one inch from the top. They may be had in different colors, from black to black and white check, or red or blue gingham.

One of these, about eight inches wide by nine long, into which has been placed a flat, two pound size paper bag, with its purse string slightly drawn, looks very much like a sewing bag, or even one such as is often carried upon the street with handkerchief, purse, etc.

This outfit is to be used to receive the crumpled slips of toilet paper into which the patient has expectorated, and that should be provided as thick and as absorbent as the market affords. Or the material used in paper napkins, or even filter paper, or pieces of muslin, may be used if cost is not a consideration.

As often as necessary, and at least twice a day, the paper bag in use should be removed from the pouch by the patient and deposited in a covered vessel, such as an enameled slop-bucket kept only for that purpose, and disinfected once weekly, carried to a stove or furnace in which is a good fire and dumped in, or, if convenient, the bag may be immediately transferred from pouch to fire by the patient or attendant.

While abroad a man may carry the pouch in an inside pocket, attaching it on either side by the purse string with a safety-pin. For a patient in bed it may be held in like manner to the side of the mattress. The gauze or handkerchief in use should be kept alongside the paper bag and within the pouch.

Such outfits have been recommended by me, and used with great satisfaction and small cost—about twenty-two cents apiece for pouches, ten cents a hundred for paper bags, and five cents for a pad of absorbent toilet paper. Additional advantages are that there is never any danger of spilling the sputum, as from a cup, and that complete destruction by fire is assured by the admixture with paper.

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Editorials.

SPONTANEOUS GENERATION AGAIN.

NOW and then some one, not versed in biology or the literature of biology, rushes into print with the statement that all our sanitation and practically all our modern medicine are founded on the thesis that life does not originate spontaneously. It is rather interesting to encounter the dogmatic statement that modern medicine is founded upon this assumption, and that "not only does no living thing originate except from preceding life, but no portion of any living thing comes into being, except from a living particle of the organism of which it is to form a part"!

If there is any one thing upon which modern biology is agreed it is that, there was a time when there was no life upon the earth, and that life sprang up *de novo* as the result of the fortuitous conjunction of carbon, hydrogen, oxygen, nitrogen, sulphur, and phosphorus, together with moisture and heat. Biologists believe that the same natural laws, which originally combined these elements into protoplasm, now exist and continue to operate. While no one has succeeded in making protoplasm synthetically, we do know that it was once made in the great laboratory of nature, which is still in operation with its constant and immutable laws. No biologist contends that new bacteria or nucleated cells come into existence spontaneously, but, contrary to the dogmatic assertion above referred to, many do agree that living matter, similar to that from which the bacteria are descended through the microphyta and microzoa, originates spontaneously and, indeed, is originating spontaneously all the time. The cell which Virchow dealt with is a complex, highly organized form of life compared with the monera of Haeckel or the protoplasmic slime out of which they spring.

It is not medicine, but rather theology, that is founded upon the proposition of an early and never repeated creation. Because plasmogeny is not susceptible of laboratory demonstration, there are still those who, according to F. A. Lange, "love to shelter themselves in those dark corners which science has not yet illumined with its rays, and there to hang up their cobwebs to catch sound reason in."

The monera of Haeckel and the protoplasmic slime, found in the sea, which biologists are more and more agreed represent the simplest known forms of living matter have never been discovered in process of production, because their generation took place or takes place under conditions with which we are not familiar, but this does not necessarily hold good for all time. Geologists have never discovered the diamond in process of formation in nature. Artificial chemistry has produced organic compounds which had previously been found only as a part of living organisms; urea, alcohol, grape-sugar, butyric acid, acetic acid, lactic acid, fat, amyloids, and alkaloids. Chemistry is steadily approaching the production of protoplasm, although it will be most difficult to produce artificially the albuminous molecule which is large and extremely complex in structure, its atoms being held in very unstable combination.

When we speak of spontaneous generation the modern interpretation does not call for complex organisms, but the most primitive plasmogenesis. Other interpretations have long since passed away. Christendom once believed that elephants and all other things were results of a single creative act; Harvey thought mice were generated spontaneously; Pasteur's "infinitely small" were the yeast organisms; Virchow's ultimate organism was the cell; Haeckel has carried us to the monera; and a host of modern observers are at work in the borderland between living matter and the inorganic world, discovering in crystallization and among the inorganic molecules activities closely akin to those of so-called organized material. But the fact that the chemist has not yet succeeded in creating protoplasm or because the biologist has not yet identified it in

process of creation, is no ground to assert that spontaneous generation is impossible and that the laws of nature, which once produced living material, are no longer operative in that direction.

The plants are demonstrating the truth of archigony. The chlorophyl cell possesses the synthetic power of plasmodomism or carbon-assimilation; it builds up protoplasm out of inorganic materials—water, carbon dioxid, nitric acid, and ammonia. Thus in the laboratory of the plant we behold the construction of the protoplasm, which botanists are agreed is purely by virtue of a chemical process. The plant is formed of inorganic matter and can be resolved back into inorganic matter.

Max Kassowitz, in his *Biologie,* calls attention to the necessity of conceiving of the development of organic from inorganic material as requiring an incalculably long period, and not as a sudden chemical process. But that archigony, or spontaneous plasmogeny, does occur is pointed to by nature and believed by a large number of biologists.

If in speaking of spontaneous generation one could be so loose in the use of language as to refer to cellular organisms alone, such as bacteria, then we must say that all agree that bacteria spring from bacteria; but no one familiar with the great principles of evolution would dispute that new and ever-changing varieties of bacteria are developing even now as a result of natural selection and the laws which lie beneath the mutations of species.

THE PATHOLOGY OF CEREBRO-SPINAL FLUID.

THE last decade has witnessed the perfection of the operation of tapping the subarachnoid space in the lumbar region of the spine. This is done with such facility that cerebrospinal fluid may be withdrawn for diagnostic purpose, or the needle inserted for the purpose of injecting medication into that region. An interesting contribution to the literature of this form of operation is presented in the *Quarterly Journal of Medicine,* Vol. 1, No. 2, 1908, by J. Graham Forbes, who examined the cerebrospinal fluid obtained by the operation of lumbar puncture from 140 children. The records include 57 cases of tuberculous meningitis, 36 cases of meningococcus meningitis, 16 cases in which other organisms were found in the fluid (pneumococcus, streptococcus, staphylococcus, and B. coli communis), 3 cases of syphilitic meningitis, 14 cases in which cerebral conditions other than meningitis were present (abscess, tumor, sclerosis, and hydrocephalus), and 14 cases with meningeal symptoms due to whooping cough, bronchopneumonia, and acute gastroenteritis. In the tuberculosis cases lymphocytes formed the bulk of the deposit thrown down by the centrifuge. A slight trace of albumin was present in all cases.

In meningococcal meningitis the fluid, in severe fatal cases and in the acute stage of those which eventually recover, is turbid, contains a heavy trace of albumin, and a large number of polymorphonuclear cells, with meningococci identified in film preparations and culture. In the less acute cases the fluid is frequently clear and contains a faint trace of albumin; the cell deposit is scanty but still composed chiefly of polymorphonuclear cells with a few meningococci in film preparations but not usually obtained in cultures. In the chronic cases, which recover or result in hydrocephalus, the fluid is clear—no albumin, or the merest trace is present—and the only cells found are a few lymphocytes which are often degenerated; film preparations show no organisms or only a very few degenerated diplococci; and cultures are sterile.

This author was able to negative 14 cases presenting meningeal symptoms by examination of the cerebrospinal fluid. The information derived from examination of the cerebrospinal fluid shows that in the majority of cases, both from the positive and negative aspects, the operation of lumbar puncture provides a means of diagnosis of much importance.

ENDOWMENTS FOR MEDICAL WORK.

MANY of the wealthy philanthropists of this country have placed the public under great obligations to them for the good they have done in rendering financial aid to the science of medicine. There is no more fruitful field and none in which a more abundant return ultimately comes back to the people. It is good to learn that Mr. Carnegie has turned his attention to the opportunities offered for the

consideration of philanthropy by medical science. The news comes from Berlin that Ambassador Tower has received a letter from Andrew Carnegie confirming the report that he would furnish $100,000 to complete the proposed fund necessary for the continuation of Dr. Koch's researches into the nature and cure of consumption. This aid to science came about as the result of a conversation at Kiel last summer between Mr. Carnegie and Dr. Von Ilberg, the German Emperor's physician, who interested him in this important line of work. In the communication, above referred to, Mr. Carnegie pays a tribute of high appreciation to Koch, Pasteur and Lister.

While thus far there have been but comparatively small beginnings in the way of donations from wealthy men for the advancement of medical science, there is no doubt but that the immense value of such work will soon be so widely appreciated that endowments for its aid will rival those which for a quarter of a century past have been bestowed upon colleges and hospitals. Notwithstanding the high position to which medical knowledge and its application have attained, there is at the present time, as never before, a need for financial aid in the advancement of this work. The great possibilities of medical science and the incalculable benefits which lie all but within the grasp of humanity, wanting only adequate aid for their accomplishment and full realization, should appeal to every philanthropist who can be confronted with the facts.

There is need not only of endowed institutions for research, but also a need of teaching institutions, with funds sufficient to place them above the inconveniences of penury and commercialism, where earnest men can work untrammeled and instruct the men who are to go into the homes and at the bedsides decide the questions of life and death. In 1900 it was shown that each of the 8,000 theological students in this country had the income of an endowment, represented in the institutions, of $2,250 furnished for his education; while each of the 24,000 medical students had the income of $83. The fact that theological institutions are endowed so vastly beyond what medical institutions are in this country, it is to be feared, will cause future historians to regard the present generation as wiser in many other things than in the real essentials of education.

Observations

ON MEDICAL SCIENCE AND HUMAN PROGRESS.

As the official and public relations of the physician increase and the diseases become less, there will continue to be a demand for men who are learned in human biology—perhaps as great as at this present time when we hear so much said of the crowded profession. Certainly there will be less need of the therapeutist, for if there is any one thing that should be regarded as the sign of advancing civilization it is the recession of morbidity. There will be, besides the general practitioners and the refined specialists, members of the medical profession occupied in the various public medical activities. The field of the sanitary engineer is only just beginning to be developed. Medical men will be required as educators. All great undertakings, involving human lives, will be advanced under medical supervision. The blessing and approval of the priest will give way to the blessing and approval of the doctor. We have witnessed the transformation. The policy as exemplified by the armies of the crusaders must give place to the policy as exemplified by the army of Japan which multiplied three-fold the number of its medical men and ten-fold their authority and took a stand away in the van of human progress. The value of medical supervision is demonstrated at Panama, where two continents are being cut in twain; and where men are learning that the operation to be well done, or, indeed, to be done at all, must be performed with the aid of the doctor.

* * *

The most fertile lands on the green earth have not yet been made the abode of man. He has tended to grow away from them and into the cold and uninviting north, because he could eke out a living where bacteria could not, and where bacteria were everywhere he perished. But medical science is destined to banish the infective diseases from the tropics and the most fertile portions of the world, and open up for human habitation rich lands where the date and banyan now grow unseen by human eyes. It is destined to give to mankind a new world equal in size to that which he now inhabits and many times more fertile, where grain will wave and roses bloom the whole year through, and children wax healthy and merry in lands now pregnant with disease. To see this picture requires but a familiarity with history and a knowledge of the possibilities of medical science.

* * *

It is in making life more livable, in shielding man from the unseen enemies which prey upon his body, in preserving his family, and in completing his mastery over the malignant powers

of nature, that the field of medicine lies. The scientific study of diseases has already lent its aid, with importance equal to that of astronomy, geology and biology, in purging the mind of man of superstitions which since the beginning of history have hampered his moral development. The current saying that every doctor is an atheist only means that the mind of the doctor is more free from superstition than is the mind of the average man. The ranks of spiritualists and Christian Scientists are not recruited from physicians. The doctor has learned to believe in the eternal materiality of things and in the constancy of the forces which connect them; and even though causes may be hidden from his eyes he believes that they exist and he has faith that they can be found. Pasteur in discovering the relation to disease of the "infinitely small" things did as much as Galileo in the overthrowing of superstitions.

Thus we see how far-reaching are the influences of our science and art, and how important a rôle they play as human aids. They touch the bodily and spiritual welfare of the individual, of the state and of mankind. Hand in hand with the progress of civilization go the advancements of medicine. Medical progress has ever been and ever will be an index to human advancement.

Items.

EDITED BY

FREDERICK TILNEY, A.B., M.D.

PRIZES OFFERED BY THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.—The Central Committee of the International Congress on Tuberculosis, which is to be held in Washington, D. C., in September and October of this year, has announced the offer of the following prizes:

I. A prize of $1,000 is offered for the best evidence of effective work in the prevention or relief of tuberculosis by any voluntary Association since the last International Congress in 1905. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas of certificates of award. Evidence is to include all forms of printed matter, educational leaflets, etc.; report showing increase of membership, organization, classes reached—such as labor unions, schools, churches, etc.; lectures given; influence in stimulating local Boards of Health, schools, dispensaries, hospitals for the care of tuberculosis; newspaper clippings of meetings held; methods of raising money; method of keeping accounts. Each competitor must present a brief or report in printed form. No formal announcement of intention to compete is required.

II. A prize of $1,000 is offered for the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

III. A prize of $1,000 is offered for the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interest of the crusade against tuberculosis. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. This prize is designed to stimulate efforts towards securing a maximum of sunlight, ventilation, proper heating, and general sanitary arrangement for an inexpensive home. A model of house and furnishing is required. Each competitor must present a brief with drawings, specifications, estimates, etc., with an explanation of points of special excellence. Entry may be made under competitor's own name.

IV. A prize of $1,000 is offered for the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail, construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

V. A prize of $1,000 is offered for the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis. In addition to the prize of $1,000, two gold medals and three silver medals will be awarded. The prize and medals will be accompanied by diplomas or certificates of award. The exhibit must show in detail, construction, equipment, management and results obtained. Each competitor must present a brief or report in printed form.

VI. The Hodgkins Fund Prize of $1,500 is offered by the Smithsonian Institution for the best treatise that may be submitted on "The Relation of Atmospheric Air to Tuberculosis."

The detailed definition of this prize may be obtained from the Secretary-General of the International Congress or Secretary of the Smithsonian Institution, Chas. D. Walcott.

VII. Prizes for Educational Leaflets:

A prize of $100 is offered for the best educational leaflet submitted in each of the seven classes defined below. In addition to the prize of $100, a gold medal and two silver medals will be awarded in each class. Each prize and medal will be accompanied by a diploma or certificate of award. Competitors must be entered under assumed names.

A. For adults generally (not to exceed 1,000 words).

B. For teachers (not to exceed 2,000 words).

C. For mothers (not to exceed 1,000 words).

D. For in-door workers (not to exceed 1,000 words).

E. For dairy farmers (not to exceed 1,000 words).

F. For school children in grammar school grades (not to exceed 500 words).

In classes A, B, C, D, E and F, brevity of statement without sacrifice of clearness will be of weight in awarding. All leaflets entered must be printed in the form they are designed to take.

G. Pictorial booklet for school children in primary grades and for the nursery.

Class G is designed to produce an artistic picture-book for children, extolling the value of fresh air, sunlight, cleanliness, etc., and showing contrasting conditions. "Slovenly Peter" has been suggested as a possible type. Entry may be made in the form of original designs without printing.

VIII. A gold medal and two silver medals are offered for the best exhibits sent in by any States of the United States, illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

IX. A gold medal and two silver medals are offered for the best exhibits sent in by any State or Country (the United States excluded), illustrating effective organization for the restriction of tuberculosis. Each medal will be accompanied by a diploma or certificate of award.

X. A gold medal and two silver medals are offered for each of the following exhibits; each medal will be accompanied by a diploma or certificate of award; wherever possible each competitor is required to file a brief or printed report:

A. For the best contribution to the pathological exhibit.

B. For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any State of the United States. Brief required.

C. For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any State or Country (the United States excluded). Brief required.

D. For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any municipality in the world. Brief required.

E. For the society engaged in the crusade against tuberculosis having the largest membership in relation to population. Brief required.

F. For the plans which have been proven best for raising money for the crusade against tuberculosis. Brief required.

G. For the best exhibit of a passenger railway car in the interest of the crusade against tuberculosis. Brief required.

H. For the best plans for employment for arrested cases of tuberculosis. Brief required.

XI. Prizes of two gold medals and three silver medals will be awarded for the best exhibit of a work-shop or factory in the interest of the crusade against tuberculosis. These medals will be accompanied by diplomas or certificates of award.

The exhibit must show in detail, construction, equipment, management, and results obtained. Each competitor must present a brief or report in printed form.

The following constitute the Committee on Prizes: Dr. Charles J. Hatfield, Philadelphia, Chairman; Dr. Thomas G. Ashton, Philadelphia, Secretary; Dr. Edward R. Baldwin, Saranac Lake; Dr. Sherman G. Bonney, Denver; Dr. John L. Dawson, Charleston, S. C.; Dr. H. B. Favill, Chicago; Dr. John B. Hawes, 2nd, Boston; Dr. H. D. Holton, Brattleboro; Dr. E. C. Levy, Richmond, Virginia; Dr. Charles L. Minor, Ashville, N. C.; Dr. Estes Nichols, Augusta, Me.; Dr. M. J. Rosenau, Washington; Dr. J. Madison Taylor, Philadelphia; Dr. William S. Thayer, Baltimore: Dr. Louis M. Warfield, St. Louis.

DR. NORMAN DITMAN WINS THE GIBBS PRIZE.—It is reported that Dr. Norman Ditman has been awarded the Gibbs Prize. The Gibbs Prize is offered by the New York Academy of Medicine for the best original research work on the kidneys, with especial reference to Bright's Disease. The fund for the prize was established by Mrs. Sarah Gibbs in 1901, and was to have been awarded triennially. The present award is the first since the establishment of the fund, for the reason that those submitted in the past have not been of the high standard desired by the judges. Dr. Ditman's thesis is said to deal with the etiology and possible prevention of Bright's Disease. The value of such a contribution will be more readily appreciated in view of the fact that this malady is the cause of 7,000 deaths annually in New York City alone, a total which is more than double the death rate due to this disease only thirty years ago. According to statistics Bright's Disease stands next to tuberculosis in the mortality rate. Dr. Ditman's work is based upon very extensive investigation both in the hospitals and in the laboratory. It is said to have its starting point in the diet-experiments of Prof. Chittenden of Yale. This work will be looked forward to with great expectancy and especially so, if as reported, its deductions will lead to an entire revision in the treatment of Bright's Disease.

NEW CLINICAL SOCIETY FORMED.—At a meeting held in March, the staff of the Paxton Hospital of Utica, organized a clinical society with the following officers: President, Dr. James H.

Glass; vice-president, Dr. C. A. Baldwin; secretary, Dr. Frederick H. Brewer, and treasurer, Dr. John Groman.

Appointments in New York State.—Dr. Daniel S. Burr has been appointed health officer of Binghamton. Dr. John Dugan has been appointed health officer of Albion, vice Dr. Arnold E. Wage. Dr. Horace L. Leiter of Syracuse, has been appointed physician to Onondaga County penitentiary, vice Dr. Louis Wheeler of Pompey. Dr. Arthur A. Gillette has been elected president, Dr. Thomas G. Noek, vice-president, and Dr. James H. Whaley, secreary-treasurer, of the Rome City Hospital medical staff. Dr. Royal E. Cochrane has been re-elected health officer of Penfield.

Coroner Harburger's Bill has been signed by Mayor McClellan. This act provides that the body of any person dying under suspicious circumstances shall not be embalmed without permission of the coroner. The penalty for violation is imprisonment for not less than one year, a fine not exceeding $500 or both fine and imprisonment.

The Archives of Diagnosis is a new journal which has entered the field of medicine. It is an undisputed .fact that hitherto not a single medical journal in all the world was published for the exclusive study of Diagnosis and Prognosis, and that the progress made in these important sciences has not been recorded in a periodical publication. It is the purpose of the *Archives of Diagnosis* to fill this want. It will appear four times a year. No advertisement of whatever nature will be received for publication. The first number of this journal shows it to be an admirable work and well worthy of the best professional support. The editor is Dr. Heinrich Stern, of New York.

Requirements for Admission to the College of Physicians and Surgeons.—The present requirements for admission to the First Year Class will be continued without charge up to, and including, the admission of the class which enters in September, 1909, and thereafter the requirements for admission to the First Year Class will be as follows: All candidates for the degree of Doctor of Medicine desiring admission to the First Year Class must present (1) the Medical Student Certificate of the Regents of the University of the State of New York, and (2) also *one* of the following qualifications:

(*a*) The completion of not less than *two* full years of study in an *approved* college or scientific school, which course must have included instruction in the elements of physics, inorganic chemistry and biology; or

(*b*) Graduation from an approved college or scientific school, or in lieu thereof a bachelor's degree in arts or science or its substantial equivalent conferred by an approved institution in Great Britain, France or Spain, or graduation from a gymnasium in Germany, Austria or Russia, or the completion of a course of study equivalent thereto—as, for example, a course of five years in a registered ginnasio and three years in a liceo; provided that the course leading to such degree or graduation has included instruction in the elements of physics, inorganic chemistry and biology; or

(*c*) In lieu of either of the above, present such evidence as the Faculty may require, to prove exceptional fitness to undertake with advantage the study of medicine.

In regard to admission to advanced standing to go into effect immediately: Candidates who have completed one or more years of study in an approved medical school, and apply for admission to advanced standing at the College of Physicians and Surgeons, will be admitted to the standing to which their record in that medical school would admit them, and be given credit for all courses satisfactorily completed therein, on presentation of proper certificates covering the same; provided that the candidates before beginning the study of medicine have fulfilled the requirements for admission demanded by the College of Physicians and Surgeons. The approval of the certificates presented by such candidates rests in the Committee on Admissions who will judge of the equivalent value and of the satisfactory nature of those certificates.

Fifth Pan-American Medical Congress will be held in Guatemala City, Guatemala, August 5th, 6th, 7th, 8th, 9th, and 10th, 1908. The Executive Committee have announced the following subjects as having been chosen for the general discussions:

General Medicine.—Tropical anemias. The present cause and treatment of cancer.

Surgery.—Prostatectomy. Operations for repairing the ureters.

Hygiene and Demography.—Should the segregation of lepers be enforced? Demographic distribution of tuberculosis in America.

Mental and Nervous Diseases.—Classification of mental diseases. A discussion of dementia precox.

Internal Medicine.—Tropical diseases, the character and causes of which have not yet been determined. Ankylostoma.

Gynecology.—Can metritis be considered as predisposing cause of cancer of the uterus? The best means of keeping the uterus in position in cases of prolapse.

Military Sanitation.—First aid to the injured on the battle field and organization of an advance guard to render assistance. The hygienic equipment of the soldier.

Syphilis and Dermatology.—Paresis and the locomotor ataxia syphilitic.

Opthalmology.—What is the best method of treating pigmentary retinitis. Discussion of trachoma.

Obstetrics.—Post partum hemorrhage in valvular lesions of the heart.

Childrens' Diseases.—Infantile meningitis.

Medico-Legal.—Psychical causes that attenuate or annul the responsibility. Civil rights relative to people's mental condition.

Laryngology and Rhinology.—Causes and treatment of rhinoscleroma.

Dental Surgery.—Indications of extractions of teeth.

Tropical Diseases.—Prophylaxis and treatment of yellow fever.

Radiography.—Exact methods used in radiography.

Bacteriology.—Bacteriological study of typhus fever. Bacteriological study of rhinoscleroma. Bacteriological study of leprosy. Filaria Sanguinis hominis in Central America. Diseases that can be transmitted by mosquito bites.

Materia Medica.—Central American quinine. Central American sarsaparilla. A study of the myroxilon pereirea tree in the botanical, chemical and statistical way.

The names of gentlemen desiring to take part in the discussions and to present papers can be sent to Dr. Azurdia, General Secretary, Guatemala, or to Dr. Ramon Guiteras, American Secretary, 75 West 55th Street, New York.

THREE NEW INSTITUTIONS.—A bill has been introduced in the Legislature for the appropriation of $188,000 for the purchase of a site for the new Eastern New York Asylum for Epileptics. The Legislature is also considering a proposition for the establishment of a home for crippled children at Rochester, using property formerly occupied as a correctional asylum. In New York City a day school for deaf mutes has just been opened. Accommodation has been provided for about 250 pupils.

SEWAGE PLANTS OF THE STATE.—After completing its investigation of the sewage disposal plants of the State, the State Department of Health reports that there are more than 50 plants which have been examined and described as to construction, operation and management. The department aims to encourage the building of these plants by refusing permits for the discharge of raw sewage into the waters of the State. One object of this close observation on the part of the State Department of Health is to be able to render assistance to these municipalities which are contemplating the construction of sewage plants.

PROF. KOCH IN AMERICA.—Prof. Robert Koch, somewhat fatigued by his long sojourn in Central Africa, is taking a year's rest, traveling in countries which he has not seen. He has begun with the United States. It is his intention to free himself from everything pertaining to medicine and science while on this journey. He has therefore found it necessary to disregard all importunities to deliver lectures. Dr. Koch has no definite plans other than that he will visit the Yellowstone Park and Niagara Falls after visiting New York and Chicago. A banquet was given in his honor on April 11, at the Waldorf-Astoria, in New York City.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

HENRY L. ELSNER, M.D.,

Professor of Medicine, Syracuse University;

DE LANCEY ROCHESTER, M.D.,

Associate Professor of Principles and Practice of Medicine, University of Buffalo;

EDWIN H. SHEPARD, M.D.,

Instructor in Clinical Microscopy, Syracuse University.

STAINING SPIROCHETA PALLIDA.

For staining the spirocheta pallida in a living condition, Mandelbaum proposes the following method: The material to be examined is placed on the coverglass of a hanging-drop slide. Loeffler's methylene blue is added, and then a small drop of decinormal sodium-hydrate solution. The spirochetæ maintain their own movement, and can be easily observed.—*Muenchener Medizinische Wochenschrift,* 1907, No. 46.

ORTHOSTATIC ALBUMINURIA.

Orthostatic albuminuria has been a topic of lively discussion among eminent German authorities for a year past, since Heubner declared that he believed it of little or no significance. This variety of albuminuria, most frequent in children, is characterized by the appearance of albumin while in the standing or upright posture, and its disappearance while lying. Jehle has observed a series of cases, and has come to the conclusion that this condition is caused by a malposition of the spinal column. In the children examined by the author there was a static lordosis of the first and second lumbar spinous processes. A change of this lordosis by lying or bandaging caused the albuminuria to vanish. On the other hand, the albuminuria reappeared as soon as the lordosis was artificially produced. Accordingly, the author is convinced that orthostatic albuminuria is brought about by a bending, kinking, or pressure upon the renal blood vessels, caused by the lordosis of the spinal column. If his view is correct this condition will be amenable to treatment entirely by physical means.—*Muenchener Medizinische Wochenschrift,* 1908, No. 1.

MULTIPLE SEROSITIS.

A case of multiple serositis in which the abdomen was tapped seventy times was the topic for a clinical lecture by W. Hale White, senior physician to Guy's Hospital, London, which is reported in the *British Medical Journal* for February 29. When first seen by the author in 1905, the patient, a woman aged 31 years, had already been tapped thirty times. Three years before she had a six months premature confinement, and shortly after that the swelling of the abdomen began to be observed. The interval between the

first and second tappings was eight months; subsequently she was tapped every two or three weeks. The fluid was clear and pale yellow in color, contained albumin, and clotted readily. No disease of the heart or lungs was manifest, nor did the urine contain albumin or sugar. When the abdomen was emptied the liver could be felt enlarged to about three fingerbreadths below the ribs. The apparent enlargement was uniform, the organ was firm and the edges thick and rounded. At times, if one listened over the liver a rub could be heard. Diuretics had no effect in checking the reaccumulation of fluid in the abdomen. Diagnosis was made of multiple serositis, or in other words, that she had chronic peritonitis, perihepatitis, and chronic pleurisy, and that because edema of the feet existed without albuminuria the vena cava was probably compressed by thickening of the peritoneum below the origin of the renal veins. When the patient died on March 5, 1906, over 2,000 pints had been withdrawn from her abdomen.

The comments of the author concerning the differential diagnosis are especially interesting. Cirrhosis of the liver could first be considered. The patient was a temperate person, but that is no argument against cirrhosis, for such a condition appears in both the temperate and intemperate. However, the long continued ascites argues against cirrhosis, for extensive examination of case records has shown that the supervention of ascites in uncomplicated cirrhosis mean the beginning of the end. It is exceptional for a patient with uncomplicated cirrhosis to live long enough to require a second tapping.

Cardiac, renal, or pulmonary disease are all to be excluded by the long period during which the patient was observed. Tuberculosis peritonitis is suggested, but cases of this do not require 70 tappings, and after this patient was tapped no masses of tuberculous deposits were detected in the omentum or peritoneum, as might be expected. There were moreover, no evidences of tubercle in any other part of the body. As a result of the tapping, and from the rounded liver chronic peritonitis with perihepatitis were diagnosed as certain, with probably multiple serositis, as shown by presence of fluid in both pleural cavities.

Multiple serositis appears at any age and is equally common in men and women. The frequent history of previous acute infectious disease suggests that the serositis is bacterial. The serous membranes become thickened, sometimes being even centimetres thick. The membrane has a dense opalescent appearance and consists of several stratified layers. It has been inaptly compared to porcelain, and can always be peeled off the subjacent organs. Probably in the majority of cases this disease begins in the peritoneum and the other serous membranes are affected later, though the pericardium may be first affected. The patients usually waste. The disease is virtually never associated with cirrhosis of the liver. The right pleura is more often affected than the left, which may be due to the fact perihepatitis occurs early. The kidneys are often granular. The prognosis is very bad, but cases can last for years. Treatment avails but little, and almost all that can be done is to remove the accumulated fluid frequently for the comfort and relief of the patient.

GUAIACOL IN RHEUMATOID ARTHRITIS.

In the treatment of rheumatoid arthritis Luff recommends the use of guaiacol which he has tested in 3,000 cases. In sufficiently large doses, continued for some time, the author claims this remedy capable of retarding the progress of the disease in subacute as well as chronic cases, increasing the mobility of the joints, and relieving pain. Apparently the guaiacol inhibits to some extent the growth of the specific micro-organisms in the intestinal tract, and aids elimination. The best form of guaiacol is the carbonate, a white powder free from unpleasant smell and taste and without irritating effects on the stomach. In the intestine it is slowly split up into guaiacol and carbondioxide. The initial dose is from 5 to 10 grains daily, which may be gradually increased until after a few weeks three times the quantity may be taken. The favorable effect of guaiacol may be even increased by the additional administration of potassium iodide.—*British Medical Journal,* October 26, 1907.

Elsner has used albuminate of ichthyol (Merck's tablets) in ten grain doses, three times daily with encouraging results in similar cases.

LEUCOCYTES IN NEPHRITIS.

Senator has asserted that in morbus Brightii the leucocytes which are present in the urine are not to be regarded as pus corpuscles. Schnutgen has made a detailed study of a large series of cases, and has found that the prevailing leucocyte in the urine of patients with Brights' disease is the mononuclear lymphocyte. This is the cell present in many chronic inflammatory processes, and Schnutgen therefore contends that with this understanding the lymphocyte may here be considered a pus corpuscle. In cases of kidney disease of doubtful diagnosis the finding of lymphocytes points to nephritis, whereas the predominance of polymorphonuclear leucocytes gives suspicion of pyelitis or renal abscess.—*Berliner Klinische Wochenschrift,* 1907, No. 45.

THE PHONOGRAPH IN HEART DISEASE.

A new use for the phonograph has been proposed by Meier, who has adapted it successfully to the teaching of heart murmurs, in work with students. A particularly delicate machine was chosen, and ingeniously arranged for recording the sounds to best advantage. The records are best heard by means of ear pieces, instead of with a horn. Meier believes this method may be of great value, after being better perfected, by recording important or unusual cases which can

be presented to students at any time later when clinical material is not at hand.—*Allgemeine Medizinische Zentralzeitung*, 1907, No. 16.

THERAPEUTICS.

EDITED BY

CHARLES G. STOCKTON, M.D.,
Professor of Medicine in the University of Buffalo;

ELI H. LONG, M.D.,
Professor of Therapeutics in the University of Buffalo.

DIGITALIS: ACTION AND USE OF NEWER PREPARATIONS.

In *Medizinische Klinik*, December 22, 1907, Dr. Edens discusses points relating to the above topic. He regards the evidence not yet complete as to the full action of digitalis, as is indicated by the introduction of different preparations, which are applied with more or less success. The endeavor to render the active principles useful in pure form, with definite dosage, brings to notice digitoxin and digitalin, neither of which have gained common acceptance in practice, in spite of the good experiences of several observers, namely: Marx, Pfaff, Stoitscheff, with others.

The newer preparation, introduced under the name digalen, has found greater acceptance. This is the first digitalis preparation that has proved suitable for intravenous use, and thus made possible a very prompt occurrence of the digitalis action. Reports show that it is not free from some of the unpleasant effects of the drug. Stomach disturbance, failure of diuresis, and disturbance of heart action have been observed. Only the danger of accumulation seems lessened. disturbance of heart have been observed. Only the danger of accumulation seems lessened. The heart disturbance may, in many cases, be attributable to faulty indications for the use of digitalis; still some such cases are reported in which other preparations of the drug were useful.

According to Cloetta, digalen is amorphous digitoxin, but the author believes it to be a high percentage digitalein. Its lack of cumulative action is shared by the dialyzed preparations, of which Edens has used dialysat (Golacz) and digitalysat (Buerger), and, in therapeutic doses, given for a long time, neither has shown cumulative action. Probably accumulation is dependent in part upon a disproportion between absorption and elimination. The preparations named above differ from the infusion and the leaves chiefly in that the colloid matter of the leaves is absent. According to Schmiedeberg it is accepted that all indigestible colloidal substances not only remain a long time in the digestive tract, but also delay absorption of other matter. It is plain, therefore, that the hitherto useful preparations might partly be carried into the deeper parts of the intestine and, with the large extent of intestinal surface provided for absorption, might easily lead to a large amount of drug in the system. While large doses of any digitalis preparation may show cumulation by slow elimination, the author believes that the marked cumulation of the powder and infusion is chiefly due to the accompanying colloidal matter. Moreover, he believes that these older preparations have a more enduring and intense action than all the newer preparations, and attributes this to the conditions of absorption occasioned by the presence of colloid matter.

The indications for the use of digalen or dialysat would be, when the danger of cumulation is to be avoided, when other preparations cause indigestion, and when a prompt action is wanted.

Several cases of severe cardiac disease are reported in which the intravenous injection of digitalysat (Buerger) was followed by decided improvement of symptoms in ten minutes. The author considers that digalen cannot be regarded as an ideal preparation; and, with its doubtful chemical nature, and the fact that the other isolated digitalis principles, digitoxin and digitalin, have not proved entirely satisfactory, it is expedient for the present to employ the preparations which contain all of the active constituents of the drug.

PHENOLPHTHALEIN AS A CATHARTIC.

After some months of trial it may be said that phenolphthalein, the synthetic which has been long used as a test, has found a place in our materia medica. Had it been asked a few years ago whether a new cathartic agent were needed, the answer would have been about as follows: If an agent could be found as certain in action and as pleasant to take as calomel, but without such danger as that of salivation, an agent that possesses none of the griping action of the vegetable cathartics, and one whose action is not followed by any atony of the bowel, that agent would meet a need. We may now say that phenolphthalein more nearly meets the above requirements than any drug known to us. It is more than a laxative. It is a purge when taken in efficient dose.

It occurs in powder form, soluble in 10 parts of alcohol; but it is most conveniently used in tablet form. It is almost tasteless. Its best action seems to require that it be thoroughly chewed so as to become mixed with the saliva. The dose range is from 1 to 7½ grains (0.06-0.50 gm.) for an adult. To produce a good evacuation in ten or twelve hours 2 to 3 grains will usually suffice. The action is not attended by any griping, though the stool is soft or fluid and the evacuation rather urgent. Several stools may occur at intervals following and even as late as 24 hours after the first evacuation. The stimulus to peristalsis, though efficient, seems to be so mild as not to lessen the irritability of the

muscular coat, therefore there is less atony of the bowel than after most cathartics.

It may be too early to assert that the drug can cause no unpleasant effects. Any phenol derivative should be held under suspicion of the possibility of causing renal irritation with prolonged use. However, phenolphthalein is worthy of a place among our best cathartics, while time and experience with it will fix its limits of usefulness. E. H. L.

OBSTETRICS

EDITED BY

By CHARLES JEWETT, M.D.,

Professor of Obstetrics and Gynecology, Long Island College Hospital, Brooklyn, New York.

INDICATIONS AND TECHNIC OF CERVICAL CESAREAN SECTION.

Pfannenstiel reports a case of cervical Cesarean section in a woman with generally contracted oblique funnel-shaped pelvis. The woman recovered without fever and the child survived.

In support of this operation he says that hemorrhage is very slight, detachment of the placenta occurs physiologically, and the employment of a transverse fascial incision disposes of all danger of abdominal hernia and permits earlier movements of the patient, thereby facilitating and shortening convalescence.

He recommends the following technic: Typical transverse fascial incision; peritoneum opened above the bladder; median incision of cervix uteri 10 c. m. in length without detaching the bladder if possible. If there is insufficient room, from the fact that the bladder covers the greater portion of the cervix, the peritoneum above the bladder is to be separated in the same way as is done in abdominal hysterectomy. The bladder is then pushed to the level of the external os, the child extracted and separation of the placenta awaited. During this time preparations for the suture of the cervix may be made. The placenta is delivered by Credé's method of expression. The cervix is restored with a continuous suture and the abdominal wound closed. The author has performed 26 hebosteotomies with good results for both mother and child. In the last 15 cases recovery was uninterrupted and he sees no indication for abandoning the operation. The results in nearly 30 cases of vaginal Cesarean section were also good. He considers cervical Cesarean section preferable to the corporeal in all cases in which Cesarean section is indicated. He further considers that cervical section is particularly suited to impending rupture of the uterus with a living child, especially in transverse presentation. He would not recommend the operation, however, in the presence of infectious fever at labor.—*Zentralbl. f. Gynak.* v. 32, No. 10; 7, 1908.

PUERPERAL PYEMIA AND ITS TREATMENT.

Liepman says the mortality of puerperal pyemia is estimated by certain writers as eighty to ninety per cent. Seegert in seventy cases in which delivery at full term occurred, reports recovery in sixty-one per cent.

Liepman is of the opinion that the best treatment is elimination of the affected area surgically. The preferred method is ligation of the diseased spermatic and hypogastric veins peritoneally. It is important to remember that in addition to the internal iliac vein a second one, the median iliac vein, empties into the hypogastric or, in some instances, into the common iliac vein. To ensure success it is necessary, therefore, to expose carefully the operative field and ligate the veins involved. Excision of the diseased veins is unsafe owing to the great risk of peritoneal infection.

Freund first employed this method but with rather limited success. Lenhartz compiled the total statistics of this operation finding twenty-five per cent. of recoveries.—*Therap. Monatsschr.*, v. 22, No. 1, 1908.

Correspondence.

THE EMMANUEL MOVEMENT.

CORNWALL, N. Y., April 25, 1908.

To the Editor NEW YORK STATE JOURNAL OF MEDICINE:

Your editorial, "The Emmanuel Movement for the Healing of the Sick," in the April number of the JOURNAL deserves, I think, more than passing notice. Its general tone is so commendatory, notwithstanding the reference to the harnessing of "the dominant superstitions" with "a great psychic principle" that one is uncertain regarding your view-point.

If "the clergymen who have engaged in this movement have gone about it in a manner which has not invited criticism, and have striven to antagonize scientific medicine in no way" they are to be congratulated upon their diplomacy. These clergymen are not fighting medicine in any of its branches, they are combating the greatest menace to the several established churches of Christendom which has arisen in modern times and are doing it on the good old principle of "fighting the devil with fire." It is a battle of theologians, and, while we may have our individual sympathies as medical men and scientists, we ought not to countenance "spiritual influences" in the treatment of disease by votaries of the Emmanuel Movement any more than we do by followers of Mrs. Eddy.

Is it wise because a gentleman is pleasant to us and flattering in his recognition of our talents (see especially the fifth tenet of the Emmanuel Movement) to burn our fingers by pulling his chestnuts out of the fire for him?

So much for that phase of the subject. There is another: If you were to prod your memory for its information concerning the history of medical progress you would probabaly hesitate about harnessing "the dominant superstitions" with "a great psychic principle." "Dominant superstition" has been frequently harnessed with various branches of science and in each instance has roaded its mate off its feet, and developed in it a necessity for much grooming and feeding and all kinds of condition powders to keep it from dying outright.

There is no place in psychologic medicine for the "spiritual." There is no sympathy between medical progress and any movement erected upon such a set of tenets as those of the Emmanuel Movement.

These tenets are as a whole confusing and foolishly flattering to the medical profession, but I will ask your attention only to a part of the third: "We maintain that there is a fundamental distinction between functional and organic disease." * * * This should be enough in itself to hold the medical profession aloof. What are scores of earnest, honest workers spending their lives in research for if this "fundamental distinction" is a fact? What are chemistry, physiologic chemistry, pathology and allied branches of medicine doing but searching for, and frequently finding, new facts and new conditions with which to eventually wipe out the dividing line between organic and so-called functional disease?

We are ignorant, but we are earnestly trying, and in a small measure very slowly succeeding. Our way is clear before us. Why obscure it by even the smallest hint of sympathy with any movement supported upon such a dogma as I have quoted?

In my judgment it is a grave error for a medical publication of the dignity of the NEW YORK STATE JOURNAL OF MEDICINE to state that "aside from its (the Emmanuel Movement's) appeal to unnatural agencies, it has a distinctly scientific function, etc."

Christian Science, sacred relics, osteopathy and other vagaries have all cured the sick, and undoubtedly the Emmanuel Movement will add its quota to the wonderful results, but I imagine that some medical men will agree with me when I fail to find any truly scientific method in these cures.

From the point of view of the scientific physician the Emmanuel Movement should be noticed only to be properly and scientifically classified.

HENRY LYLE WINTER.

New Books.

MANUAL OF THE DISEASES OF THE EYE; For Students and General Practitioners. By CHARLES H. MAY, M.D. *Fifth Edition, Revised.* New York, W. Wood & Co., 1907. 391 pp., 22 col. pl., 8vo. Price: Cloth. $2.00 net.

The first edition of the Manual, published about seven years ago, seemed to be as near an ideal text-book as it was possible to make one. However, each successive edition has been an improvement on the preceding. The points of excellence which characterized the former editions are still more conspicuous in the last. As evidence of the well-deserved popularity of the book it may be stated that an English edition has been issued in London. Also the work has been translated into German, French, Spanish, Dutch and Italian. Probably no other American medical book has ever been so well received in Europe. N. L. NORTH.

TREATMENT OF THE DISEASES OF CHILDREN. By CHARLES GILMORE KERLEY, M.D. Philadelphia, London, W. B. Saunders Co., 1907.

It is a rare pleasure to look over a volume upon treatment and find completeness so ably coupled with definiteness, and this work supplies that pleasure.

The author is one who is well qualified to write upon the subject he has selected and has not made the common procedure his practice (of recommending certain remedies for certain conditions), but has gone beyond that and makes very definite statements as to just how much to give and how to give it. This is a decidedly helpful feature of the work. Such a method of handling the subject admits of considerable differences of opinion—for instance, on page 194, it is suggested to add sulphur to bismuth to obtain the black stool indicative of its conversion into the sulphid. The formation of the sulphid of bismuth is desirable in the intestine, but it must be by natural means that the change is made, and the addition of the sulphur destroys our only evidence that the bismuth is being actually converted in the bowel, so that it might better be omitted.

However, the usual faults of works upon treatment have been largely avoided, and in their stead we find in this book conciseness, clearness, definiteness and that element of thoroughness which will recommend the book to all practicing physicians. We believe that the author is wrong when he states in his preface that the book is not one for the specialist or undergraduate, for both classes of men will find abundant suggestive material in its pages. We predict for the work a large success.

L. K.

THE CARE OF THE BABY: A Manual for Mothers and Nurses. *Fourth Edition, Thoroughly Revised.* Philadelphia, London, W. B. Saunders Co., 1907.

The large sale which this volume has had, speaks well for the work, but we cannot but feel that it is hardly a safe book to put into the hands of the average mother or untrained nurse. The material which is in it might well serve the purposes of the trained nurse and yet it is not written with that end in view. There are several things which might well have been left out and this applies especially to the chapter on "The Sick Baby," and the far too numerous prescriptions and dosage tables which are given.

The volume will be of large service in one way, in that the author idealizes at the expense of being practical, and high ideals are certainly needed in Pediatry.

L. K.

ATLAS AND EPITOME OF DISEASES OF CHILDREN. By DR. R. HECKER and DR. J. TRUMPP. Authorized Translation from the German. Edited by ISAAC A. ABT, M.D. Philadelphia, London, W. B. Saunders Co., 1907.

This valuable little book should be in the hands of all those who are far removed from the larger clinics, for in its pages there are contained illustrations that are so anatomically and artistically perfect that they prove of large value.

The text is clear; remarkably so for the space allotted to it. This is one of the series of atlases published by Saunders Co., and makes a handy and valuable addition to the pediatric library. L. K.

A TEXT-BOOK ON THE PRACTICE OF GYNECOLOGY. For Practitioners and Students. By WILLIAM EASTERLY ASHLEY, M.D., LL.D. *Third Edition, Revised and Enlarged.* Philadelphia, London, W. B. Saunders Co., 1906. 1,907 pp., 8vo. Price: Cloth, $6.50.

The popularity of this volume is attested by its third edition. The author goes deeply into details and endeavors to exhibit the best plan of treatment in each individual case. Then follows the treatment of variations as in typical cases. This method of presenting the subject matter eliminates much unnecessary elaboration.

The illustrations are all new line drawings made from actual apparatus, living models, dissections on the cadaver, and the operative technic of other authors. The different steps of different operations are shown seriatim by separate drawings. Thus the reader has an excellent representation of each consecutive step of a particular operation and can readily follow the technic.

The new chapters, "Blood in Relation to Surgery," "X-Ray in Gynecology," "Constipation," and "Indoor Exercises," fill a gap which most text-books omit.

A radical operation for cystocele has been claiming the attention of gynecologists who perceive the need of a technic which will *cure*. The author describes in detail as the best, the operation of Dr. E. C. Dudleys, of Chicago.

An interesting chapter is that on vaginal hernia, often unrecognized, and usually treated by the conventional operative methods in vogue, most of which are of little use in this condition. Another chapter which could well attract the attention of gynecologists is the one relating to posterior versions and flexions.

The removal of renal calculi, the technic of and suprapubic cystotomy, while, strictly, non-gynecological, receive appropriate treatment from the author's hands.

The book is an excellent one for students and general

practitioners possessed of ordinary operative ability. As a reference book for the specialist it is ideal. It deserves special mention as one of the best text-books of gynecology. CLARENCE R. HYDE.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. For Students and Practitioners. By HOBART AMORY HARE, M.D., B.Sc. *Second Edition, Revised and Enlarged.* Philadelphia, New York, Lea Brothers & Co., 1907. xv, 1,132 pp., 5 pl., 6 col. pl., 8vo. Price: Cloth, $5.00 net.

Within a year and a half of the time of publication of this excellent practice, a second edition is placed in the reviewer's hands. This attests two facts: the popularity of the work and the author's desire to present the latest views accepted by the profession.

The scope of the book is broad and inclusive; the entire list of medical diseases is considered. There is a refreshing rationality in the treatment outlined, and it is evident that the author has sustained his reputation as an eminent therapeutist.

The doses of anti-toxin suggested in diphtheria are, however, notably small: 1,500-2,000 units in tonsillar cases, repeated in four to eight hours as necessary, and 3,000 units as the first dose in the laryngeal form. The general trend of opinion at present is towards larger initial doses of serum.

The illustrations are good, though the reviewer notes one exception: figure 31, on page 141, should be replaced with one showing more attention to the aseptic details of lumbar puncture.

The volume, comprising 1,132 pages, continues to be an example of the best workmanship of the medical publisher; the mechanical work leaves nothing to be desired.

It is a pleasure to review such a satisfactory book.
F. B. C.

INTERNATIONAL CLINICS. Volume III. Seventeenth Series, 1907. Philadelphia, London, J. B. Lippincott Co., 1907. viii, 296 pp., 20 pl., 8vo. Price: Cloth, $2.00

The paper in this volume most valuable to the student and practitioner, for whom these clinics are especially published, is contributed by Bullock, of Silver City. Protesting against the unqualified transfer of tuberculosis from the list of incurable to that of curable diseases, he presents a résumé of his experience in New Mexico in treating this condition. From his presentation the reader is much disposed to agree with him in his well-stated conclusion—*Tuberculosis is sometimes curable under propitious circumstances.*

Edsall, of Philadelphia, writing broadly upon the broad subject of Dietetics, enumerates several principles underlying this topic which are of much practical value.

A most interesting article upon the Extraction of Cataract in the Capsule is contributed by Williamson, of Bhandara; the method followed by Major Smith, of India, is minutely described.

There are other papers upon Treatment, Medicine, Surgery, Gynecology, Genito-Urinary Diseases, Ophthalmology, Neurology, Dermatology and Pathology.

The average excellence of these clinics is not sustained in this volume. F. B. C.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS: A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. BETTON MASSEY, M.D. *Fifth Revised Edition.* Philadelphia, F. A. Davis Co., 1906. Front., xvi, 476 pp., 14 pl., 12 col. pl., 8vo. Price: Cloth, $4.00.

At this stage in the development of modern surgery, with its almost perfect technic and its recorded high percentage of cures, at a time when it is so easy to remove any or all of the organs in the pelvis or the abdominal cavity with almost a certainty that what is left of their owner will survive the sacrificial ordeal, and when the purely surgical treatment of cancerous tissues is still somewhat unsatisfactory in its final outcome, it is wise for the surgeon and the gynecologist to curb their enthusiasm long enough to read and heed the lessons taught in a book like this one of Dr. Massey's, and allow a little conservatism to tincture their collated statistics with a wholesome savor. The fact that the fifth edition has so quickly followed the preceding one is an indication of the manner of its reception by the thinking mass of the general profession, and the revised contents show how keenly alive is its author to the advances recently made by all workers with electricity and to the needs of the profession for a working formula in the application of electricity to the cure or amelioration of disease. The author gives his experience of its use in well selected cases, making plain how to select the proper form of current and how to regulate the dosage for each individual case, all in a simple, concise and easily read description, accompanied by well chosen and well executed cuts, photogravures and colored plates. His work in cases of cancer and other tumors is worthy of emulation, and the chapters on the X-ray and radiography are valuable and instructive. While he does not, by any means, claim for his methods that they will supersede operative procedure, he does show how much marvelous work may be accomplished as well as how electrotherapy becomes a valuable adjunct to operative interference. The reader does not have to wade through a mass of elementary definition and history of electricity, a too frequent fault with many earlier writers, for the author has wisely confined his efforts to the needs of the busy worker and has included just enough of descriptive cases to illustrate nicely his technic and to act as a guide to a right diagnosis and treatment of one's own cases. FREDERIC J. SHOOP, M.D.

TEXT-BOOK OF PHYSIOLOGICAL CHEMISTRY. For Students and Practitioners. By CHARLES E. SIMON. *Third Edition, Thoroughly Revised.* Philadelphia, New York, Lea Brothers & Co., 1907. xix, 490 pp., 8vo. Price: Cloth, $3.25.

In this edition the author has acomplished the difficult task, considering the vast amount of literature on this subject since the publication of the second edition, of bringing the treatise up to date without increasing its size.

The arrangement of the subject matter remains the same as in the previous edition. To those desiring a reliable text-book on this very important subject, this work can be highly recommended. W. S., JR.

ORGANIC AND FUNCTIONAL NERVOUS DISEASES. By M. ALLEN STARR, M.D., Ph.D., LL.D., Sc.D. *Second Edition, Thoroughly Revised.* New York, Philadelphia, Lea Brothers & Co. [c. 1907]. Front., viii, 816 pp., 8 pl., 17 col. pl., 8vo. Price: Cloth, $6.00.

Dr. Starr has rounded out his work, "Organic Diseases," published originally in 1903, by bringing out a revised second edition, in which nearly one hundred pages are devoted to functional diseases. This adds greatly to the value of the book for both the student and practitioner. A number of diseases usually included in a neurological work, *e.g.*, diseases of the ductless glands, acromegaly, myxedema, cretinism, exophthalmic goiter, tetanus, hydrophobia, lipomatosis and angioneurotic edema, are omitted for what are deemed sufficient reasons, but the author has also omitted the discussion of several other diseases which would appear properly to fall within the category of a neurological work, such as astasia-abasia, the traumatic neuroses, Raynaud's disease and periodic family paralysis. He also devotes very little space to the occupation neuroses. The book is written in a clear, concise style, which is very readable. The sections on treatment are particularly good. It seems a pity that such an excellent work should be so poorly indexed. There has been very little attempt at cross-indexing; although some seventy-five odd pages are devoted to the discussion of the neuroses, the index

makes absolutely no mention of "Neuroses." The only way one can find that part of the book is to think of some particular neurosis, as "Writer's Cramp," and look for it under W. Again, there is no mention in the index of Korsakow's psychosis, although Dr. Starr devotes a page to it. The only way to get to it is to look up alcoholic neuritis (if one happens to know that they are associated), and hunt through that until you find it. These examples could be multiplied almost indefinitely. The index is also bad in another respect, that it frequently does not give the correct page reference, as for instance, "Disturbances of Smell," indexed page 450, should be page 452. On the same page (452) allusion is made to an illustration, Fig. 191, when the text clearly shows that it is Fig. 193 which is meant. "Disturbances of Taste," given by index as page 451, is to be found on page 453, etc. These minor blemishes will undoubtedly be corrected in a later edition. F. C. E.

MERCK'S 1907 INDEX (Third Edition). An Encyclopedia for the Chemist, Pharmacist and Physician * * * of the Chemicals and Drugs Used in Chemistry, Medicine, and the Arts. New York, Merck & Co., 1907. xiii, 472 pp., 8vo. Cloth.

The full title of this work states in admirable conciseness its full character and scope. An Encyclopedia for the Chemist, Pharmacist, and Physician, stating the Names and Synonyms; Chemical Naure and Formulas; Physical Form, Appearance and Properties; Melting and Boiling Points; Solubilities; Specific Gravities and Methods of Testing; Physiological Effects; Therapeutic Uses; Modes of Administration and Application; Ordinary and Maximum Doses; Incompatibles; Antidotes; Special Cautions; Hints on Keeping and Handling, etc., of the Chemicals and Drugs Used in Chemistry, Medicine and the Arts.

Although in a sense a Trade Catalogue, it is much more, for practically all drugs and chemicals are included, whether of Merck's production or not. As a ready reference manual it is invaluable to the busy physician who desires immediate, concise information on the nature and properties of any particular drug or chemical used in the practice of medicine.

As compared with the second edition published in the year 1896, this contains almost double the number of pages, and omits all advertising matter. As an example of the number of new articles included in this edition, we note that acacia was the third article mentioned in the former edition, whereas it is the thirteenth in this.

Active principles are classified under their respective titles, but as a rule other derivatives, such as tinctures, extracts, etc., are omitted.

Every physician will find this a valuable reference book for his library. J. EDDY BLAKE.

MANUAL OF PHYSIOLOGICAL AND CLINICAL CHEMISTRY. By ELIAS H. BARTLEY, B.S., M.D., Ph.G. *Third Edition, Revised and Enlarged.* Philadelphia, P. Blakiston's Son & Co., 1907. vi, 202 pp., 8vo. Price: Cloth, $1.00.

This manual is the outgrowth of the author's twenty-five years' experience in teaching physiological and clinical chemistry in Long Island College Hospital. It aims to instruct students in "the fundamental principles of chemistry and their application to the science of medicine, especially to the diagnosis and treatment of diseased conditions." It is neither a manual of toxicology nor of chemistry, and the consideration of these subjects is entirely omitted, except in so far as chemical reactions occur in the examination of various excreta and ingesta.

A little more than one-half of the work is devoted to the urine and most of the remainder to the blood, gastric contents, feces and milk. A few introductory pages are devoted to the principal reactions of the carbohydrates, fats and proteids.

The manual is valuable both to the student and to the practitioner; to the former as a text-book, to the latter as a handy reference book of the clinical tests commonly employed. J. EDDY BLAKE.

THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. Designed for Students and Practitioners. By WILLIAM ALLEN FUSEY, A.M., M.D. New York, London, D. Appleton & Co., 1907.

"Of making of books, and good books, too, there is no end," and here is another on the subject of Dermatology.

Of course, as in all treatises nowadays, on any special subject, compilation plays a big rôle; still enough of the personal element is present in this to give character and distinction.

In our opinion this volume ranks as an equal with the four or five other works by other English-speaking and writing authors (we need not give names), and it may be said of them that we believe that there are no better lights on the subjects considered.

As to the particular work now reviewed, it may be said that while the opening chapters on Anatomy, Physiology, Pathology, Symptomatology and general treatment are full and well described, it is doubtful if too much time has not been devoted to them. As to classification, it is as it should be, basically Hebraistic with, we may add, the natural and sensible divagations arising from an author's personal predilections. The description, treatment, etc., of the various skin affections are replete with good sense, and while advisory, are not dogmatic. Regarding one thing, we note particularly the conservatism of the author. He used (unless we err) to be a somewhat strenuous advocate of the X-ray and other kindred methods in dermatological therapy; we note a decidedly milder advocacy of these methods now; in fact, we think he strikes just the right key in regard to the present, and now recent state, of our knowledge on these questions.

To be brief then we have at the commencement of this short notice given our opinion of this book; at this, the finish, we can say no more. It is a good treatise on the subject for the student and for the practicing doctor. It is up to date and fully worth its cost.

S. SHERWELL.

THE COMMONER DISEASES OF THE EYE. How to Detect and How to Treat Them. For Students of Medicine. By CASEY A. WOOD, M.D., C.M., D.C.L., and THOMAS A. WOODRUFF, M.D., C.M., L.R.C.P. (London). *Third Edition.* Chicago, W. T. Keener & Co., 1907. 598 pp., 12mo. Price: Cloth, $2.50.

This book, as pointed out by the authors in their preface, essentially considers ophthalmology from the standpoint of the physician in general practice, and eminently succeeds in the effort at simplicity and the absence of unnecessary technical terms.

The work is well prepared to give the practitioner sufficient knowledge of the subject, to know when he meets these diseases, to suspect their existence, and to recognize that "in every instance an early diagnosis may be correctly made by the exercise of the same quality and amount of care and intelligence which are commonly brought to investigations, let us say, of affections of the lungs and uterus."

The book reads like a story and the author's ability to include all necessary points, omitting non-essentials, amounts almost to the point of genius. The volume should be in the hands of every student, practitioner and specialist, and we are confident that all who start the book will not require any encouragement to continue to read it, for it glides so smoothly from subject to subject in its descriptions that one is simply compelled to continue to the end.

We predict that as was the case with the past, not only the present but many future editions will speedily be exhausted.

Personally, the reviewer is not much attracted to

"Manuals," but this is the exception proving the rule, and like the pudding, must be eaten [read] to be thoroughly appreciated.

The chapters on Ocular Hygiene and Ophthalmology in General Medicine and Surgery especially deserve mention. NELSON L. NORTH.

DISEASES OF CHILDREN FOR NURSES. Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene, and Nursing. By ROBERT S. MCCOMBS, M.D. Illustrated. Philadelphia and London, W. B. Saunders Co., 1907. 431 pp., 12mo. Price: Cloth, $2.00.

This volume contains many excellent features, but it is unfortunate that the author has not been more accurate. Childhood is described as the period between three and ten years, and then on page eighteen as peculiar to childhood are described several diseases peculiar to infancy. Measles, diphtheria and scarlet fever are mentioned as though they never occurred in the adult. This is one instance of many such carelessly worded statements. Barring these, the author has produced a work which is very practical and well planned, and one which is sure to aid the nurse who takes an interest in the diseases of children. The book is of very convenient size, well printed, and illustrated with considerable care and aptness. Over forty of the illustrations are from Kerr's Diagnostics.

GENITO-URINARY DISEASES AND SYPHILIS. By HENRY H. MORTON, M.D. *Second Edition, Revised and Enlarged.* Philadelphia, F. A. Davis Co., 1906. 500 pp., 7 col. pl., 8vo. Price: Extra Cloth, $4.00 net.

The second edition of this work is enlarged and much superior to the first. It is printed on good paper and in clear distinct type. The illustrations and diagrams are good.

The section of the book devoted to the discussion of gonorrhea is especially to be commended. The pathological changes in the tissue are taken up in detail. Methods of diagnosis are placed before the student with clearness and precision so that one cannot fail to locate just what part of the genito-urinary tract is involved, with the knowledge of just what changes have taken place in the tissue and the part of the canal diseased, the question of treatment is taken up intelligently. The author has not been content, as many authors have, of giving a large list of remedies and prescriptions and no definite information as to how and when they are to be used. In this work the different stages of the diseases are taken up and the treatment laid down step by step.

The parts of the work devoted to surgery of the prostate and kidney are excellent. The indications and choice of operation are discussed in an able and lucid manner.

As one studies the book from subject to subject one cannot but feel that the author has the happy faculty of presenting the essentials of a subject in a clear and concise manner, and for this reason the book becomes invaluable to medical students and the general practitioner. HOMER E. FRASER.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D. Illustrated. *Eighth Edition, Thoroughly Revised.* Philadelphia and London, W. B. Saunders Co., 1907. 1,817 pp., 11 pl., 8vo. Price: Cloth, $5.50.

Ander's Practice of Medicine needs no introduction to the medical public. The appearance of eight editions in ten years is a sufficient evidence of its reputation and popularity, and the favor with which the preceding editions have been received will doubtless be extended to this, the latest.

The present edition presents evidence of careful revision. Many new topics have been introduced and others rewritten to bring them down to date. Among other new topics we may mention Aplastic Anemia, Polycythemia, Stokes-Adams Disease, etc. The careful reader will note numerous variations from the method of classification hitherto common. Thus, Lobar Pneumonia, Secondary Pneumonia, Acute, Subacute, and Gonorrheal Rheumatism are included under the head of Infectious Diseases; Malarial Fever, Syphilis, and Relapsing Fever, under the head of Diseases Caused by Animal Parasites. Under the latter heading, considerable attention is devoted to the consideration of many of the tropical and subtropical diseases which are becoming of more and more interest and importance to the medical profession of the temperate zones.

Tables of differential diagnosis remain, as formerly, one of the important features of the book. It should be found in the library of every up-to-date practitioner. J. EDDY BLAKE.

Medical Society of the State of New York.

SCIENTIFIC SESSION.

DISCUSSIONS.

ANNUAL MEETING, JANUARY 28, 1908.

THE IMPORTANCE OF EXAMINING INDIVIDUALS EXPOSED TO TUBERCULOSIS.

DR. JOHN H. PRYOR, of Buffalo, N. Y., read a paper with the above title, for which see page 230.

Discussion.

DR. H. S. GOODALL, of Lake Kushaqua, wished to thank Dr. Pryor for the benefit derived from his paper, and agreed with him as to the necessity of early diagnosis of tuberculosis. He said that when tubercule bacilli were found in the sputum it denoted ulceration, and that if the diagnosis could be made before the bacilli were capable of demonstration in the sputum, the prognosis would be much more favorable. He agreed, also, that causes should be looked for and traced. He cited a number of cases of pelurisy which were followed by tuberculosis, in which series 65 per cent. had been exposed, and of those who did not subsequently develop the disease, only 25 per cent. had been exposed. He thought that possibly the increased death rate from tuberculosis as registered was due to better diagnostic methods and not to an actual increase in the number of cases.

DR. D. ROCHESTER, of Buffalo, commended Dr. Pryor upon the excellence of his paper. He stated that he was one of those who examined the nurses referred to by Dr. Pryor, that they recommended that the boy be sent to the Erie County Hospital and that the nurses, all of whom were incipient cases, be sent to Ray Brook. He stated that not one of the suggestions was carried out by the trustees of the institution, and that the advanced case, the boy, was kept in its employ until last Monday, January 20th. He spoke of the difficulties of the physicians to get the people at large to carry out their instructions in these matters.

DR. PRYOR, in reply to Dr. Goodall, stated that the reported deaths from tuberculosis is probably too low, and that many cases of tuberculosis are handed in as pneumonia or heart disease for insurance purposes, etc.

ANNUAL MEETINGS OF THE DISTRICT BRANCHES, 1908.

First District Branch.
Second District Branch.
Third District Branch—October 27th, in Troy.
Fourth District Branch—October 13th, in Amsterdam.
Fifth District Branch—October 15th, in Utica.
Sixth District Branch—October 6th, in Binghamton.
Seventh District Branch—October 20th, in Auburn.
Eighth District Branch—September 23d to 24th, in Batavia.

LEGISLATIVE NOTES.

The following bills of interest to the medical profession have been introduced in the Legislature:

SENATE BILLS.

Making an appropriation for the purchase of a site for a State Hospital for the insane in the southeastern part of the State. Introduced by Mr. Armstrong and committed to the Committee on Finance. Int. No. 750, March 23, 1908. Printed No. 958.

To amend chapter 394 of the laws of 1895, entitled "An act to revise the charter of the city of Oswego," by authorizing the issue of bonds to provide for a supply of water from Lake Ontario. Introduced by Mr. Gates, and committed to the Committee on Affairs of Cities. Int. No. 753, March 23, 1908. Printed No. 961.

To amend the general municipal law, in relation to the acquisition of water rights in Westchester and Putnam Counties. Introduced by Mr. Saxe, and committed to the Committee on the Judiciary. Int. No. 756, March 23, 1908. Printed No. 964.

To amend the insanity law, relative to the commitment of alleged insane persons. Introduced by Mr. Cohalan, and committed to the Committee on the Judiciary. Int. No. 777, March 25, 1908. Printed No. 995.

To amend chapter 8, part 3, title 16, of the revised statutes, known as the drainage law. Introduced by Mr. Carpenter, and committed to the Committee on the Judiciary. Int. No. 627, March 10, 1908. Printed Nos. 752, 988.

To amend section 42 of chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interest therein and for the construction of the necessary reservoirs, dams, aqueducts, filters and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," as amended by chapter 314 of the laws of 1906. Introduced by Mr. Fuller and committed to the Committee on Affairs of Cities. Int. No. 772, March 25, 1908. Printed No. 990.

To repeal chapter 942 of the laws of 1896, entitled "An act relative to the supply of pure and wholesome water in certain counties in the State." Introduced by Mr. Fuller, and committed to the Committee on Affairs of Cities. Int. No. 773, March 25, 1908. Printed No. 991.

To amend the public service commission law, in relation to pipe-line and water-works corporations. Introduced by Mr. Cobb, and committed to the Committee on the Judiciary. Int. No. 786, March 25, 1908. Printed No. 1005.

For the protection of the natural springs of the State and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. Wemple, and committed to the Committee on the Judiciary. Int. No. 417, February 19, 1908. Printed Nos. 408, 1019.

To authorize the electors of the village of Peekskill to vote upon a proposition to erect a water filtration plant, and to authorize the issue of bonds for such purpose. Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Villages. Int. No. 735, March 19, 1908. Printed Nos. 929, 1030.

To enable the town of Pelham to establish and maintain a sewer system and disposal works in the unincorporated portion of said town and in the incorporated villages of North Pelham, Pelham and Pelham Manor. Introduced by Mr. Carpenter, and committed to the Committee on Internal Affairs of Towns and Counties. Int. No. 791, March 26, 1908. Printed No. 1020.

To amend the insanity law, relative to the parole of patients in State hospitals and the voluntary care and treatment of patients therein. Introduced by Mr. Davis, and committed to the Committee on the Judiciary. Int. No. 793, March 26, 1908. Printed No. 1022.

To amend chapter 639 of the laws of 1906, entitled, "An act to provide for a commission to investigate and consider means for protecting the waters of New York bay and vicinity against pollution and authorizing the city of New York to pay the expenses thereof," in relation to the term of said commission, compensation for its members and funds to be raised in said city for the purposes of said act. Introduced by Mr. Agnew, and committed to the Committee on Affairs of Cities. Int. No. 794, March 26, 1908. Printed No. 1023.

To abolish the aqueduct commissioners created by chapter 490 of the laws of 1883 and the acts amendatory and supplementary thereto, and to transfer their powers and duties to the board of water supply. introduced by Mr. Harte, and committed to the Committee on Affairs of Cities. Int. No. 797, March 26, 1908. Printed No. 1026.

To amend chapter 300 of the laws of 1904, entitled, "An act to revise and consolidate the several acts relative to the city of Niagara Falls," relative to the establishment of a board of water commissioners, and to the powers and duties thereof. Introduced by Mr. White, and committed to the Committee on Affairs of Cities. Int. No. 807, March 30, 1908. Printed No. 1043.

To amend the agricultural law, in relation to the sale and shipmen of calves and veal. Introduced by Mr. Smith, and referred to the Committee on Agriculture—reported favorably from said committee with amendments, and ordered reprinted as amended, and when reprinted to be referred to the Committee on the Whole. Int. No. 158, January 22, 1908. Printed Nos. 163, 809, 1060.

To provide for the reconstruction of a certain trunk sewer in the city of Fulton, and making an appropriation therefor. Introduced by Mr. Gates, and committed to the Committee on Finance. Int. No. 819, April 1, 1908. Printed No. 1071.

Proposing an amendment to section 7 of article 7 of the constitution, permitting the use of the forest preserve lands situated outside of the Adirondack park and Catskill park for the storage of water for public purposes under State ownership and control. Introduced by Mr. Knapp, and committed to the Committee on the Judiciary. Int. No. 818, April 1, 1908. Printed No. 1070.

To amend the public health law by defining optometry and regulating the practice thereof. Introduced by Mr. Wilcox, and committed to the Committee on Public Health. Int. No. 320, February 10, 1908. Printed Nos. 347, 1033.

To provide for the repair of the dock at Dresden, Yates County, used by the Willard Syaye Hospital, and making appropriations therefor. Introduced by Mr. Raines, and committed to the Committee on Finance. Int. No. 840, April 2, 1908. Printed No. 1117.

To amend chapter 105 of the laws of 1891, entitled "An act to revise the charter of the City of Buffalo," with relation to the city physicians in the health department. Introduced by Mr. Hill, and committed to the Committee on Affairs of Cities. Int. No. 841, April 2, 1908. Printed No. 1118.

To amend sections 473 and 475 of the Greater New York charter, in relation to the supply of water by meters. Introduced by Mr. Cohalan, and committed to the Committee on Affairs of Cities. Int. No. 582, March 4, 1908. Printed Nos. 688, 1098.

To amend chapter 147 of the laws of 1903, entitled "An act making provisions for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie canal, the Oswego canal and the Champlain canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," as amended, relative to the examination and appraisal of lands taken for the use of the improved canals and for the purposes of the work and improvement authorized by said act. Introduced by

Mr. Foelker, and committed to the Committee on Canals, reported from said committee with amendments and referred to the Committee of the Whole. Int. No. 172, January 23, 1908. Printed Nos. 177, 1104.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interests therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters, and other appurtenances for that purpose; and for the appointment of a commission with powers and duties necessary and proper to attain these objects," as to compensation for damages. Introduced by Mr. Cordts, and committed to the Committee on Affairs of Cities. Int. No. 837, April 2, 1908. Printed No. 1114.

To amend chapter 725 of the laws of 1905, entitled, "An act relating to the acquisition of property by the city of New York for a water supply, and providing for prompt payment therefor, and for damages occasioned by the acquisition thereof; providing for use and care of reservoirs owned by said city; and providing for the construction and maintenance of highways and bridges," defining term "private property." Introduced by Mr. Cordts, and committed to the Committee on Affairs of Cities. Int. No. 838, April 2, 1908. Printed No. 1115.

For the protection of the natural mineral streams of the State and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. Wemple, and committed to the Committee on the Judiciary. Int. No. 417, February 19, 1908. Printed Nos. 468, 1019, 1129.

To amend the agricultural law, in relation to the sale and shipment of calves and veal. Introduced by Mr. Smith, and committed to the Committee on Agriculture—reported favorably from said committee with amendments, and ordered reprinted as amended, and when reprinted to be referred to the Committee of the Whole. Int. No. 158, January 22, 1908. Printed Nos. 163, 809, 1060, 1136.

To amend the agricultural law, in relation to the sale of farm produce. Introduced by Mr. Wilcox, and committed to the Committee on Agriculture. Int. No. 463, February 24, 1908. Printed Nos. 528, 1174.

Making an appropriation for the quarantine station at Swinburne Island. Introduced by Mr. Foelker, and committed to the Committee on Finance. Int. No. 291, February 6, 1908. Printed Nos. 315, 1160.

Making an appropriation for the quarantine station at Hoffman Island. Introduced by Mr. Foelker, and committed to the Committee on Finance. Int. No. 488, February 26, 1908. Printed Nos. 559, 1158.

Making an appropriation for the purchase of a site for the Eastern New York State Custodial Asylum. Introduced by Mr. Merritt, and referred to the Committee on Finance. Rec. No. 240, April 6, 1908. Printed No. 1165.

To abolish the commissioners of quarantine at the port of New York, and to confer their powers and duties and the powers and duties of the Board of Commissioners of quarantine at the port of New York upon the health officer for the port of New York. Introduced by Mr. Tully, and committed to the Committee on Finance. Int. No. 860, April 6, 1908. Printed No. 1148.

Making an appropriation for the New York State Hospital for the Care of Crippled and Deformed Children. Introduced by Mr. B. R. Robinson, and referred to the Committee on Finance. Rec. No. 224, April 6, 1908. Printed No. 1164.

Providing for the use of the rifle range at Creedmoor, Long Island, as a site for the Long Island State Hospital. Introduced by Mr. Fuller and committed to the Committee on Finance. Int. No. 883, April 8, 1908. Printed No. 1215.

To amend the agricultural law, in relation to the diseases of domestic animals. Introduced by Mr. Aalds, and committed to the Committee on Finance. Int. No. 596, March 6, 1908. Printed Nos. 718, 1214.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interests therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," in relation to the expense of condemnation. Introduced by Mr. Saxe, and committed to the Committee on Affairs of Cities. Int. No. 887, April 8, 1908. Printed No. 1219.

To repeal chapter 759 of the laws of 1905, entitled "An act to amend the agricultural law, relative to the promotion and encouragement of sugar beet culture." Introduced by Mr. O'Neil, and committed to the Committee on Agriculture. Int. No. 889, April 8, 1908. Printed No. 1221.

To amend the agricultural law, in relation to oleaginous substances manufactured in imitation or semblance of butter. Introduced by Mr. Alds, and committed to the Committee on Agriculture. Int. No. 873, April 8, 1908. Printed No. 1191.

Making appropriations for the State charitable institutions, the New York State School for the Blind, the Elmira Reformatory and the Eastern New York Reformatory. Introduced by Mr. Merritt, and committed to the Committee on Finance. Rec. No. 129, April 8, 1908. Printed No. 1243.

For the protection of the natural springs of the State and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. Wemple, and committed to the Committee on the Judiciary. Int. No. 417, February 19, 1908. Printed Nos. 468, 1019, 1129, 1226.

To provide for the selection, location, appropriation and management of certain lands along the Hudson River for a State reservation and thereby to preserve the natural scenery of the Hudson River and as a memorial of Henry Hudson. Introduced by Mr. Saxe, and committed to the Committee on Finance. Int. No. 894, April 9, 1908. Printed No. 1233.

Defining the powers and duties of local health officers and boards of health in the matter of the protection of the people of the State of New York from the disease known as tuberculosis. Introduced by Mr. Cassidy, and committed to the Committee on Public Health. Int. No. 727, March 19, 1908. Printed Nos. 921, 1230.

To amend the agricultural law, in relation to the sale and shipment of calves and veal. Introduced by Mr. Smith, and committed to the Committee on Agriculture. Int. No. 158, January 22, 1908. Printed Nos. 163, 809, 1060, 1136, 1305.

To amend chapter 147 of the laws of 1903, entitled "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," as amended, relative to the examination and appraisal of lands taken for the use of the improved canals and for the purposes of the work and improvement authorized by said act. Introduced by Mr. Foelker, and committed to the Committee on Canals. Int. No 172, January 23, 1908. Printed Nos. 177, 1104, 1289.

To amend the insanity law, relative to the commitment of alleged insane persons. Introduced by Mr. Cohalan, and committed to the Committee on the Judiciary. Int. No. 777, March 25, 1908. Printed Nos. 995, 1290.

To amend the agricultural law, in relation to the sale of farm produce. Introduced by Mr. Wilcox, and committed to the Committee on Agriculture. Int. No. 463, February 24, 1908. Printed Nos. 528, 1174, 1283.

To amend the charter of The Rockefeller Institute for Medical Research. Introduced by Mr. Page, and

committed to the Committee on the Judiciary. Int. No. 486, February 25, 1908. Printed Nos. 553, 1297.

To amend the navigation law, in relation to forbidding putrid deposits and sewage in certain waters in the counties of Hamilton and Herkimer. Introduced by Mr. Heacock, and committed to the Committee on Commerce and Navigation. Int. No. 907, April 13, 1908. Printed No. 1270.

To amend chapter 147 of the laws of 1903, entitled, "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," relative to the harbor at Syracuse. Introduced by Mr. White, and committed to the Committee on Canals. Int. No. 909, April 13, 1908, Int. No. 369. Printed Nos. 410, 1325.

To amend section 208 of chapter 275 of the laws of 1899, entitled "An act to revise the charter of the city of Gloversville," in relation to the general powers and duties of the board of water commissioners. Introduced by Mr. Miles, and referred to to the Committee on Affairs of Cities. Int. (Rec.) No. 422, April 15, 1908. Printed No. 1315.

To amend the village law, in relation to street improvement. Introduced by Mr. Carpenter, and committed to the Committee on Affairs of Villages. Int. No. 606, March 9, 1908. Printed Nos. 729, 1353.

To amend the insanity law, relative to the duties of the State board of alienists. Introduced by Mr. Phillips, and referred to the Committee on Finance. Rec. No. 120, April 15, 1908. Printed No. 1349.

To amend the consolidated school law, in relation to tenure of office of teachers in cities of the third class and villages employing superintendents of schools, and in relation to the safety and health of pupils. Introduced by Mr. M. Smith, and committed to the Committee of the Whole. Rec. No. 471, April 15, 1908. Printed No. 1337.

To amend chapter 105 of the laws of 1891, entitled "An act to revise the charter of the city of Buffalo," with relation to city phpsicians in the health department. Introduced by Mr. Hill, and committed to the Committee on Affairs of Cities. Int. No. 841, April 2, 1908. Printed Nos. 1118, 1328.

To amend chapter 639 of the laws of 1906, entitled "An act to provide for a commission to investigate and consider means for protecting the waters of New York bay and vicinity against pollution and authorizing the city of New York to pay the expenses thereof," in relation to the term of said commission, compensation for its members and funds to be raised in said city for the purposes of said act. Introduced by Mr. Agnew, and committed to the Committee on Affairs of Cities. Int. No. 794, March 26, 1908. Printed Nos. 1023, 1323.

To create a reservation in the highlands of the Hudson reservation, and to provide for its regulation. Introduced by Mr. Smith, and committed to the Committee on Finance. Int. No. 920, April 15, 1908. Printed No. 1318.

Providing for the use of the rifle range at Creedmoor, Long Island, as a site for the Long Island State Hospital. Introduced by Mr. Fuller, and committed to the Committee on Finance. Int. No. 883, April 8, 1908. Printed Nos. 1215, 1314.

To amend chapter 147 of the laws of 1903, entitled "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," relative to the harbor at Syracuse. Introduced by Mr. White, and committed to the Committee on Canals. Int. No. 909, April 13, 1908. Printed Nos. 1272, 1359.

Making appropriations for construction, additions and improvements at the State hospitals for the insane. Introduced by Mr. Merritt, and referred to the Committee on Finance. Rec. No. 544, April 18, 1908. Printed Nos. 1381, 1384.

To authorize the city of New York to enter into contracts and agreements to provide for the disposal of sewerage of villages or townships within the Croton watersheds and to allow the city of New York to acquire such lands as may be necessary to carry into effect said system and to acquire lands for the sanitary protection of the said water supply and to raise funds to carry said agreements into effect or to improve the sanitary protection of said water supply. Introduced by Mr. Carpenter, and referred to the Committee on Affairs of Cities. Int. No. 934, April 20, 1908. Printed No. 1383.

ASSEMBLY BILLS.

To amend chapter 394 of the laws of 1895, entitled "An act to revise the charter of the city of Oswego," by authorizing the issue of bonds to provide for a supply of water from Lake Ontario. Introduced by Mr. F. G. Whitney, and referred to the Committee on Affairs of Cities. Int. No. 1347, March 23, 1908. Printed No. 1778.

To amend the general municipal law, in relation to the acquisition of water rights in Westchester and Putnam counties. Introduced by Mr. Yale, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 1350, March 23, 1908. Printed No. 1781.

Making an appropriation for the purchase of a site for a State hospital for the insane in the southeastern part of the State. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1361, March 24, 1906. Printed No. 1807.

To amend the Greater New York charter, in relation to the supply of water by meters. Introduced by Mr. Keller, and referred to the Committee on Revision. Reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 978, March 3, 1908. Printed Nos. 1169, 1829.

To amend the insanity law, relative to the duties of the State board of alienists. Introduced by Mr. Phillips, and referred to the Committee on the Judiciary. Reported by said committee without amendments and ordered to a second reading, read a second time, ordered placed on the order of third reading and referred to the Committee on Revision. Reported from the Committee on Revision with recommendations, ordered reprinted and engrossed, bill recalled, vote reconsidered, bill amended, ordered reprinted as amended, and re-engrossed. Int. No. 616, February 20, 1908. Printed Nos. 695, 958, 1832.

To authorize the electors of the village of Peekskill to vote upon a proposition to erect a water filtration plant, and to authorize the issue of bonds for such purpose. Introduced by Mr. I. H. Smith, and referred to the Committee on Affairs of Villages, reported from said committee with amendments, ordered reprinted as amended, and restored to its place on the order of third reading and to the Committee on Revision. Int. No. 1300, March 19, 1908. Printed Nos. 1682, 1837.

To amend chapter 348 of the laws of 1901, entitled "An act to provide for sewer systems outside incorporated villages or cities," and the several acts amendatory thereof. Introduced by Mr. Meade, and referred to the Committee on Internal Affairs—reported from said committee with amendments, ordered reprinted as amended and placed on the order of second reading. Int. No. 1296, March 19, 1908. Printed Nos. 1678, 1838.

To amend the village law, relative to plumbing and drainage. Introduced by Mr. Surpless, and referred to the Committee on Affairs of Villages—reported from said Committee with amendments, ordered reprinted as amended and placed on the order of second reading. Int. No. 906, February 27, 1908. Printed Nos. 1084, 1835.

To permit the board of regents in their discretion to grant a license to practice medicine in a specific instance, where the candidate has met all requirements

except in matter of time. Introduced by Mr. Ward, and referred to the Committee on Public Health. Int. No. 1381, March 25, 1908. Printed No. 1854.

To amend the public health law, in relation to the vacinnation of school children. Introduced by Mr. G. H. Whitney, and referred to the Committee on Public Health—reported from said committee with amendments, ordered reprinted as amended and recommitted to said committee—reported from said committee with amendments, ordered reprinted as amended and placed on the order of second reading—read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1008, March 4, 1908. Printed Nos. 1214, 1396, 1617, 1870.

To amend the railroad law, in relation to installing water closets on cars of certain steam surface and street railroads and at stations, and providing penalties. Introduced by Mr. Boyce, and committed to the Committee on Railroads—reported favorably from said committee with amendments and ordered reprinted as amended, and when reprinted to be referred to the Committee of the Whole—reported from said committee, ordered to third reading and recommitted to the Committee on Railroads—reported favorably from said committee with amendments, and ordered reprinted as amended, and restored to its place on the calendar. In Assembly, Senate bill 577, amended on second reading and ordered reprinted, retaining its place on the order of second reading—read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Rec. No. 46, February 26, 1908. Printed Nos. 1618, 1872.

Making appropriations for repairs, renewals, and betterments for the several State prisons, the Matteawan State Hospital for Insane Criminals, and the Dannemora State Hospital for Insane Convicts. Introduced by Mr. Merritt, and referred to the Committee on Finance. Rec. No. 543, April 18, 1908. Printed No. 1380.

Making appropriations for constructions, additions and improvements at the State hospitals for the insane. Introduced by Mr. Merritt and referred to the Committee on Finance. Rec. No. 544, etc.

To amend the agricultural law, in relation to the sale and shipment of calves and veal. Introduced by Mr. Blue, and referred to the Committee on Agriculture. Int. No. 510, February 3, 1908. Printed Nos. 543, 1894.

For the protection of the natural mineral springs of the State and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. G. H. Whitney, and referred to the Committee on the Judiciary. Int. No. 793, February 19, 1908. Printed Nos. 922, 1891.

To amend the insanity law, relative to the commitment of alleged insane persons. Introduced by Mr. Ward, and referred to the Committee on the Judiciary. Int. No. 1390, March 26, 1908. Printed No. 1905.

Defining the powers and duties of local health officers and boards of health in the matter of the protection of the people of the State of New York from the disease known as tuberculosis. Introduced by G. H. Whitney, and referred to the Committee on Public Health. Int. No. 1392, March 26, 1908. Printed No. 1907.

"Strange as it may seem, the one subject which every fair-minded person admits should be taught thoroughly—namely, how to keep healthy—has been largely neglected. With all the recent agitation for educational reform, there remains, in a measure, the same indifference to the proper teaching of the care of the body, regarding which Herbert Spencer lectured the pedagogic world over forty years ago."—*Pyle: A Manual of Personal Hygiene.*

MEETINGS OF THE COUNCIL.

A meeting of the Council of the Medical Society of the State of New York was held in the Common Council Chamber, City Hall, Albany, on Thursday, January 30, 1908, at 12 M.

Present: Dr. A. G. Root, First Vice-President; Dr. W. R. Townsend, Secretary; Dr. J. T. Wheeler, Second Vice-President; Dr. W. A. Moore, Councilor Sixth District Branch; Dr. W. J. Nellis, Chairman Committee on Arrangements; Dr. L. H. Neuman, Chairman Committee on Scientific Work.

The minutes of the last meeting were read and approved.

Moved, seconded and carried that the Committee on Publication consist of the Secretary and the Treasurer of the Society, and Drs. J. C. Bierwirth, S. W. S. Toms and S. E. Getty.

Moved, seconded and carried that the amendments to the by-laws of the Medical Society of the County of Monroe be referred to Mr. James Taylor Lewis, Counsel of the State Society, for a legal opinion.

Moved, seconded and carried that a committee of three be appointed to consist of Drs. A. G. Root, Alexander Lambert and E. H. Bartley, to authorize such expenditures as they consider advisable, and that all officers and chairmen of committees secure the permission of such committee before incurring any expenses on behalf of the Society.

Moved, seconded and carried that the request of the Medical Society of the County of Dutchess for a portion of the library be granted, and that the Committee on Library be authorized to make a proper contract on behalf of the State Society and submit the same to the officers of the State Society for their consideration.

Moved, seconded and carried that the actual railroad fares of the officers and members of the standing committees be paid by the Society on presentation of proper vouchers, but that this shall not include any expenses incurred in attending the annual meeting.

The resolution received from the Counsel, requesting that we endeavor to secure the passage of bills amending Section 834 of the Code of Civil Procedure and Section 829 of the Code was referred to the Committee on Legislation.

Moved, seconded and carried that the resolution introduced by Dr. O. J. Hallenbeck in regard to establishing County laboratories be referred to the Committee on Legislation.

Dr. L. H. Neuman, Chairman of the Committee on Scientific Work, moved and the Council approved the appointment of Drs. A. T. Bristow and H. L. Elsner as members of the committee.

Dr. W. J. Nellis, Chairman of the Committee on Arrangements, moved and the Council approved of the appointment of Drs. H. Bedell, A. G. Root, H. L. K. Shaw, H. C. Gordinier, W. C. Krauss, E. A. Vander Veer and G. G. Lempe.

Moved, seconded and carried that the chairmen of committees who were not present should select the members of their committees, subject to approval of the Council.

There being no further business, the Council adjourned at 12.25 P. M.

WISNER R. TOWNSEND, *Secretary.*

Approved at meeting of Council, May 2, 1908.

At a meeting of the Council held in Albany, May 2, 1908, the following resolution was unanimously passed:

Resolved, That on and after June 1, 1908, no member of the Medical Society of the State of New York shall receive the Directory, THE NEW YORK STATE JOURNAL OF MEDICINE. nor be entitled to Mal-Practice Defense until his County dues and State assessment have been paid.

County Societies.

THE MEDICAL SOCIETY OF THE COUNTY OF CATTARAUGUS.

THE SPRING MEETING WAS HELD AT THE MASONIC PARLORS, SALAMANCA, N. Y., APRIL 7, 1908.

Program.

1. "New Nomenclature and early Diagnosis of Insanity," by Dr. Clarence Potter.
2. "The Laws of Insanity," by Hon. Carey D. Davie.
3. "Acute Bright's Disease," by Dr. Edward Torrey.

Presentation of cases.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

STATED MEETING, POUGHKEEPSIE, N. Y., April 8, 1908.

Memorials were read to the late Dr. D. A. Knapp, of North Clove, and John M. Julian, of Pleasant Valley.

Scientific Program.

"Nasal Obstruction," by Dr. Irving Townsend.

"Adeno-Carcinoma of the Uterus," by Dr. J. W. Poucher.

"Pathology of Carcinoma of the Uterus," by Dr. R. W. Andrews.

"Symptoms of Lobar Pneumonia," by Dr. R. H. Breed.

"Treatment of Lobar Pneumonia," by Dr. M. N. Lown.

"Consistency in Aseptic Technique," by Dr. J. E. Sadlier.

"The Milk Situation," by Dr. A. L. Peckham (postponed until next meeting).

The following resolution was unanimously adopted by the society:

"WHEREAS, there is now before the Legislature a bill which provides for the purchase of a site for the epileptic and feeble-minded, near Haverstraw, Rockland County, and whereas such an institution is greatly needed in the eastern portion of this State, and whereas, the bill is most humanitarian in purpose, therefore

Be it Resolved, that each member of the Society of the County of Dutchess use every effort to bring about the passage of this bill, which carries with it an appropriation of $188,575 for the purchase of a site of about 1,200 acres of land; and

Be it Resolved, that the Secretary of this Society inform the Senator and each Assemblyman of this District of the action of this Society and request each one to use his influence in behalf of this bill. Also that the Secretary inform the Committee of Rules of the Legislature of the action of this Society and request the passage of the said bill."

An invitation was accepted to hold the next meeting at the Hudson River State Hospital, and the Library Committee was empowered to receive pledges towards the establishment of a library.

The following committee was appointed in regard to holding the meeting of the First District Branch in Poughkeepsie in October: Drs. J. E. Sadlier, Edson Card, F. J. Mann.

REPORT OF THE COMMITTEE ON QUARANTINE.

The following report of the Committee on Quarantine was read, and the Society requested that it be published in the next issue of the NEW YORK STATE JOURNAL OF MEDICINE.

The Committee wishes to state that a circular letter was sent to every member of the Medical Society asking for suggestions based on his or her experience as to the time of quarantine for various infectious diseases. Out of the number sent, twenty-five responded, and the majority of those who did respond stated that they had had no experience with a number of the infectious diseases asked about. This report, therefore, is based almost entirely upon the statements of the most recent authorities obtainable. In smallpox and chickenpox Dr. William T. Councilman has been consulted: in measles, whooping cough and mumps, Dr. John Rürah and Dr. Emmett Holt; in diphtheria and scarlet fever, Dr. John McCollom; and Dr. Henry Koplik in cerebro-spinal meningitis.

Smallpox.

Smallpox is considered the most infectious of all diseases. Period of incubation 10 to 12 days in the great majority of cases; shortest time 5½ days, longest time 16 days.

Prophylaxis: Vaccination; revaccination and isolation. Vaccination may render one immune to the disease up to the forth day after exposure.

Quarantine should continue until all the affected epidermis is removed—the dried discs and scales contain infectious material. Each case is one unto itself and no definite time other than stated can be given.

Diphtheria.

Period of incubation 24 hours to 7 days.

Prophylaxis: Isolation—disinfection—anti-diphtheritic innoculation. Plenty of fresh air.

Quarantine should continue until at least two cultures from the throat prove negative to the diphtheritic bacillus by bacteriological examination.

Scarlet Fever.

Scarlet fever is considered the third most infectious disease.

Incubation: As short as 24 hours; as long as 21 days; average 7 to 12 days.

Prophylaxis: Isolation for a long time, at least until desquamation has entirely disappeared and the skin is in its normal healthy state and there are no nasal or aural discharges. Proper disinfection and hygienic conditions must exist during whole course of the disease. Desquamation in this disease is infectious as well as the discharges. Serum-therapy has not been of any avail in this disease.

Measles.

The second most infectious disease with which we have to deal.

Period of incubation 9 to 11 days.

Prophylaxis: Isolation during whole course of the disease.

The disease may be transmitted from the first symptoms until after the desquamation, but as the eruption begins to fade the danger of transmission diminishes and during the period of desquamation the probability of transmission is but slight. This point, however, is a mooted one. The rule is isolation until the skin is perfectly clear and normal, and there are no nasal or aural discharges.

German Measles.

Period of incubation from 1 to 4 weeks, average time 14 to 21 days.

May be transmitted by contact and by fomites. Contagion seems to differ in different epidemics. The best authorities state that the contagiousness disappears with the eruption, therefore isolation should be enforced until the eruption has entirely disappeared.

Whooping Cough.

Transmitted by direct contact.

Infection begins with the earliest symptoms.

Period of incubation from one to two weeks.

Prophylaxis: Isolation until at least the "whoop" has disappeared.

Cerebro-spinal Meningitis.

Transmitted or communicated through secretions of the mouth, nose and conjunctivae, but it has not been determined whether the disease is communicated to human beings by insects.

Period of incubation from a few days to three weeks.

Prophylaxis: Isolation. Disinfection. Isolation should continue until the mucous membranes are free from meningo-coccus or the diplococcus (meningitidi-tis) intra-cellularis. Serum therapy has been used successfully in some cases.

Chicken Pox.

Period of incubation 4 days to a week.

Prophylaxis: The person infected should be isolated during the entire eruption period and until the removal of the scabs.

It must be considered as among the most contagious diseases, but the mode of infection is not given.

Mumps.

Period of incubation 4 days to 24, average 2 weeks.

Prophylaxis: The disease is transmitted even before the symptoms appear and even as long as six weeks after the symptoms have disappeared.

In all cases of infectious or contagious diseases, all utensils, bedding, toweling and clothing of every kind should be thoroughly disinfected and fumigated. Utensils by the use of formalin, carbolic acid, creolin or bi-chloride solutions, care being taken that bi-chloride solutions do not come in contact with metal. All dejecta by the use of formalin, copperas, or persulphate of iron, solutions. Bi-chlorides are not recommended for use in dejecta as an albuminate is formed on the outside and proper sterilization is therefore prevented. All bedding should be saturated in a formalin solution or one of bi-chloride solution before being sent to the laundry. Where there are proper facilities, all bedding, of whatever nature, should be thoroughly sterilized by super-heated steam or by dry heat, especially this should be done with all mattresses. In institutions where this cannot be done the mattresses and all bedding should be destroyed. The same should hold for private practice, but inasmuch as this procedure in private practice would work a hardship to a great many poor people the physician will be able, by thorough formalin disinfection and fumigation, to prevent the spread of the disease. The bedding, however, should be thoroughly saturated in a solution of formalin sufficiently strong to be effective. The wind will clear out the fumes.

More care in the isolation and quarantine for measles, scarlet fever and whooping cough should be exercised, because there is no known medical treatment to cut short the course of, or to render people immune to, these diseases. With diphtheria and smallpox the old pest-house idea should be abolished inasmuch as every one coming in contact with these two diseases may be rendered immune by the proper use of vaccine virus and serum-therapy; the same is probably true of cerebro-spinal meningitis.

Respectfully submitted,

ISHAM G. HARRIS, Chairman.
J. E. SADLIER,
W. S. ACKERT,
J. W. ATWOOD.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, April 21, 1908.

Program.

1. "A Medical Library and Its Contents," by John W. Farlow, M.D., Librarian of the Boston Medical Library.

Discussion by E. H. Bartley, M.D., and J. P. Warbasse, M.D.

2. "Acute Intestinal Obstruction with Especial Reference to Post-operative Obstruction," by John B. Deaver, M.D., of Philadelphia.

SECTION ON PEDIATRICS.

REGULAR MEETING, April 17, 1908.

Scientific Program.

"Hereditary Syphilis—Intramuscular Injection of Mercury," by F. B. Van Wart, M.D.

"Results of Antistreptococcus Serum in Scarlatina," by Henry U. Robinson, M.D.

"Review of German Pediatric Literature for 1908," by Alexander Spingarn, M.D.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, April 27, 1908.

Scientific Session.

"Symposium on Obstetric Prophylaxis."

1. "The Hygiene and Management of Pregnancy, Including the Examination of Pregnancy," by Austin Flint, Jr., M.D.

2. "The Prevention of Maternal Dystocia (Excluding Tumors and Pelvic Deformity). Precipitate Labor; Uterine and Abdominal Inertia; Retention of Placenta and Membranes; Post-partum Hemorrhage; Rupture of the Uterus; Inversion of the Uterus; Rupture of Cervix, Vagina, Rectum and Perineum," by Richard C. Norris, M.D., Philadelphia (by invitation).

3. "The Prevention of Maternal Infection, Including the Genital Tract and Breasts," by Edwin B. Cragin, M.D.

4. "The Prevention of Fetal Infection; Eyes, Mouth, Umbilicus," by J. Clifton Edgar, M.D.

Discussion by, William S. Stone, M.D.; Ralph H. Pomeroy, M.D., Brooklyn (by invitation); James D. Voorhees, M.D.; George L. Brodhead, M.D.; Charles Jewett, M.D., Brooklyn (by invitation); Simon Marx, M.D.; John O. Polak, M.D., Brooklyn (by invitation); Henry C. Coe, M.D., and others.

ONEIDA COUNTY MEDICAL SOCIETY.

QUARTERLY MEETING, April 14, 1908, UTICA, N. Y.

Symposium on Typhoid Fever:

"Etiology, Prophylaxis, and History," by Dr. A. J. Browne, Utica.

"Symptomatology, and Diagnosis," by Dr. A. A. Gillette, Rome.

"Pathology," by Dr. Frederick Ford, Utica.

"Treatment," by Dr. George Seymour, Utica.

"Individual Symptoms and Complications With Treatment," by Dr. W. C. Gibson, Utica.

"Diagnosis and Surgical Treatment of Preperforative and Perforative Stages," by Dr. A. J. Brown, Rome.

"Management of Convalescence," by Dr. W. J. Schuyler, Utica.

Reports of cases:

"Multiple Operations on Intestinal Canal," by Dr. John Gromann.

ONTARIO COUNTY MEDICAL SOCIETY.

QUARTERLY MEETING, April 15, 1908, Y. M. C. A. BUILDING, CANANDAIGUA, N. Y.

Program.

I. "The General Practitioner in the Fight against Tuberculosis," by Dr. F. L. Stebbins.

II. "Myocardial Changes with Fleeting Physical Signs," by Dr. H. L. Elsner.

III. "Tuberculosis," by Dr. H. D. Pease.

The Tuberculosis Exhibit of the State Health Department was also held in the building on the above date, and was inspected by those attending the meeting.

ORANGE COUNTY MEDICAL SOCIETY.

QUARTERLY MEETING, April 7, 1908, RED MEN'S HALL, TIMES BUILDING, MIDDLETOWN, N. Y.

Program.

Symposium on Variola:

(a) "Etiology and Pathology," by Dr. B. C. Hamilton.

(b) "Symptology and Diagnosis," by Dr. H. J. Shelley.

(c) "Prophylaxis and Quarantine Regulations," by Dr. W. H. Snyder.

(d) "Treatment," by Dr. M. C. Conner.

Reports of cases: Cyclic vomiting in a child five months old, by Dr. W. S. Gleason.

QUEENS-NASSAU MEDICAL SOCIETY.

A meeting will be held at the Town Hall, Jamaica, May 23, 1908, at 8 P. M. The general profession is invited to attend.

Program.

Symposium on Midwifery:

(1) "Conduct of Normal Labor," by Dr. Chas. Jewett, Brooklyn.

(2) "Eclampsia," by Dr. J. Clifton Edgar, Manhattan.

(3) "The Art of Pelvimetry," by Dr. S. D. Jacobsen, Manhattan.

(4) "The Action of Forceps," by Dr. Jas. D. Trask, Highlands, N. J.

(5) "Version," by Dr. Wm. J. Burnett, L. I. City.

(6) "Cæsarian Section, Its Indications and Technique," by Dr. John O. Polak, Brooklyn.

(7) "Plastic Post-Partium Repair," by Dr. L. Grant Baldwin, Brooklyn.

(8) "Morbidity and Mortality," by Dr. Walter B. Chase, Brooklyn.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

REGULAR MONTHLY MEETING, COUNTY COURT HOUSE, TROY, N. Y., APRIL 14, 1908.

Program.

"Demonstration of Case of Probable Thrombosis of Inferior Vena Cava," by Dr. H. A. Carey.

"Thrombosis of Inferior Vena Cava, with Report of Case and of Autopsy," by Dr. E. R. Stillman.

"Eye Symptoms, Significance and Importance in General Disease," by Dr. M. A. McGrane.

The following resolution was adopted and signed by all the members present:

"*Resolved,* that it is the sense of every member of the Medical Society of the County of Rensselaer that a County Sanitarium and Hospital be erected for the care of advanced tuberculosis cases."

The County Board of Supervisors met April 15th at 4 P. M. to consider the subject of erecting a Sanitarium.

RICHMOND COUNTY MEDICAL SOCIETY.

MONTHLY MEETING, APRIL 8, 1908.—STATEN ISLAND ACADEMY.

Program.

1. "Malignant Growths in the Spleen," by Dr. Eugene J. Callahan.

Discussion by Dr. Bryan and Dr. Fred. Coonley.

2. "Presentation of Apparatus Used in the Treatment of Deformities," by Dr. Carl R. Keppler.

MEDICAL SOCIETY OF THE COUNTY OF SARATOGA.

STATED MEETING, MARCH 31, 1908.—WORDEN HOTEL, SARATOGA, N. Y.

Scientific Program.

1. Address of the President.

2. "Intermittent Claudication," by Dr. E. A. Palmer.

3. "Diagnosis of Surgical Lesions of the Pelvis," by Dr. D. C. Moriarta.

Symposium: Acute and Chronic Articular Rheumatism.

1. "Etiology and Pathology," by Dr. H. L. Loop, Saratoga Springs.

2. "Symptoms and Diagnosis," by Dr. F. J. Sherman.

3. "Prognosis and Treatment, Including Complications," by Dr. P. C. Curtis.

Discussions by Drs. J. R. McElroy, F. J. Resseguie, W. C. Crombie.

The Society agreed to co-operate with the State Department of Labor in securing proper data regarding the physical effect of various occupations on boys, girls and women; and appointed a Committee to draw up suitable resolutions expressing the opposition of our Society to the prescribing of "nostrums," on which the Committee is to report at a special meeting to be held at a later date.

SUFFOLK COUNTY MEDICAL SOCIETY.

SEMI-ANNUAL MEETING, BRENTWOOD, N. Y., APRIL 30, 1908.

Scientific Program.

1. "Conduction Aphasia and Exhibition of a Case," by Dr. M. B. Heyman.

2. "Measurement of Blood Pressure and Demonstrations With the Apparatus," by Dr. Roland Hazen.

3. "Methods of Gastric Diagnosis and Demonstrations of Physical Diagnosis and Laboratory Examinations," by Dr. Dudley D. Roberts.

TOMPKINS COUNTY MEDICAL SOCIETY.

REGULAR MEETING, APRIL 14, 1908.—ITHACA HOTEL, ITHACA, N. Y.

Program.

1. "Facts of Interest to the General Practitioner Regarding Goitre," by Dr. M. B. Tinker.

2. "Mental Influences of Enlarged Thyroid," by Dr. H. B. Besemer.

3. "Treatment of Fracture of the Femur in Children," by Dr. R. M. Vose.

4. "Stasis Hypermia with Report of Cases," by Dr. F. R. Wright.

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

STATED MEETING JANUARY 21, 1908, WHITE PLAINS, N. Y.

Scientific Program.

"The Field of Physio-Therapy," by Dr. Merritt W. Barnum.

Special Order: "Biography of the Late Dr. T. R. Carter, of Mount Vernon," by Dr. Andrew F. Currier.

STATED MEETING, MARCH 21, 1908, WHITE PLAINS, N. Y.

Scientific Program.

"Pneumonia," by Dr. S. B. Pray.

Deaths.

DAVID HENRY CHANDLER, M.D., of Cornwall-on-the-Hudson, N. Y.; died at his home in that city, March 19, from pneumonia, after an illness of one week, aged 46.

PHILIP MERRIAM EGERT, M.D., died at his home in Holland Patent, N. Y., April 1, from nephritis, after a long illness, aged 44.

BRYANT SLOAT FASSETT, M.D., of Elmira, N. Y.; died from acute nephritis, in Roosevelt Hospital, March 24, aged 29.

JAMES REDMOND HEALY, M.D.; physician to the Tombs from 1871 to 1879, and medical superintendent of Hart's and Randall's Island hospitals from 1879 to 1892; died at his home in New York City, from mediastinal cancer, March 29, aged 59.

ALEXANDER BYRD MCDOWELL, M.D.; for a time surgeon in the U. S. Marine Corps; died at his home in New York City, April 15, aged 35.

JOSEPH FRANCIS O'CONNELL, M.D., died at a hospital in Montclair, N. J., from heart disease, April 4, aged 50.

HENRY C. PECK, M.D., died suddenly at his home in Port Dickinson, March 19, aged 54.

WILLIAM TIBBITTS, M.D., supervisor of Danube Township from 1891 to 1896; died at his home in Newville, March 11, aged 70.

HAMILTON E. WHITE, M.D., died at his home in Fort Plains, N. Y., March 20, from pneumonia, aged 58.

CARL WUEST, M.D., a resident of Brooklyn for more than fifty years, died at his home, April 5, from senile debility, aged 81.

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles

OXYGEN IN MEDICINE AND SURGERY—A CONTRIBUTION, WITH REPORT OF CASES.*

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NEW YORK CITY.

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THE medical profession, with undue conservatism, is sometimes prone to cast aside as worthless, or of little consequence, a therapeutic agent, or method of cure, which has been extolled by the few and weakly exploited by the many; not infrequently, too, the medical junk-heap is rummaged by the quack and the lay promoter, to their own profit and the good or ill of the patients. Again a remedial agent may be employed by a small minority of the profession with really remarkable success, and be completely ignored or but indifferently accepted, at least for a long time, by the vast majority.

A striking example of this failure on the part of the profession to treat with scientific precision the merits or demerits of a given agent is found in the ever-present and all-essential oxygen. Almost immediately following the discovery of oxygen by Scheele, in Sweden, in 1773, and one year later by Priestley, in England, its therapeutic value was recognized; and yet, from the time of the "Pneumatic Institute," established at Bristol by Beddoes a few years later, with the patronage of Sir Humphrey Davy, James Watt, and other distinguished individuals, to the "Oxygen Parlor" of the present time, patronized, as it is, by the rich and poor, high and low, little definite advance has been made toward establishing for all time the therapeutic position of oxygen.

The present communication is offered, not for the purpose of attempting to settle *pro* or *con* any therapeutic advocacies with reference to oxygen, but with the four-fold desire (1) to stimulate interest in the subject; (2) to bring up to date, in a cursory review of the literature, what has been accomplished by others in man and animals; (3) to contribute some experimental work on animals and to report illustrative cases in the human subject; and (4) to map out possible fields for further investigation.

In approaching the subject under discussion due allowance must be made for the difficulties encountered in the application of physiological and experimental methods to therapeutic questions, for, as Shattuck has pertinently said, "experimental evidence must be very strong to warrant us in absolutely throwing over clinical evidence; there is plenty of room for error in both." However much the physiological and clinical observations of individual workers may be at variance, a glance at the therapeutic history of oxygen will convince the fair-minded investigator that there is enough evidence, both clinical and experimental, to warrant a more extended study of the action of the gas upon the tissues in health and disease.

THERAPEUTIC HISTORY.

Paradoxical as it may seem, the importance of oxygen was taught before its existence was known. The "Pneumatic School" of medicine, which was founded at Rome by Athenæus of Cilicia, and which flourished about A. D. 70 to 160, held that the "pneuma" (the world-soul of the Stoics) comes by the way of the respiration into the heart, whence it is driven into the vessels and the whole body. The diastole or *dilatation* pushed the pneuma forward, and systole, or *contraction*, drew it back. In addition to the spiritual principle, they ascribed to the "penuma" the elementary qualities of warmth, coldness, moisture and dryness. When it is regular in its action and is united with warmth and moisture, it occasions health; under contrary circumstances, and when mixed with warmth and dryness, it causes the acute diseases; mixed with cold and moisture it produces the phlegmatic diseases, and finally, with cold and dryness, it leads to melancholy, the last named condition culminating in death, a state in which everything becomes dry and cold.[1]

The advocates of this theory were not far away from the doctrine of Beddoes, who held that all diseases are due to the excess or deficiency of some elementary constituent of the body, and that the inhalation of the various gases would supply the deficiency or eliminate the excess of the element which was the causative factor in a given disease.

These theories, crude as they are, were the forerunners of the modern "diffusion" and

*Read in part before the Medical Society of the State of New York, at Albany, January 29, 1908; read in full before the Brooklyn Pathological Society, February 13, 1908.

"tissue-respiration" theories concerning the interchange of gases in the body and the influence thereof upon the circulation and the various functions of the organism.

A true oxygen therapy is said to have been devised by Mayor, of Germany, in the seventeenth century, and by Alexander Ferguson, who wrote about 1740; but to Priestley may be given the credit for initiating the experiments which have called forth the extensive, if more or less chaotic, investigation recorded in the literature of the subject.

The discovery by Priestley that a mouse confined in a limited quantity of oxygen would live at least twice as long as in an equal quantity of common air, led him to believe that the gas might be useful in cases where there was deficient vitality. His experiments, followed by those of Spellanzani, Bartholet, Lavoisier and others, along the line of the part played by oxygen in the animal economy, culminated in the discovery that oxygen is the only element of which a constant supply is necessary for the maintenance of life. These investigations stimulated belief in the therapeutic possibilities of the element, and numerous clinical experiments were made in Switzerland, France, Germany, England and elsewhere, the results of which were seemingly quite sufficient to warrant more decisive work.

The first experiments on human beings are said to have been made by Chaussier, in 1783, in cases of dyspnea in consumptives and in asphyxia in infants. In the same year Caillens reported the cure of two cases of consumption by oxygen inhalations. In 1789 Beddoes, professor of chemistry at Oxford, and a physician of repute, detailed his experiences and formulated his conclusions.[2] It appears that he employed oxygen and other gases in his "Pneumatic Institute," to which reference has been made, where small compartments were so constructed that the atmosphere could be charged with any desired gas. In these rooms the patients were allowed to pass a certain amount of time daily, inhaling the particular gas supposed to be necessary to correct the excess or deficiency of a given element in the body, in accordance with his theory, mentioned above.

From his experiments Beddoes reached, among others, the following conclusions: 1. The power of resisting asphyxia is increased to a remarkable degree by oxygen. 2. The action of frigorific mixtures is resisted longer by animals which have respired oxygen. 3. The action of oxygen appears to be localized chiefly in the muscular system. 4. The irritability of the heart and blood vessels is stimulated to the highest degree by the action of oxygen. However much some of his ideas may be questioned, his clinical results (and his statements were, in the main, corroborated by other observers) merited more consideration than they were accorded. The following diseases were treated by him, with more or less satisfactory results: obstinate ulcers, leprosy, spasms, gutta serena, chlorosis, epilepsy, asthma, cancer, dropsy of the chest, hypochondria, dyspepsia, dropsy, hydrocephalus, headache, poisoning by opium, paralysis, scrofulous tumors, scorbutus, venereal, deafness, white swelling, melancholy, general debility, continued fever, intermittent fever, coldness of the extremities.

The wide range of diseases in which Beddoes applied the agent suggests at first glance the modern tendency to commercialism in medicine, as well as a rather free resort to "suggestive therapeutics"; when we recall, however, the varied physiological relations of oxygen, its all-and-in-all qualities, we need not marvel at his reported results. "Coldness of the extremities" and "melancholy" are quite suggestive one of the other, and cancer, now by many believed to be largely due to a lowered state of vitality, with malnutrition as a prominent factor, is not so far removed from hypochondria, dyspepsia and general debility, all of which have a place on his list.

The results published by Beddoes did not, however, appear to lead to the general adoption of the oxygen treatment in England, and its use soon lapsed. In Germany it attracted more attention for a time, and the work of Jurine and Odier in Switzerland, seemed to augur well for the future of the agent. Here, as elsewhere, however, the efforts were desultory and ephemeral, and the quarter-century following the discovery of oxygen found its position as a therapeutic agent still anomalous. According to Redde[3] it was not until the appearance of the remarkable monograph of Thénard[4] in 1818 that the true value of oxygen came to be recognized. The medicinal use of the gas, however, practically ceased until 1832, when the terrible epidemic of cholera in Europe gave it a brief revival. The results obtained did not fulfill expectations at this time, and for another quarter-century it received little attention. With the appearance of the communications of S. B. Birch,[5] of London, in 1857 and subsequently, there was initiated the "*renaissance* of oxygen," according to the author's own views, but his work seemed to be fraught with little of practical value. The discovery of ozone by Schönbein (during the 1860's) enlivened interest in the subject to some extent. Contributions to the literature of oxygen and its therapeutic uses came thick and fast for a few years. During the decade between 1860 and 1870 von Leyden experimented with oxygen, but with negative results, and he subsequently abandoned its use for a number of years. Perhaps the most widely known contribution to the study of oxygen in America is embodied in the work of Dr. Andrew H. Smith,[6] of New York. From that time to the present day, particularly within the last decade, the subject has received more or less attention, especially in Germany and France, but

so far as I am able to ascertain, from a review of the literature and from personal observation of the work of my colleagues here and elsewhere, the solution of the problem of the therapeutic value of oxygen is still inchoate.

The failure of the medical profession to grapple with the subject in a definite manner was at first due, no doubt, to the difficulty experienced in the production of the gas in sufficiently pure state for purposes of inhalation (the method by which it was employed exclusively at first), and in its transportation to the bedside of the patient. Upon the discovery of Lavoisier that oxygen formed part of the atmosphere, attention was directed toward the perfection of some method of obtaining the supply for medicinal purposes from this source. This seemed to be accomplished when Téssié du Môtay discovered that the oxids of manganese, when heated in contact with alkalies and air, are capable of absorbing oxygen from the air, and of subsequently giving it up when heated in a current of steam. By this process the gas could be produced in large quantities and at a nominal expense. The advertising literature of thirty-five or forty years ago announced that oxygen for purposes of inhalation was obtained from the atmosphere, and was "therefore free from the irritating impurities attendant upon other methods of manufacture." Various methods of production have been devised from time to time, some of which are secret.

The commercial oxygen commonly used for therapeutic purposes is obtained, I understand, from potassium chlorate and manganese dioxid, by various processes, and is combined with nitrous oxid and nitrogen in varying percentages. It is obtainable in bags, "pales" and cylinders, which are easily transported to the bedside of the patient. It is with this commercial orygen that we must deal in our experimental work and in the treatment of cases. The physician should, therefore, have some knowledge of the composition of the gas employed and of the possibilities for lowering or raising the percentages of the different constituents, particularly of the oxygen and nitrogen. In New York City the supply of oxygen is obtained from several commercial concerns, some of which have kindly furnished analyses of the oxygen which they produce. These are given below:

Crane's Oxygen Works give the following analyses from the United Laboratories:

Compound Oxygen: oxygen, 65.6%; nitrogen, 33.6%; chlorin, none; carbon dioxid, none.

Pure Oxygen, so-called: oxygen, 89.8%; nitrogen, 9.7%; chlorin, none; carbon dioxid, faint trace.

These manufacturers claim to have a secret process by which they are able to wash out all chlorin.

The Standard Oxygen Co., which seems to have absorbed King's, Walton's and various others, give the following statement:

Oxygen Compound: oxygen (pure), 33 1-3%; nitrous oxid, 33 1-3%; nitrogen, 33 1-3%.

Medicinal Oxygen: 90% to 95% pure; balance nitrogen.

Northrop & Company claim that their "Perfected Oxygen Compound" is "a stable and unvarying chemical combination of oxygen and nitrogen—a true unity as fixed in composition as water itself." We are further informed in the literature of this company that "Physicians' own prescriptions are filled and therapeutic gases are combined in any proportion, to meet any special case."

It has been suggested that there should be some sort of standardization in the manufacture of oxygen gas for therapeutic purposes, but so far as I am able to ascertain the above figures and statements give the nearest approach yet obtained to such a consummation.

Despite the laudatory claims made for oxygen by the advocates of the "Home Treatment," the "Oxygen Parlor," the "Oxygenized Air," the "Ozone," et cetera, and despite the mass of clinical data recorded with favorable comment, the one hundred and thirty-five years which have elapsed since the discovery of this gas have not given it a definite and unquestioned place in the realm of medicine.

Von Leyden[7] attributes this lack of confidence in oxygen to the following factors: (1) It was at first supposed to have a curative power in every disease, which, of course, was not the case. (2) The difficulty of its preparation, its expensiveness, and the inconvenience of transporting it. (3) When prepared by the physician it often contained poisonous gases. (4) The clumsy apparatus for its administration to patients. (5) The hypercritical attitude of the medical profession. (6) The negative results obtained by physiologists. Some of these factors have been eliminated; others are as potent to-day as at any time since the discovery of oxygen.

Despite the fact that Priestley paved the way for an oxygen therapy based upon physiological and animal experimentation, the gas has been used almost entirely in an empirical manner. It was first employed exclusively by inhalation, and inasmuch as no satisfactory method of production was known to the earlier experimenters, no doubt much harm was wrought by those who believed that a panacea had been found with the discovery of oxygen. Out of the confusion, however, have been evolved certain physiological facts which are of distinct value, and which should serve as a stimulus for further investigation. It is not within the scope of this paper to review the literature concerning the physiological properties and action of oxygen. Those who may be interested in this subject are referred to the work of Loewy,[8] Rosenthal,[9] Herman,[10] Hammersten,[11] Morot and Doyon,[12] Krehl,[13] Pembrey,[14] Tigerstedt,[15] Bohr,[16] Demarquay,[32-33] (and the many others who have

studied the mechanism of respiration, the interchange of gases, "tissue respiration," et cetera.

From the time of Priestley to the present day, experiments with oxygen have noted its beneficial influence upon the digestive system when inhalations of oxygen are taken regularly. It sharpens the appetite, stimulates digestion, increases the energy, and induces a general sense of well-being. Injections of the gas into the pleural and peritoneal cavities are followed by immediate improvement in the patient's general condition; the circulation becomes more active, the blood is of a redder color, the skin becomes pinker, and the mind and appetite are stimulated. In his classic essay on oxygen, Smith[6] says: "When a considerable quantity of pure oxygen is inhaled, there is usually a sensation of freedom about the chest, as if the respiration were easier. * * * Generally, there is a tendency of the blood to the surface, and the hands and feet, if previously cold, become warm. * * * The pulse is sometimes accelerated, but more frequently remains unchanged. In cases of debility it is often reduced in frequency. The temperature is but little changed, if at all." According to Schmeltz,[17] Thiriar,[18] and others, a large amount of oxygen may be injected into the tissues without fear of accident.

Burnett,[19] after a thorough and prolonged investigation of the influence of oxygen inhalations on both red and white blood corpuscles, concludes that oxygen influences the quality of the blood, that it improves the quality of the blood, that this improvement is in the direction of an increase in red corpuscles, that the white corpuscles are not influenced by it, and that clinically it effects a marked improvement in the patient.

Sticker,[20] in 1888, Da Costa and Hershey,[21] in 1891, and Koster,[22] in 1896, studying the effects of oxygen inhalation in cases of splenic anemia and leucemia, reported the discovery of an enormous increase in red blood corpuscles, with a corresponding improvement in the condition of the patient. Da Costa and Hershey say, "We have then, it seems, in the action of oxygen a substitute for the function of the spleen. We did in both cases, artificially, what the deranged organ could not perform —we allowed the metamorphosis of the white corpuscles into red to go on." "In cases of leucemia in which structural changes are slight, we believe the remedy may bring about permanent change; in more advanced cases this is doubtful. But that it prolongs life and produces results not otherwise obtained, our experience enables us to affirm." Again, these authors say, "of the value of oxygen in these cases of anemia there can be no doubt, though they were of a character in which it is likely that other treatment long persisted in would also be beneficial. But certainly a curative effect would not so soon have been accomplished without oxygen."

The bactericidal and antiseptic properties of oxygen, pure and in combination, need receive but slight comment in the present communication. Nascent oxygen, whether from oxygenated water or from the decomposition of hydrogen peroxid in contact with the tissues, is acknowledged to be one of the most powerful antiseptics known to-day. Schmeltz, who first examined pus in contact with pure oxygen, held that there was an increase in the number of leucocytes proportional to the diminution in the number of staphylococci and streptococci. This was subsequently confirmed by Pasteur. Lucas-Champonnière[23] demonstrated that pure oxygen is a poison to anærobic as well as ærobic bacteria. Joris,[24] on the other hand, claims that pure oxygen possesses no real bactericidal power as regards ærobic bacteria, but that its action attenuates and to a considerable degree destroys the virulency of these organisms, at the same time destroying their toxins by oxidizing them. The oxygen, according to this observer, increases the motility of the leucocytes, promotes leucocytosis and diapedesis, and excites a hyper-leucocytosis. It has, in his opinion, a positive chemotactic effect. It favors phagocytosis by increasing the vitality of these cells, and increasing their action in destroying the organisms in a way which facilitates the absorption of the phagocyte cell. Just why the oxygen gives strength to the cells and the vitality of the organism is not known, but Joris suggests that it may attract the toxic secretion of the microbes to the anti-body.

My own clinical experience with oxygen in such conditions as tuberculous joint affections, psoas abscess, and other infective processes, leads me to believe that the last word has not been spoken with reference to the bactericidal action of the gas. It is an interesting field for further observation.

The importance of oxygen in anesthesia is still a question for discussion. It is the belief of many surgeons that when oxygen is administered recovery from anesthesia is quicker and less disagreeable. In this connection Gwathmey[25] says, "Theoretically oxygen is indicated before, during and after any and all anesthetics. The longer the anesthesia, the more urgent is the call for oxygen by the blood. At the end of operation, to rid the blood at once of all of the drug used, the lungs should be washed out with from two to eight gallons of oxygen." This theory was substantiated by experiments on over one hundred cats, and the results tabulated.[26] When oxygen is administered with chloroform, the narcosis requires more time, but the period of excitation is shortened, the patient looks well during the entire period and experiences no disagreeable sensation; the pulse remains full and strong, is not accelerated, the awakening is much more prompt, and vomiting during the narcosis is less common. Administered with nitrous oxid gas, the period of narcosis is lengthened, and cyanosis is slight or absent. This mixture has been recommended for tuberculous patients of advanced degree.

CLINICAL APPLICATION.

The chief methods for the therapeutic employment of oxygen are by inhalation, subcutaneous injection, intravenous infusion, introduction into smaller body cavities, especially the joints, and the introduction into larger body cavities (pleural and abdominal). Of these the method by inhalation has received by far the greater attention. Compared with other methods of administration relatively little, so far as I am able to learn, has been accomplished with the abdominal use of oxygen, aside from that of hydrogen peroxid for its nascent oxygen. It is with this method of administration that my own experiments, both clinical and in the laboratory, have to deal, so far as the present communication is concerned. Enough of the work of others in the different departments of medicine and surgery is given below to give a fair idea of the scope of the clinical application of the gas.

In addition to the above methods of administration, an interesting field for further experimentation is offered in the inhalation of hot, dry oxygen impregnated with various medicaments which are easily volitalized. Favorable results have been claimed in incipient phthisis, chronic laryngeal catarrh and bronchitis, laryngitis, asthma, etc., with oxygen employed in this manner.

Ortner[27] divides his patients who are amenable to oxygen therapy into three classes: (1) Those in whom oxygen is a curative agent (carbon dioxid and other acute poisonings), (2) those in whom oxygen acts upon the symptoms (all cases in which the resorptive power for oxygen has been reduced, as in laryngeal stenosis, compression from tumors, etc.), and (3) diseases of the blood (chlorosis, leukemia, pernicious anemia). He reports[28] its application for fatty heart, Bright's disease, uremia, chlorosis, leukemia, pneumonia and acute bronchitis.

Subcutaneous injections of oxygen have been recommended and successfully employed in a variety of conditions, notably, furuncle,[29-30] carbuncle, malignant edema, erysipelas, etc., as an anesthetic in neuralgia, and in the treatment of sciatica. Massalonga[31] reports a series of twenty cases of sciatica treated by the interstitial injection of from 250 to 400 c.c. of oxygen gas. Nine of these cases were completely cured after ten or twelve such treatments. Demarquay[32-33] cured hydrocele by injections of oxygen into the tunica vaginalis. Others have reported similar cases.

Ewart[34] employed solutions of hydrogen peroxid and also oxygen gas by injection into the deep tissues of the leg. About a pint of gas was injected. He first experimented upon himself, and, finding the operation painless and apparently free from danger, he employed it in a desperate case of typhoid pneumonia. The absorption of the gas was very slow, the leg being slightly emphysematous three days later when the patient died and autopsy was performed. "The subcutaneous administration both of hydrogen peroxid and of oxygen itself," he concludes, "not only provides for the complete introduction of the dose, but enables us to determine the quantity actually absorbed. * * * In the case of hydrogen peroxid the emphysema which is produced shows that oxygen is liberated and that it is therefore supplied in the nascent state." In either case the emphysema ultimately disappears. "The reoxigenation of the 'reduced' pericellular fluids and of the lymph stream which probably takes place is," according to Ewart, "a factor the physiological and therapeutic significance of which, particularly in connection with diseases of the lymphatic system, may deserve further investigation."

Intravenous Infusion of oxygen seems first to have been tried in 1811 by Nysten, who claimed to have experienced no inconvenience from the injection of a small amount of oxygen into the venous system. Demarquay, in 1868, tested this method also, but with what object and with what results I am unable to say. Latterly the method has attracted considerable attention on the part of Gärtner, whose experimental work upon dogs is noted elsewhere.[35] In supplementing the report of this experimental work by subsequent practical clinical suggestions,[36] he called attention to the fact that the introduction of oxygen in a single large dose into the portal vein, as had been done in previous experiments by others, gave results directly opposite to those which he obtained by the slow, gradual infusion. The conclusion had been reached by some investigators that oxygen introduced into the circulation was as directly fatal as air so introduced; this, however, according to Gärtner, was not the case, air acting as a foreign body in the blood, whereas oxygen is a normal constituent thereof, and, in reasonable proportions, is tolerated without reaction. He concludes from his experiments upon dogs that, inasmuch as oxygen in the veins imposes upon the heart an increase of not more than two per cent. of its normal work—because of the rapid absorption of the oxygen by the blood—it should be employed by infusion in certain clinical exigencies requiring additional oxygen supply as a life-saving measure. Among these conditions he enumerates cases of foreign body in the air passages, membranous croup, extensive pneumonia, diseases accompanied by minimal intake or excessive outgo of oxygen, intoxication with other gases, etc. Stuertz[37] has also reported interesting work with the intravenous infusion of oxygen.

Sciallero[38] describes a simplified technic for injecting oxygen into the veins—a therapeutic measure which he considers full of promise.

A cursory survey of the leading fields of medicine reveals the fact that oxygen has been found more or less useful in all.

In *Obstetrics* inhalations of oxygen have been found beneficial, and the gas is employed in most

of the larger hospitals in Germany in cases of eclampsia. Magnus-Levy,[39] Felenburg,[40] and others have recommended its use in asphyxia due to compression from enlarged thyroid gland, or oxygen hunger from other causes. Demarquay advocates the inhalations in cases of placenta previa, and in postpartem hemorrhage, or any accident involving loss of blood. Révière[41] cites a case of mitral stenosis, with severe disturbance of compensation, in the fifth month of pregnancy, treated by oxygen inhalations, thirty litres every two hours at first, later in smaller quantities, until the patient gave birth to a normal child, although she did not recover herself.

In *Children's Diseases* the first reports of importance of the use of oxygen were made by Oppenheimer,[42] of Munich, in 1896, when he referred to fifteen cases of catarrhal pneumonia treated with oxygen inhalations. He noted a beneficial influence in the appearance and general condition of the patient, and that the pulse was stronger and fuller. In some cases the improvement in pulse and respiration were so marked that Oppenheimer attributed the cure directly to the oxygen. In some cases, however, the benefits seemed to be merely temporary. Chaussier, as early as 1780, recommended oxygen for the resuscitation of asphyctic infants. It has recently been recommended for this purpose by Zangemeister, Schauta, Schrobak and others. The oxygen is introduced into the trachea by means of a catheter, and is allowed to flow, under slight pressure, for a considerable time. After the lungs dilate a slight pressure is used upon the chest and a new supply of oxygen admitted.

Gärtner suggests that the principal use of oxygen infusion into the veins is perhaps in overcoming asphyxia neonatorum, in which condition it would be a simple matter to infuse oxygen through the umbilical vein, other measures having failed. In this, as in all attempts at infusion of oxygen into the veins, care must be exercised in order to prevent the too rapid introduction of the gas, and the consequent dilatation of the right heart. The slow, gradual infusion of oxygen, in small amount, is, according to Gärtner, both practical and harmless.

In *Gynecology* one of the most enthusiastic advocates of oxygen seems to be J. Thiriar, of Brussels. For a number of years he carried on his experimentation, publishing his first report in 1899. In a later publication[43] he proclaims his belief that oxygen is the natural remedy for infection with anærobes, especially for gaseous septicemia. It is, according to this writer, the best means for preventing and curing septic complications in gynecology. By means of an ordinary vaginal canula connected by a rubber tube with the oxygen tank, the canula being held in place by a T-bandage, the gas is turned on and allowed to flow for several hours. The oxygen, he claims, may be used thus the day before operation and resumed a few hours afterward. Bacteriologic examination before and after this treatment shows the efficient bactericidal action of the gas applied in this manner. He strongly advocates this "méthode oxygénée" for obtaining preventive, pre-operative asepsis of the vagina. The oxygen prevents, according to Thiriar, the formation of adhesions and restores normal conditions in the parts. In tuberculous peritonitis he evacuates the ascitic fluid through a buttonhole incision, and sends a stream of oxygen into the cavity for ten minutes. Lucas-Championniere and others have used oxygen in septic vaginal and uterine diseases, also for chronic endometritis.

General Therapeutics.—S. Solis-Cohen enumerates as follows some of the conditions in which oxygen may be employed: "In acute obstructive diseases of the air-passages, such as *croup* and *laryngeal diphtheria* and the after-intubation of tracheotomy, in *capillary bronchitis* in children, in the *catarrhal pneumonia* of the aged, and in acute diseases attended with *prostration* or *collapse,* such as *cholera asiatica, cholera infantum,* severe cases of *measles* and *scarlatina,* the terminal stages of *typhoid fever* and other forms of *sepsis,* inhalations of oxygen will always afford comfort and prolong life, and may sometimes greatly assist recovery. In connection with artificial respiration, oxygen is a potent agent in the treatment of *asphyxia.* In *toxic narcoses,* especially those brought about by *carbon dioxid, coal gas, opium, belladonna* and its congeners, *chloral, ether, chloroform,* and similar agents, if resorted to in time and used persistently, may save life."

Oxygen has been more extensively employed for the relief of dyspnea, from any cause, than for any other condition. Of this W. Gilman Thompson[45] said, "Hundreds of cases of dyspnea and cyanosis complicating diseases have been reported in the journals of the past few years as benefitted by oxygen inhalation. * * * It is especially beneficial in the dyspnea of chronic Bright's disease and uremia, pneumonia, capillary bronchitis and sometimes in pulmonary congestion and the early stages of edema." "In general terms," says Robert T. Reed,[46] "any diseases which give rise to dyspnea will be benefitted by oxygen, and the greater the dyspnea the greater the need of oxygen."

Sir Lauder Brunton[47] is particularly enthusiastic concerning the action of oxygen in cases where the aerating surface of the lung is very much reduced, holding that "sometimes it acts in a miraculous manner." In one "remarkable instance of the use of oxygen," he says of the patient, that he was for nearly a fortnight almost unconscious; that he had influenza with an enormous secretion from his lungs, consolidation at both bases, a failing heart, legs which were swelling, and orthopnea. His breathing was so exceedingly bad that his blood was not aerated sufficiently to keep his brain going, and he was in a condition almost of stupor for nearly a

fortnight. Had the patient not been supplied with cylinder after cylinder of oxygen, which he inhaled for ten minutes at a time, whenever his nails became blue, Brunton believes he would never have recovered.

The value of oxygen in pneumonia, according to R. Douglas Powell,[48] has been somewhat misinterpreted. "It is twofold: (1) No doubt, in the first place, it will help to keep the patient alive on a small respiratory surface which would otherwise be inadequate for that purpose, and a very few cases may thus be saved. (2) But the second action of oxygen is more important, and applies to many diseases besides pneumonia —namely, the direct effect of its inhalation upon the heart by sending more richly oxygenated blood to its left cavities and its muscular walls."

Burwash,[49] of Chicago, uses oxygen per enema in all critical cases, especially pneumonia. He first used it in a case of typhoid fever with severe toxic symptoms. One gallon of the gas was generally given as an enema, the frequency and amount depending upon the patient's condition. In addition to its active assistance in aerating the blood, he claims that there is a neutralization of noxious gases frequently found in the intestines, and the direct introduction of oxygen through the portal system to the liver, "whose cells are not only stimulated to greater activity, but are nourished as well."

Bernabei[50] in 1901, reported excellent results from the introduction of oxygen into the intestines as a therapeutic measure, and later (in 1902) confirmed his former assertions concerning what he calls this "emphysema therapy," also giving (1903) a series of five cases of osteomalacia so remarkably cured that he no longer considers this an incurable disease. He urged its trial in all cases of chronic tuberculous peritonitis, and emphasizes "the hematogenic, metabolic and dynamogenic indications for the treatment as encountered in anemia, malaria, neuroses, diabetes, osteomalacia, rachitis, ascites, pellagra, cancer and tuberculosis."[51]

In a paper read before the fifteenth congress of French-speaking alienists and neurologists held at Rennes, in 1905, Sizaret reported the successful treatment of epileptic fits[52] by the employment of inhalations of oxygen. Not only did relief from the immediate attack follow, but in one case there was permanent relief from the fits. Favorable results were reported in a number of cases.

In *Surgery* oxygen undoubtedly has a useful and promising field. Here, again, we find illustrations of the recognition of its curative properties by those who knew nothing of its existence. It is interesting to note, as related by Stoker,[53] who was in the English hospital service in Africa during the Zulu war, that the natives carried their wounded soldiers to the highest mountain peaks where, after removal of all bandages, the wounds were exposed to the air. The results were so striking that Dr. Stoker was led to install an oxygen hospital in London for the treatment of infective wounds, lupus, etc., by this agent. I am told that the Japanese at the present time often expose to air and sunlight for fifteen to twenty minutes at a time the abdominal cavity opened for tuberculous peritonitis. My informant, a Japanese physician, assures me that excellent results follow this method of treatment. Any agent causing active leucocytosis is likely to be curative in tuberculous peritonitis of the serous or seronodular type; may not the oxygen be the curative agent where simple laparotomy, with immediate closure, is supposed to cure?

Javaux,[54-55] after extended clinical experimentation with oxygen, reports a number of interesting cases, and maintains that in oxygen in the nascent state we have a sure means of controlling infection which may follow an abdominal operation. He expresses the belief that in the systematic use of oxygen gas (as a continuous current) from the onset, we possess a powerful agent in controlling infection, especially peritoneal infection. He asks his confrères to try this method systematically in all abdominal infections.

In a communication presented to the Belgian Academy of Medicine, and elsewhere, Thiriar[56 57 58] advocates the application of oxygen in a continuous stream. Commenting editorially upon Thiriar's work, the *Journal of the American Medical Association*[59] says he supplements the use of hydrogen peroxid by spraying the parts with a jet of oxygen gas, the effect being very evident when the jet of oxygen is directed into the center of the furuncle or carbuncle, and when used in the peritoneum after evacuation of the ascites in tuberculous peritonitis. In further editorial comment[60] this journal says "Every case of infection of a serous membrane has been benefited by this treatment in his experience, but the results have been most striking in gaseous septicemia. The oxygen not only stimulates the tissues and promotes phagocytosis, but also kills the germs, substituting an oxygenated emphysema for the microbian emphysema. Oxygen applied under pressure to a furuncle or carbuncle has always aborted or cured it in a few days, and it has proved its usefulness in hundreds of cases of diffuse phlegmons, gangrenous erysipelas, suppurating complicated fractures and arthritis."

H. Gutierrez[61] reports favorable results with flushing the abdominal cavity with oxygen after abdominal and gynecological operations. He describes a typical case of bilateral pyosalpinx of eight months' duration, with pelviperitonitis and cachexia, and with extensive adhesions which rendered ablation of the tumors difficult. One pus pocket was ruptured during the operation. Gauze drainage was introduced, and through a drain tube from 40 to 60 litres of oxygen were introduced with free outlet, this treatment being continued daily for two weeks

before the tube was removed. The wound healed rapidly and completely and the patient's general condition improved correspondingly.

Werdorf, Wollenberg, Hoff and others have claimed that articulations distended with oxygen give particularly clear radiographs.

In the foregoing account of what has been accomplished with oxygen by the various methods of employment I have endeavored to touch briefly upon the results obtained, by individual workers of established reputation, in the different conditions to which oxygen seems applicable. I have purposely given only favorable reports; others have reported adversely or indifferently. I have merely touched upon the hill-tops, so to speak, of the oxygen landscape; there is an enormous underbrush, which may or may not be barren, but which we have not space to consider. The literature of the subject is ponderous, and yet, if our mental vision be neither myopic nor hypermetropic, it lacks continuity. With the exception of the work of a relatively small coterie of oxygen enthusiasts, the therapeutic history of oxygen is made up of isolated cases, or, at most, of a single series of cases. After all, it would be interesting and profitable to know just where we stand to-day with reference to oxygen in medicine and surgery, to know definitely and beyond cavil in just what conditions the gas, applied by whatsoever method, will be of benefit, and in what others its use is contraindicated.

My own investigations, both clinical and by laboratory experimentation, which are reported in the present communication, deal exclusively with the use of oxygen by infusion into the peritoneal cavity. Other lines of research are being followed, of which reports may be given at a later date.

ABDOMINAL ADMINISTRATION.

In the abdominal administration of oxygen the so-called pure, or 89 per cent., gas is employed. This is warmed, usually to a temperature of from about 98 degrees to 100 degrees F. It is passed from the tank in which it is compressed through a hot water bottle, then, by a long rubber tube, part of which is submerged in a basin of hot water, into the abdominal cavity. The abdominal wound is closed except at the lower end where the tube is left partly in the abdominal cavity, stitches being introduced above and below this point and tied. A few interrupted stitches are placed in the peritoneum at this point, ready to be tied, and a purse-string stitch is placed around the tube in the peritoneum, but not fastened. The other layers of the abdominal wall are closed with interrupted stitches, each one tied except those immediately around the point of exit of the tube. When the tube is withdrawn and the purse-string stitch tied the other stitches are fastened layer by layer. Care should be taken, of course, to prevent intracellular emphysema, which, while not harmful, may be a source of some discomfort to the patient.

The amount of oxygen to be administered depends upon the exigencies of the case. Where there is abdominal distension from ascites or tumor the girth of the abdomen should be measured before operation, and after removal of the fluid or the tumor the abdomen should be distended to the same or perhaps a little less degree by the admission of oxygen. In cases of shock, hemorrhage, etc., a crude, yet practical, test in the average case is found by first determining that the liver is not adherent to the chest wall and is of approximately normal size, then administering enough oxygen to obliterate liver dullness. The gauge for measuring the amount of oxygen in the animal experiments (Fig. I) may be employed. Other gauges are in use for this purpose.

Fig. 1—Showing from left to right oxygen tank, rubber bag (400 c.c. capacity), thermometer in glass tube, water-manometer and small canula.

In the cases herewith reported the following points were noted: The immediate effects of the oxygen upon pulse, respiration, color of blood, amount of anesthetic necessary to keep patient narcotized, and upon shock; the after-effects upon the stomach (nausea and vomiting), bowels, pain and tenderness, appetite, general condition. The histories are purposely given as briefly as possible, and only such of the above points mentioned in each case as were of special note. The length of time required for the absorption of the oxygen is judged with fair accuracy by the return of normal liver dullness. This varies with the quantity of oxygen used from twenty-four to forty-eight hours.

It may be stated in general terms that there is less cyanosis, the surfaces of the wound become redder, the pulse and respiration improve, and shock is lessened. Blood pressure is not materially influenced. Abdominal tenderness and pain seem to be much less than is usual, there is less nausea and vomiting, the bowels move more readily, the appetite is better, and the patient is not so restless. Nurses who have cared for them have repeatedly testified that "oxygen laparotomies" are much less trouble-

some in the after-nursing than are other surgical cases of like nature.

Case I.—This patient, a boy eight years of age, was on my service at the New York City Children's Hospitals and Schools, Randall's Island, four and a half years ago, and was the first in whom I employed oxygen in the manner above described. He had tuberculous peritonitis of the fibrocystic type, with some ulceration, and tuberculous disease of the right testis. His general condition was exceedingly bad. It was impossible to open all the partitions in the abdominal cavity and to evacuate the fluid completely. Two compartments, however, were opened and oxygen introduced. There was an immediate improvement in the patient's general condition, which continued for some hours, but the disease was so far advanced that he died in a few days. Pulse and respiration were distinctly improved and the entire condition of the child, for a time, seemed much better than before he was placed upon the operating table. The oxygen unquestionably had a tonic effect in this case, and encouraged the writer to further try the method.

Case II.—C. B. V., age 39, married. Private patient, who first consulted me on January 12, 1904, giving an indefinite history of incipient pulmonary tuberculosis some years before. Anemic; intestinal indigestion; tenderness over both ovaries, left enlarged and prolapsed, right cystic; chronic appendicitis. Admitted to the Alston Private Hospital March 4, 1904. Right ovary, tube and appendix removed. Many tuberculous nodules found, especially on right broad ligament and about left ovary. Immediately following the abdominal introduction of oxygen, the blood became of a brighter color, and pulse and respiration distinctly improved. Oxygen absorbed in about thirty-six hours. Convalescence uneventful. Patient now perfectly well and strong, with no evidence of tuberculosis.

Pathological report, given by Dr. Martha Wollstein, of the Rockefeller Institute, was as follows: "Follicular ovarian cyst; acute miliary tuberculosis of peritoneum covering the ovary and appendix."

Case III.—B. E. L., age 30, Italian, teacher. Private patient. Admitted to the Alston Private Hospital April 18, 1906. Right cystic ovary, chronic appendicitis. Operation April 20. Patient in very bad general condition at time of operation. Curettage, removal of right ovary and appendix, removal of cystic portion of left ovary. Considerable cyanosis present, which disappeared immediately upon the introduction of oxygen. Pulse became stronger, respiration deeper, and patient's general condition improved. Oxygen absorbed in forty-eight hours. A few days after the operation the patient remarked that she felt better than she had for a number of months. Convalescence very satisfactory.

Case IV.—Mrs. R. E. F., age 73, Italian, housewife. Referred to me by Dr. E. M. Mosher, of Brooklyn. Admitted to the New York Skin and Cancer Hospital, October 31, 1906, suffering from cancer of the uterus with fibroids and chronic appendicitis. Panhysterectomy and appendectomy performed November 1, 1906. Oxygen not administered on this occasion. Convalescence satisfactory. Early recurrence. Admitted to Alston Private Hospital April 19, 1907. Exploratory laparotomy April 21, 1907. Irremovable cancer of the mesosigmoid and mesentery found. Patient in extremely bad condition, and nothing could be done surgically. Oxygen was administered intra-abdominally, and immediately thereupon the patient's general condition improved. Pulse and respiration better. The stimulating effect of the oxygen lasted several hours. The gas totally disappeared in forty-eight hours.

Case V.—J. M., male, age 12 years, Italian. Admitted to my service at the New York Polyclinic Medical School and Hospital, March 7, 1907, suffering from tuberculous peritonitis, with marked ascites. General condition very poor. Fluid evacuated and a sufficient quantity of oxygen introduced to cause as much abdominal distension as had the fluid. At the time of operation the patient was markedly cyanotic, taking the anesthetic so badly that alarm was felt by the expert anesthetist. There was mucus in the throat and a rattle in the lung, all of which cleared up under the oxygen, according to one observer, "as if by magic." Patient was returned to ward in excellent condition, made an uneventful recovery, and when last seen, January 11, 1908, was apparently completely cured. He had gained in flesh, his color was good, and he was seemingly in perfect health.

Case VI.—H. S., age 34, married, housewife. Long history of neurasthenia, gastrointestinal fermentation, emaciation, and various other symptoms. Diagnosis, chronic appendicitis, endometritis, and abdominal adhesions. Operation at the New York Skin and Cancer Hospital, November 9, 1907. Adhesions found in the neighborhood of the scar of a former exploratory laparotomy. A patulous communication existed between appendix and ileum, through which a probe could easily be passed. The appendix was separated from the ileum and the opening in the latter closed, adhesions were broken up, and the appendix removed. There was considerable shock. Patient's condition distinctly improved upon the administration of oxygen, and she was returned to the ward in good condition. Subsequent pain and nausea were insignificant, bowels moved more easily than following the ordinary laparotomy, and recovery was uneventful.

Case VII.—M. D., age 50, married, Canadian, dressmaker. Irremovable carcinoma of cervix, with secondary involvement of body of uterus and broad ligaments; extensive adhesions. Operation at the New York Skin and Cancer Hospital, December 5, 1907. Profuse hemorrhage resulted from attempts to isolate tubes and ovaries. In order to control this the ovarian arteries and the upper branch of the uterine artery were ligated. It was impossible to reach the uterine artery itself on account of adhesions. Both tubes and ovaries removed. Further operative measures impossible on account of extensive involvement of body of uterus, broad ligaments, rectum and pelvic fascia. Condition of patient exceedingly bad during operation. At the beginning of the introduction of oxygen into the abdominal cavity the pulse was 70-72, and of bad quality; in five minutes it became regular and full, and rose to 90, remaining so until completion of operation and return of patient to ward. There was slight vomiting and some abdominal pain, but seemingly less than would ordinarily follow in such a case.

Case VIII.—M. G., age 49, single. Cystic ovaries and fibroid tumor of uterus, chronic appendicitis, and large cystic left kidney. Operation, New York Skin and Cancer Hospital, December 7, 1907. Through abdominal incision diseased kidney, appendix, ovaries, tubes, and uterus removed. Cyanosis marked. Shock very great, particularly at time of removal of uterus. Oxygen administered intra-abdominally, immediately following which patient's condition was greatly improved, pulse became stronger, blood brighter and more scarlet, cyanosis disappeared, and general condition of patient improved. Recovery uneventful.

Case IX.—M. M., age 44, married, housewife. Enlarged uterus, endometritis, salpingitis, chronic appendicitis, small ovarian cyst. Operation, New York Skin and Cancer Hospital, December 14, 1907. Curettage, separation of adhesions, removal of tubes, ovaries and appendix. Oxygen administered intra-abdominally seemed to act as a pad between the raw surfaces, so that there was remarkably little soreness following operation. Shock and nausea very slight. Recovery uneventful.

Case X.—G. C., age 46, unmarried, no occupation. Multiple uterine fibromata, chronic appendicitis, ovarian cysts. Operation, New York Skin and Cancer Hospital, October 21, 1907. Panhysterectomy, appendectomy. Considerable shock during operation, overcome by introduction of oxygen into abdomen. The blood

immediately became distinctly redder in color and the condition of the patient improved. Slight subsequent abdominal soreness and discomfort. Recovery uneventful.

CASE XI.—M. G., age 32, married, Italian, housewife. Fifteen pregnancies, eight to term and seven miscarriages. Had undergone a previous operation upon the uterus, character unknown, and one for removal of gallstones. Admitted to the New York Skin and Cancer Hospital December 20, 1907. General enteroptosis, floating right kidney, tumor of right ovary, retroversion and retroflexion of uterus, chronic appendicitis, and abdominal adhesions. Curettage, appendix removed, adhesions between uterus and rectum and around right ovary freed, right ovary removed, and uterus ventrally suspended. Oxygen introduced intra-abdominally. The blood became distinctly redder in color, the condition of the patient was much improved, the pulse became slightly stronger, and the almost immediate awakening of the patient made necessary the administration of an additional quantity of the anesthetic. After removal of the patient to the ward the pulse continued strong, there was slight elevation of temperature, practically no pain or tenderness in abdomen, no nausea, no vomiting, and bowels moved easily. Oxygen apparently all absorbed within twenty-four hours, liver dullness practically normal, patient's condition good, recovery uneventful.

On January 8, 1908, operation for fixation of the kidney was performed. No oxygen administered on this occasion, and there were many more after-symptoms than in the preceding operation, and distinctly more shock and discomfort, the patient herself as well as others noting the difference.

CASE XII.—R. V., age 29, married, U. S., housewife. Patient had had an exploratory laparotomy performed previous to consulting me, the clinical diagnosis of inoperable round-celled sarcoma being made at the time. She first consulted me May 18, 1907. Clinical evidence did not, in my opinion, substantiate the diagnosis previously given, and an exploratory laparotomy for diagnostic purposes was performed June 12, 1907, at the New York Skin and Cancer Hospital. Papillomatous degeneration of uterus, tubes and ovaries found, extending to the intestines and well up toward the liver. A detached portion was removed for microscopic examination, the report being "malignant papilloma." Ten days later panhysterectomy was performed and a large amount of fluid evacuated. A large papillomatous mass in pelvis also removed. On November 12, 1907, I performed a third laparotomy for the purpose of removing fluid and more of the papillomatous masses. On January 11, 1908, a similar operation was performed. At this time there was less fluid and a distinct decrease in the number of papillomatous nodules.

At the first two operations which I performed no oxygen was administered. In each case there was considerable nausea and vomiting, and decided abdominal tenderness and soreness. At the last two oxygen was introduced into the abdominal cavity. The patient was absolutely free from pain in each case, there was no nausea, no vomiting; her skin was pink when she left the operating table; she came out of the anesthetic very promptly, and had a good appetite immediately, being able to retain a glass of milk an hour later, and liquid food within a few hours. Blood pressure before administration of the oxygen in the last instance was 125; during the administration 115, and at the completion of the operation, 110. The patient herself noted the marked difference in her condition following the last two operations from that of the preceding three, and asked an explanation.

On March 6, 1908, patient returned to the Skin and Cancer Hospital, when paracentesis abdominalis, under local cocain anesthesia, was made and eleven pints of sero-sanguinous fluid evacuated. Oxygen was administered through the paracentesis needle until normal liver dulness disappeared. Patient felt exhilarated. Returned home forty-eight hours later in good condition.

CASE XIII.—P. S., male, age 68, Italian, janitor. Admitted to my service at the New York Polyclinic Medical School and Hospital, January 9, 1908. Ascites from cirrhosis, with considerable dyspnea. Had been tapped once before admission. January 10th, fluid withdrawn and abdomen filled with oxygen. January 18th, oxygen apparently absorbed, but abdomen again filled with fluid. In the interim patient had been in better condition than before, whether due to removal of the fluid or to the oxygen cannot be determined.

January 31, 1908, laparotomy. Fluid evacuated. Liver found very small and hob-nailed, gall-bladder greatly enlarged, kidneys showed evidence of advanced Bright's disease. Talma's operation performed. There was considerable shock during the operation, which was largely overcome by the introduction of oxygen. The radial pulse, which previously could not be felt, now became much better; the blood became redder, and the patient's color better. Patient remained in good condition for twenty-four hours, requiring no stimulation, but succumbed thirty-six hours after operation to uremia. Examination through operative wound after death revealed a large amount of gas, about two quarts of sero-sanguinous fluid, no clots; omentum adherent over liver, and gall-bladder smaller than at time of operation.

CASE XIV.—K. D., age 26, single, U. S., housemaid. Abdominal adhesions, left ovary cystic, multiple small fibroids on surface of tube and ovary. Operation, New York Skin and Cancer Hospital, January 16, 1908. Salpingo-oöphorectomy, with breaking up of the adhesions. Oxygen made no perceptible difference in pulse and respiration, but patient came out of anesthetic much more quickly than is usual. She left the operating table in good condition. Twenty-four hours after its introduction the oxygen was absorbed. Recovery uneventful.

CASE XV.—L. H., age 48, married, West Indian, domestic. Admitted to my service at the New York Skin and Cancer Hospital, February 10, 1908. Referred by Dr. E. W. Banta. Early cancer of body of uterus, left inguinal hernia. Operation, February 24, 1908. Hysterectomy, herniotomy, appendectomy. Oxygen administered. Pulse, which had been 92, dropped in 1½ minutes to 84, full and regular. Two minutes after beginning the introduction of oxygen patient opened her eyes and was apparently conscious, although seemingly well anesthetized, requiring the immediate administration of more anesthetic. Oxygen infused for six minutes, at the end of which time liver dullness was obliterated and patient's condition very much improved. Positively no shock. She was fully conscious when returned to ward. Oxygen absorbed in forty-eight hours. Recovery uneventful.

CASE XVI.—F. W., age 39, married, U. S., housewife. Admitted to New York Skin and Cancer Hospital June 22, 1907, with advanced cancer of rectum and vagina. June 25th, anterior rectal wall and diseased portion of vagina exsected. Oxygen not given. February 1, 1908, again admitted to the hospital, complaining of great weakness, insomnia, pelvic pains, and frequent and painful micturition. Operation, February 7, 1908. The uterus, both ovaries and tubes, the adjacent portions of the broad ligaments, and the bladder, the seat of extensive cancerous involvement. Uterus so involved that operative procedure upon this organ was impossible. The uterine arteries could not be reached, but both ovarian arteries were ligated, and both broad ligaments near the wall of the pelvis were also constricted by ligature, with the hope of shutting off the blood from the uterus. Ovaries and tubes removed. Oxygen was introduced into the abdomen, and followed by immediate improvement in patient's general condition, pulse, and color of skin. Patient recovered from the anesthetic so quickly after the introduction of oxygen that she was able to answer questions before removal from the operating table, even while the dressing was being applied. Condition to-day very much improved.

ANIMAL EXPERIMENTS.

There is not, so far as I am able to ascertain, any special literature concerning the physiological action of oxygen upon animals. Regnault and Reiset,[62] Demarquay[32 33] Smith[6] and others of the earlier writers, carried on interesting experiments upon animals, but the great amount of work on record in this department is scattered through the literature of respiration, oxidation, re-animation of dyspneic animals, the respiratory center, etc. Until within recent years investigation seemed to be confined within these limits, and the experiments, in the majority of instances, were performed upon animals with normal respiratory conditions. It may be said, therefore, that oxygen therapy has been evolved in an empirical manner, experiments upon the human subject preceding those upon animals. Gärtner, however, seems to have reversed this order, experimenting upon animals first[35] and drawing clinical deductions subsequently.[36] Steurtz[37] has followed similar lines.

Gärtner's experiments covered a series of tests upon nine dogs, all under the influence of morphin. The results were uniform, with the exception of animals previously intoxicated by a more than fatal dose of carbon dioxid, the oxygen temporarily restoring pulse and respiration to normal, even in these cases. In all instances he found that he could, without disturbance to the animal, infuse into the external jugular vein of the dog a large amount of oxygen. The pulse and respiration were not affected, and the oxygen was so rapidly absorbed that none of it reached the left heart. He learned to regulate the administration of the oxygen by the gurgling sound produced during the movements of the heart. This seemed to be the only apparent effect. If the sound were heard at a greater distance than twenty inches the dose was too large, and the infusion must be temporarily suspended. The harmlessness of the oxygen thus administered was demonstrated by the pulse tracings.

I have been able to find very meager reference to the use of oxygen in animals suffering from shock following hemorrhage. Küttner,[63] however, found that rabbits will die following a loss of blood equivalent to three per cent. of the body weight. Brought into an oxygen medium they will recover from a loss of blood exceeding three and one-half per cent. of the body weight.

The action of oxygen upon animals in abnormal conditions, accidental or induced, has been extensively studied, chiefly, however, with reference to some form of dyspnea. It has been shown that excess of oxygen, however introduced, is successful in combating the dyspneic condition, causing at once deeper and more frequent respiration.

After doing a certain amount of work in a clinical way with oxygen I determined to supplement this by experiments upon animals, in the hope of ascertaining more definite information concerning the action of the gas when infused into the abdominal cavity. To this end experiments were conducted along the following lines:

(1) To determine the absorbability of oxygen.

(2) To determine its effect upon (*a*) blood pressure, (*b*) pulse, (*c*) respiration, (*d*) degree of anesthesia, (*e*) time of recovery after anesthesia.

(3) To effect a comparison between the results upon the above when oxygen is employed and when air is employed.

(4) To determine the danger-point of intra-abdominal pressure as manifested by a fall in blood pressure, respiratory embarrassment, and cardiac failure.

(5) To determine the effect of oxygen upon adhesions in the abdominal cavity.

The experiments upon animals which I wish herewith to report deal exclusively, as stated above, with the introduction of oxygen into the abdominal cavity, the object being to determine the beneficial effects as well as the possible dangers of oxygen so introduced. The successful conduct of these investigations has been assured through the courtesy of Dr. John G. Curtis, Professor of Physiology, College of Physicians and Surgeons, who has kindly allowed us the privileges of the physiological laboratory of that institution, and also through the courtesy of the laboratory of the New York Skin and Cancer Hospital.

Dr. Harold Denman Meeker, Instructor in Surgery, New York Polyclinic Medical School and Hospital, and a member of my staff in that institution, has rendered invaluable co-operation in the conduct of these experiments. Dr. James T. Gwathmey, expert anesthetist, and Dr. D. R. Lucas, have also materially assisted in the details of the work. Dr. Meeker has kept very careful and scientific data of all the experiments, and from his records I now freely quote. All experiments were performed upon cats.

In the *first series* of experiments, conducted to determine the absorbability of oxygen when injected into the abdominal cavity of the cat, the following technic was employed: "A cat was anesthetized, the abdomen shaved, and a small incision made down to the peritoneum. A small trochar was introduced through this tissue at a sharp angle while the peritoneum was lifted away from the intestines. The trochar was secured by a purse-string suture of silk. The arrangement of the apparatus (Fig. 1) made it possible to determine the amount, temperature and pressure of the oxygen used. The gas was introduced at a temperature of 38 degrees C. Several animals were distended with 200 cc. of oxygen at 60 mm. water-pressure, others with 300 cc. at 100 mm. pressure, and still others with 400 cc. at 200 mm. pressure. After withdrawal of the trochar and closure of the wound,

the cat was immersed in a jar of water to determine possible leakage. The animals were observed at frequent intervals and apparent reduction in the size of the abdomen noted. When the abdominal girth approximated the normal the cat was again anesthetized, the abdomen punctured under water, and any gas bubbles expressed were collected and measured. No chemical test of the gas thus collected was made.

The summary of these experiments is as follows:

"(1) The oxygen was completely absorbed in all cases left undisturbed 36 hours. In six cases no trace of the gas could be found after 24 hours, and in two none after 18 hours.

"(2) A slight increase in respiration, probably due to a stimulation of the respiratory center, dependent upon an increased production of carbon dioxid.

"(3) A slight rise in blood pressure, which returned to normal in two or three minutes. The rise was due to pressure on the splanchnic vessels, thus assisting the venous flow to the right heart, and obstructing the arterial flow. The return to normal was probably due to a compensatory dilatation of other vessels and to diminish diaphragmatic excursions which would cause a lessened amount of blood to flow from right to left heart through less distended lung tissue (Figs. 2 and 3).

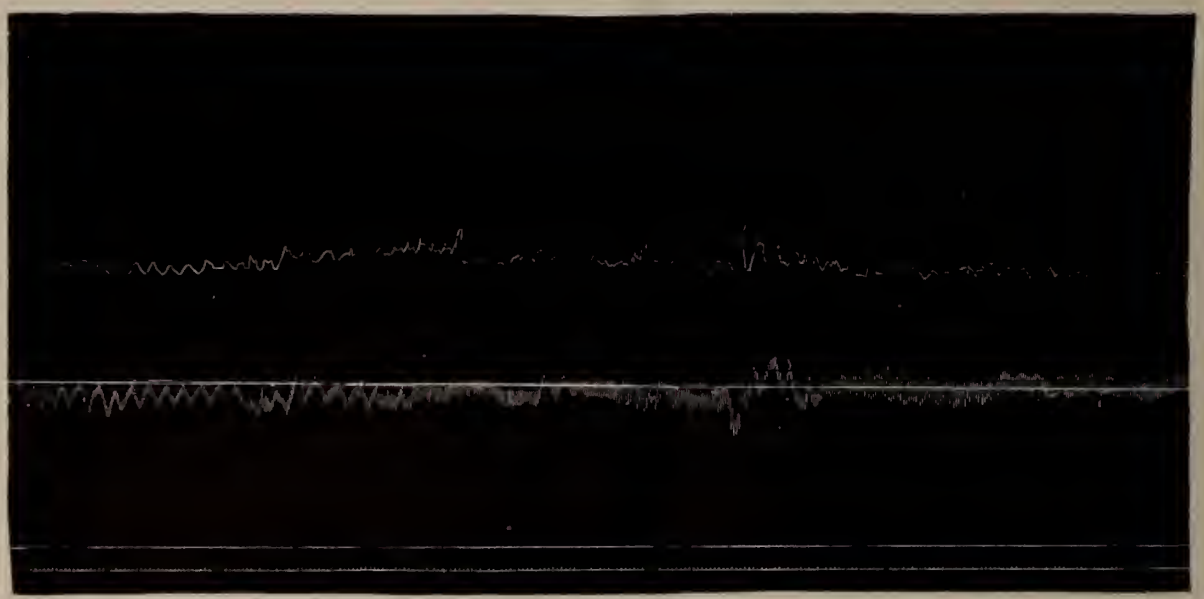

FIG. 2—Introduction of oxygen shown on chart at point 1¼" from the left margin; upper line records respiration; the middle tracing, pulse and blood pressure: Figure shows slight increase in pulse and respiration and slight rise of blood pressure on introduction of oxygen.

"(2) The increased intra-abdominal pressure had but little influence in hastening the process of absorption."

In the *second series* of experiments the effect of the intra-abdominal introduction of oxygen was noted upon the following: (1) blood pressure, (2) pulse, (3) respiration, (4) degree of anesthesia, (5) time of recovery after anesthetic was discontinued.

A cat was anesthetized, a carotid artery exposed, and connected in the usual manner with a mercurial manometer and kymograph. The oxygen was introduced into the abdomen in accordance with the technic previously described. The following observations were made:

"(1) A slight increase in the pulse rate. This was probably due to a certain amount of the oxygen reaching the heart, and stimulating that process which causes contraction of the heart muscle.

"(4) In all cases the immediate effect upon the degree of anesthesia was marked, the animal showing a tendency to come out from under the influence of the anesthetic almost immediately. In cases where the anesthesia was profound, reflexes quickly became active.

"(5) Animals into which oxygen had been introduced were able to stand in two to ten minutes after discontinuance of the anesthetic."

In the *third series* of experiments a number of cats were distended with air, the same technic, quantity and pressure of gas being used as in the oxygen experiments, the object being to effect a comparison with the second series of experiments with regard to the points noted. The effect on the pulse and respiratory rate was less marked, the blood pressure showed essentially the same phenomenon as in the second series. The influence of the introduction of air upon the degree of anesthesia was practically *nil*.

The time of recovery from the anesthetic after it was stopped was from fifteen to twenty-five minutes.

In the *fourth series* of experiments a number of animals were distended with oxygen under high pressure in order to determine the danger point of intra-abdominal pressure, as manifested by a fall in blood pressure, respiratory embarrassment, and cardiac failure. "The gas was introduced in the same manner as in the previous experiments, but the pressure measured by a mercurial manometer. The pressure was raised to the equivalent of 1,500 to 1,800 mm. of water, in all cases the abdomen was exceedingly tense, so that it was scarcely possible to make any indentation with the finger-tip. It was observed that the blood pressure rose steadily until the intra-abdominal pressure reached a point varying between 1,500 and 1,800 mm. of water, when it suddenly dropped. The heart action became more rapid and less regular and respiratory embarrassment progressive up to the point where respiratory embarrassment primarily, and cardiac failure secondarily, caused death in a short time. Autopsy revealed no microscopic damage to the viscera. The effect on the animal of the high intra-abdominal pressure demonstrated that the danger from the mechanical pressure of the gas may be practically disregarded. There was but a slight rise in blood pressure, and no marked respiratory or cardiac disturbance until the pressure became extreme, *i. e.*, reached a degree far in excess of that to which any human abdomen would be apt to be subjected either by accident or intention. In any case the respiratory embarrassment would give warning of a danger point approach."

In the *fifth series* of experiments the object was to determine the effect of the intra-abdominal introduction of oxygen upon the formation of adhesions. "Abdominal section was performed in a number of cats. In some the parietal and visceral peritoneum was scarified, the abdomen moderately distended with 200 to 300 c.c. of oxygen, according to the size of the animal, and the wound closed. In others the same operative procedure was performed but no oxygen introduced into the abdomen. In still other animals, in order to make the approximation of the scarified surfaces a certainty, a portion of small intestine three inches long was anchored to the transverse colon by two silk sutures. The approximated surfaces between the sutures were generously scarified, the abdominal cavity distended with oxygen, and the wound closed. This procedure was repeated on other animals and the wound closed without the introduction of oxygen. The animals used in this series were left for two and four days respectively. The contrast observed on autopsy between the cats in which oxygen had been used and those in which no gas had been injected was striking. Of the six cases treated with oxygen, two had a few cobweb adhesions close to the anchoring sutures, one had a few fine adhesions between approximated intestines, all other cases were free from adhesions of any sort. In every instance, however, where oxygen was not employed, abundant adhesions were found, both inter-visceral and parieto-visceral. The difference between the adhesions found on the animals autopsied

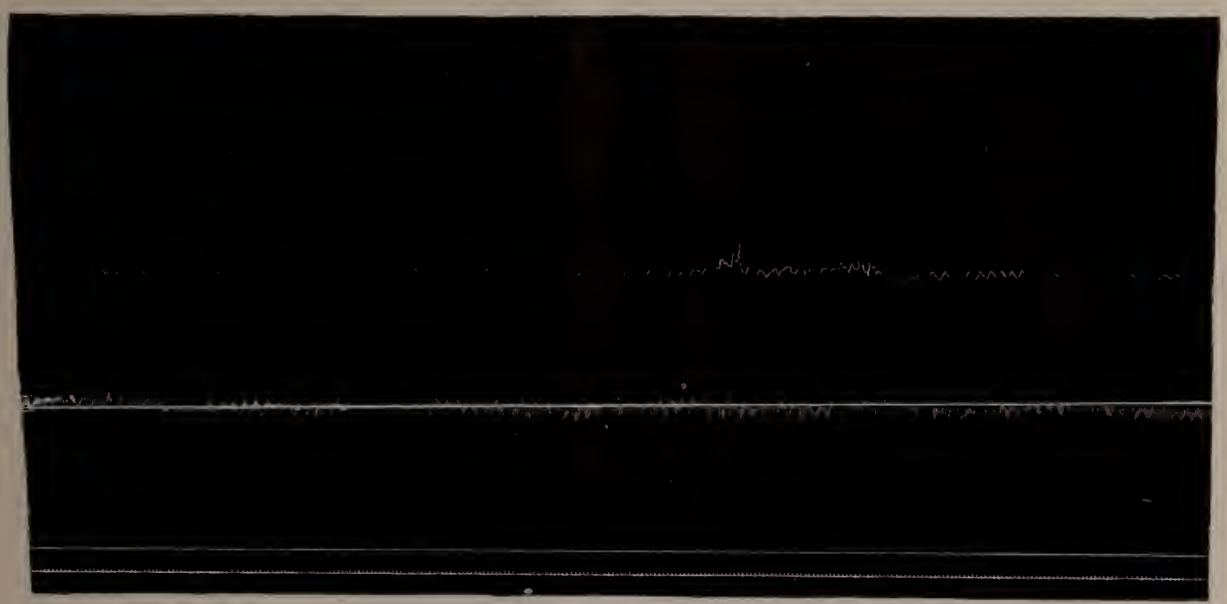

Fig. 3—Shows regular pulse and respiration and gradual fall in blood pressure; tracing taken one minute after introduction of oxygen.

on the second and those autopsied on the fourth day was one of density rather than number.

"The explanation of the results would seem to be: (1) That the oxygen mechanically held the scarified surfaces apart until new cells had been formed. (2) That the oxygen increased the activity of the individual cells, thus hastening a new growth of epithelium to replace the destroyed peritoneal cells, the denuded areas being thus covered over. (3) That the increased peristalsis caused by the oxygen was unfavorable to the production of adhesions.

"In addition to the observations already recorded, a striking change in the color of the blood was noticed upon the introduction of oxygen into the abdominal cavity of cats intentionally put into a condition of partial asphyxia. The dark blood quickly changed to scarlet. It was also observed that intestinal peristalsis was increased by an atmosphere of oxygen. In no case was there microscopic evidence that oxygen was an irritant to the peritoneum or any of the abdominal viscera."

A study of the above experiments permits of the following conclusions:

(1) Oxygen is completely absorbed in the abdominal cavity. (2) It is a slight respiratory stimulent. (3) It is a slight cardiac stimulant. (4) It has but little effect upon blood pressure when the pressure of the gas is moderate. (5) It tends to bring an animal quickly from deep anesthesia. (6) It hastens the recovery of an animal after discontinuance of the anesthetic. (7) A pressure of more than 1,500 mm. of water may cause collapse. (8) Oxygen tends to prevent the formation of adhesions. (9) It quickly changes a dark blood to scarlet in cases of anoxemia. (10) It stimulates intestinal peristalsis. (11) It is not an irritant to the peritoneum or abdominal viscera.

From the foregoing review of the work of others, from my own clinical observations, and from the laboratory experiments herewith detailed, the following scheme of possibilities for oxygen therapy has been evolved. Along certain lines experience has proved the efficacy of the gas; in other fields its merits are yet to be definitely established.

Medical.

Inhalations before anesthesia.
Inhalations during anesthesia.
Inhalations after anesthesia.
Inhalations in pneumonia.
Inhalations for the prevention of colds and various respiratory disorders.

Surgical—Local.

Injection into joints (tuberculous).
Injection into abscesses, furuncles, carbuncles, and other inflammations, acute and chronic.

Surgical—General.

Infusion into the abdominal cavity:
I. Intestinal paresis.
(1) By stimulating muscular contractions.
(2) As a general stimulant.
II. After laparotomies where pus is to be dealt with.
(1) As destructive to pathogenic bacteria should they be present.
(2) As tending to prevent adhesions.
(3) As lessening pain by keeping inflamed areas of peritoneum from becoming approximated.
(4) As a general stimulant.
III. After laparotomy in intestinal perforation of typhoid.
(1) By relieving strain on sutures by counter-pressure.
(2) By diminishing liklihood of spread of infection.
(3) By adding to comfort of patient.
(4) By lessening shock.
IV. After resection of gut—volvulus, intussusception, strangulation: as in III.
V. After operation for fixation of abdominal viscera, by assisting in holding in position while union is being formed.
VI. After operation for gastric or intestinal perforation from ulcer or other cause.
VII. Reduction to a minimum of post-operative acute dilatation of the stomach.
VIII. Persistent hiccough when fatal issue seems imminent.
IX. Tuberculous peritonitis (ascitic form). (Fibrous and ulcerative forms temporarily benefited.)
X. Shock.
XI. Asphyxia.
XII. Ascites (from any cause).
XIII. Hemorrhage (plus saline).
XIV. Peritonitis (any type where adhesions are not too great).

Speculative as some of the above suggestions may appear, practically all, and others as well, have been followed in a more or less desultory manner, favorable results being reported here and there. It is not my purpose to advocate the indiscriminate and careless use of oxygen by those whose tendency it is to follow every therapeutic will-o'-the-wisp; I merely wish to stimulate practical interest in a subject which my own experience leads me to believe offers more of definite good to humanity than has yet been generally utilized.

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VASCULAR CRISES.*

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ARTERIOSCLEROSIS may exist during many years without giving rise to a single subjective symptom. It is surprising to note that in exceptional cases symptoms which are ominous and profoundly affect the patient during their persistence may appear during the course of arteriosclerosis, without recurring for months or even years.

It may be assumed that an artery which is the seat of non-specific arteriosclerotic change, atheroma, endarteritis, or periarteritis, never again returns to its normal condition. There are, in all probability, changes in arteries of a degenerative, productive, or inflammatory nature of syphilitic origin, which may be favorably influenced by antisyphilitic treatment.

Young syphilitics have presented with evidences of aortitis, aortic systolic murmurs of arterial origin as opposed to inflammatory or endocardial lesions, occasionally associated with attacks of angina pectoris, or cases of syphilitic endarteritis influencing the myocardium and giving rise to cardiac incompetence, in which relief or cure has followed thorough antisyphilitic treatment with a rational regime.

The fact remains nevertheless that arteries which are once the seat of non-specific degenerative change, whether in the young or in the aged, in those entitled to signal changes because of improper living or from other unknown causes, are never again likely to return to their normal condition. If there is any change at all it is one of retrogression.

It is a surprising clinical fact that arterial change is better borne by the aged than by the young and that the evident and palpable lesions in the former are often present during many years without giving rise to a single painful or serious subjective symptom.

Not infrequently in the presence of acute infection in the aged, with associated arterial change, we fail to find a single subjective symp-

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tom referable to such pathologic lesion. It is not at all uncommon to find the radial artery uneven, "pipe-stem," the aortic first sound muffled or an arterial aortic obstruction, temporals standing out in bold relief, the diagnosis of arteriosclerosis positive; and yet the individual has never suffered a pang, or the slightest inconvenience. On the other hand serious and threatening symptoms are present, often painful, in cases with palpable arteries which give no clue to the underlying pathologic condition.

A patient with a soft radial pulse, a urine of normal specific gravity, no albuminuria, is suddenly, while he is supposed to be enjoying the best of health, seized with alarming angina pectoris, positive evidence of ossification, atheroma, or arteriosclerosis of the coronary vessels. This patient may have a severe angina pectoris to-day, but in spite of an uninfluenced and unchanged pathologic process involving the coronaries deeply, a condition which from our pathologic study we know is permanent, the heart pang and other reminders may be absent for months or years at a time; the patient may never have a recurrence of cardiac spasm and may die of some remote complication, acute or chronic.

Arteriosclerosis in the majority of cases is accidentally discovered. It is safe to say that this is particularly true of patients who have passed the sixtieth year. In patients between forty and fifty arteriosclerosis is likely to make itself known by positive painful or objective symptoms, readily interpreted, pointing at once to the organ most influenced by the degenerative process. *No patient is too young or too old to be thoroughly searched for arterial change.*

Clinicians and pathologists have tried to explain the cause of these painful, paroxysmal or evanescent symptoms in the presence of profoundly changed vessels. The lumen of the artery is narrowed by deposit, the thickened walls of the arteries remain unchanged, in many cases the organs nurtured by these changed twigs are more or less degenerated or disorganized; and yet in spite of these facts, symptoms referable to these special arteries and to the parts supplied by them are often evanescent, rarely continuous or may be entirely absent.

Some change in the artery arousing revolt and consecutive sensory symptoms must account for this history.

A number of years ago the term "Vascular Crisis" was introduced—a very happy and splendid characterization—to use in connection with recurring symptoms, usually painful, which arise in the domain of changed arteries.

Vascular crises, it may be said are associated with diseased arteries in which a definite symptom complex is due, as a rule, to vascular contraction, narrowing of the artery, or arterial spasm, though occasionally it may be assumed that dilatation or vasodilator paralysis may predominate. If we agree that these crises occur, and most clinicians subscribe to the conclusion, then a great many of the conditions to which we have referred are readily and easily explained. We can thus promptly explain the unique behavior of angina pectoris and other paroxysmal conditions always painful and often threatening.

It may be wise to emphasize the fact that vascular crises are usually provoked by some factor which throws extra tax upon the organ invaded. Thus it is not at all uncommon to find that a patient develops angina pectoris after a hearty meal when the stomach is full and digestion is in progress. If, at such a time he walks or exerts himself physically, an added amount of work is placed upon the organ, an extra amount of blood is needed, the nutrient arteries are insufficient, revolt follows, arterial paralysis or spasmodic contraction of the changed artery results.

The closure of one coronary does not lead to death; the closure of both coronaries leads to immediate death and this may follow without pectoral angina. We consider angina pectoris, and we are now speaking of pectoral angina, a symptom complex due to vascular crisis, associated as a rule with diseased coronaries. Arteriosclerosis far advanced may be present for years associated with coronary involvment without a suggestion of angina pectoris; the element of vascular spasm has never been added.

The Adams-Stokes phenomenon is often dependent on vascular crisis. It is with pride that we point to the work of American pathologists and physiologists in connection with this syndrome of symptoms.

The Adams-Stokes phenomenon is one of the most interesting combination of symptoms that we meet. Included in this complex are bradycardia, peculiar epileptiform seizures, disassociation of ventricular and auricular contractions, causing a venous pulse out of proportion to the slow arterial contraction, the latter at times being slower than the respirations, in which the symptoms are due to a "block" in the "fibres of His" —lesions involving the arteries supplying the interventricular septum, or, as has been recently shown, gummatous or other masses breaking the continuity are responsible for the symptoms. Here again we have persistent conditions but the symptoms are paroxysmal. "Heart Block," it would seem, can be satisfactorily explained by the changes which affect the "Bundle of His" during arterial spasm or vascular crisis.

The Adams-Stokes phenomenon fortunately for the patient is not a continuous symptom complex. It is a complex which is paroxysmal. which may recur many times during a single day, which may be followed by long periods of freedom from symptoms, during which the pulse

may possibly become normal or may continue slow without any other complication. The symptoms are due in all probability to a recurring shutting off of nutriment to these important heart fibres. Arteriosclerosis of the vessels in the interventricular septum is not unusual. In what other way can we explain the absence and final recurrence of symptoms in these cases?

Angina pectoris need not give rise to symptoms referable to the pectoral regions alone. There are cases of subdiaphragmatic angina in which the lesions are in the coronaries. These cases are not to be confounded with abdominal angina in which there may be no change at all in the coronary vessels and which Ortner considers under the head of "Dyspragia Intestinalis Intermittens."

Occasionally a patient who has had angina pectoris presents without symptoms referable to the pectoral region, without the characteristic radiation of pain from the heart into the arm, but with pain below the diaphragm—and all the fears of true angina pectoris. This may be due either to a spasm of the mesenteric arteries or an expression of coronary disease, or, as sometimes happens, there may be disease of both coronaries and the mesenteric vessels, particularly the superior mesenteric artery. The sensory paroxysmal symptoms are due to vascular crisis. The coronary may alternate with the mesenteric crisis, one may occasionally follow closely upon the heels of the other.

There is a condition which must be divorced from angina pectoris and which Ortner, as we have already mentioned, has well described under the head of Dyspragia Intestinalis Intermittens, in which the greater change is localized in the mesenteric vessels. The history of these cases is exceedingly interesting. These patients have more or less intestinal indigestion, foul-odored stools, a great deal of flatulence, eructation of gas, attacks of pain, particularly in the upper abdominal regions, which are paroxysmal and generally associated with the fear of impending death; there may or may not be hypertension. There is an angio-spasm within the splanchnic area which yields to vaso-dilators. Post mortem examination shows greatest change in the superior mesenterics of a degenerative character. These patients may die suddenly as do those suffering from pectoral angina. The symptoms of spasm only occasionally appear.

A patient is at present under observation who has characteristic dyspragia, with a general arteriosclerotic process, whose blood pressure during the early days of treatment was above 200 mm. Hg., and who yields only to drugs which dilate the abdominal vessels: nitroglycerine, erythro tetranitrate, sodium nitrite, etc.

Another class of cases included is that which has puzzled clinicians during many years in which there are evanescent symptoms of cerebral origin, no embolism, nor cerebral hemorrhage, but in which the symptoms are sudden and evanescent.

For instance, a patient in whom we diagnosticated arteriosclerosis, without warning, possibly with a slight preceding headache, suddenly becomes aphasic, no evidence of paralysis or convulsions in the majority of cases, but a sudden complete ataxia and amnesic aphasia. The patient may be able to mumble but is unable to express himself. He has not lost consciousness; he points to objects correctly; he understands what you say to him; but there is this complete abeyance of speech function. In the course of four or five minutes, possibly a little longer, the symptoms begin to fade or disappear suddenly. The patient seems entirely unaffected by what has transpired and is able to continue his conversation without the slightest trouble, and returns to his former condition. There are no resemblances to epilepsy when the case is carefully studied; arterial pressure is high; there is likely to be renal change. Vascular spasm causes these symptoms.

Another case had the recurrence of these symptoms during many months; always a high blood pressure, always positive evidence of general arteriosclerosis with repeated vascular spasm. In one of these crises there were associated convulsions which were quite general, but the horizon was again cleared and the patient was again able to speak; his mind became clear. Conditions finally overpowered him and he died of cerebral hemorrhage after two years with luetic degeneration of the brain arteries.

If a patient with valvular lesion or a vegetating endocarditis develops a sudden paralysis or aphasia, we could not consider such added symptoms due to vascular spasm, but would refer the change to the breaking away from the free endocardium or from the valve of a plug which had entered the artery and had been washed out as the symptoms disappeared. This is not the pathologic condition associated with vascular crisis.

Spasm of the cerebral vessels is usually associated with diseased arteries.

If the disease is of specific origin the changes in the arteries correspond exactly with those which Huebner (whose work still remains a classic on Syphilitic Diseases of the Arteries of the Brain) described.

If the diseased condition is due to simple degenerative change of the arteries, *i. e.*, atheroma or arteriosclerosis, we find in some cases the evenly thickened artery with the occasional deposit of lime salt, or a far-reaching atheromatous change, possibly miliary aneurisms.

If, with these conditions persisting vascular crisis lead to death, there are no hemorrhages, these are no more likely to be present in the brain, than are hemorrhages into the heart muscle where death has been due to angina pectoris—though cerebral hemorrhage, as in the case cited, may cause death and follow a long series of vascular crises.

In connection with this subject we refer to painful affections of the extremities due to vas-

cular crises. A diseased condition to which considerable attention has been paid of late, is intermittent claudication. We are hearing and learning more of this peculiar condition as arteritis obliterans is better understood. It is a condition which is due entirely to changed blood vessels with added arterial spasm as the lumen grows smaller.

The following case has been watched during a number of months. The patient, male, 60 years of age, a hard worker, temperate, merchant; says that during a number of years he has been short of breath. This gave him no great inconvenience, but within the past eight or ten months he has noticed that whenever he walks, particularly after eating, either on the level or up hill, he is seized with violent pains in the calf muscles of the right leg. These pains are agonizing and force him to halt. If he rests the pains disappear, as do those of angina pectoris under similar conditions. If he resumes his walk the pain recurs with increased severity until he is finally forced to give up and rest during a varying period of time, when he may possibly walk for a short distance without the severest pains, but yet he is reminded of the presence of the spasm while extreme hyperesthesia of the skin covering the calf muscles persists during several hours. This is a typical history of intermittent claudication in a man who has far-reaching arteriosclerosis with hypertension. When extra work is demanded of his muscular system the arteries most invaded revolt and sensory symptoms follow.

These pains of an intermittent character associated with arterial degeneration in the extremities are frequent, and in many cases persist during years, indeed, many years before endarteritis obliterans completely shuts off the blood supply, in some of these cases leading to localized gangrene or limited patches of necrobiosis. Such conditions are not infrequently associated with diabetes, syphilis, or other toxic disturbances. We have seen cases in which these pains have ceased for weeks, months, or even years. Patients had forgotten previous suffering when suddenly the pains were renewed with increased severity, the time between the paroxysms grew shorter, finally the local conditions left no room for doubt as to the exact pathologic condition which was present. Associated with a fully developed diabetes during many weeks and months there are agonizing vascular crises which may or may not be associated with gangrene. Physical examination of these cases show hypertension as a rule with marked evidence of arteriosclerosis.

Another class of cases in which vascular crises affecting the extremities predominate, may be considered under the head of erythromelalgia. Erythromelalgia is a condition which Weir Mitchell described in 1872 associated with most distressing suffering, limited as a rule to the lower extremities, in which the pain is paroxysmal, is associated with great redness of the extremities, particularly when suspended. This characteristic redness has given the disease the name of "red neuralgia."

We have examined the blood vessels in these cases and invariably found that the disease was not limited to the nerves but was due to an obliterating endarteritis or a degenerative change of the blood vessels of the extremity involved. Weir Mitchell holds that erythromelalgia is never associated with gangrenous processes nor with Raynaud's disease. We have, during the past twelve years, published the records of a number of cases in which we have proved that erythromelalgia may persist during many years, and may be followed either by Raynaud's process or may be associated with it or with far-reaching gangrene, and the results of the clinical investigations of others prove the correctness of what we held several years ago.

In one of our cases a woman had agonizing pains during a number of years in the fingers of one hand, with characteristic appearances of erythromelalgia. The pain came on in paroxysms, and was always characterized by redness of the surface which was covered with thousands of sweat globules. Nothing, not even large doses of morphia relieved the pain. Finally the thumb sloughed as the result of a gangrenous process. This patient had at the time what we frequently find with Raynaud's disease, limited gangrenous patches of the tragus. The sloughing of the finger was followed by marked relief of the pain. The arteries were found to be the seat of endarteritis. She lived a number of years after the sloughing of the finger. She finally died of tuberculosis.

In these cases we assume the great influence of vascular spasm; in all, the arteries showed positive endarteritis.

In our service at St. Joseph's Hospital we found a man who had suffered for a number of years from red neuralgia; he was a blacksmith, supposed to be non-syphilitic, about forty years of age. As soon as his left leg was suspended red neuralgia commenced. The leg was crimson, covered, as is usual, with thousands of sweat globules. He continued in this condition with final absence of pulse in the left posterior tibial, a high blood pressure and continuous evidences of arterial hypertension. Finally we noticed a spot of gangrene at the tip of one of the toes on his left foot; then came a symmetrical change in the corresponding toe of the right foot. Erythromelalgia with Raynaud's process following was our positive diagnosis. The process of death in the limb first affected was not halted by any treatment which we instituted. The man's suffering continued. There was not a moment when he was relieved. There is no acute suffering which can compare with that of erythromelalgia. The conditions in this case went from bad to worse; from this little spot of Raynaud's process we had extending gangrene until finally the entire foot became gangrenous and it

was necessary to amputate the left leg about three inches below the knee-joint.

Listen to the sequel: The man, remember, had general arteriosclerosis; when he left the hospital there was localized sloughing of the stump but this finally healed and the bone is now fully covered. A few months ago this man presented with erythromelalgia fully developed in the right foot. His former suffering is being repeated in the remaining foot. Obliterating endarteritis with vascular spasm led to gangrene, making amputation of the remaining leg necessary.

A few years ago I saw a similar case of erythromelalgia and intermittent claudication with Dr. Levy. The man had suffered for years with erythromelalgia, developed a limited symmetrical Raynaud's process. His suffering was unrelieved; he became a morphinist. Gangrene of one leg developed, demanding amputation ultimately at the hip joint. Then there was extension upward in the opposite leg; gangrene following the same course as in the limb first involved, and when the sufferer died he had lost both lower extremities after a long period of erythromelalgia, intermittent claudication and gangrene. This was a case of endarteritis without diabetes, and so far as we could learn, no syphilitic taint.

When these conditions persist for years before gangrene develops with pains that are paroxysmal, in some cases long periods of freedom from symptoms, we may be sure that we are dealing with vascular crises—a spasm of the arteries associated with incipient degenerative change.

I had a very interesting experience many years ago with a man whom I had treated for malignant syphilis during a number of years. He consulted me finally for a severe pain which he had for months in the terminal phalanges of both hands. When the hands were hanging down or when he was using them, the pain become unbearable. This pain was associated in turn with all the characteristic features of red neuralgia. During the early days of the disease the finger tips were hot, red, sweat-covered, the radial pulse was thick at both wrists; finally he had "marble fingers." The stage of asphyxiation of Raynaud's disease followed erythromelalgia.

This condition terminated in gangrene of all the terminal phalanges of both hands. The process of healing was complete and the tips of the fingers were covered with healthy tissue, and were club-shaped after healing. He lived a great many years without any recurrence of his pain after a rigorous antisyphilitic treatment. This is one of the most interesting histories I have ever studied in connection with the subject of endarteritis obliterans specifica.

An interesting experience that seems to corroberate the theory or vascular spasm in erythromelalgia and intermittent claudication is mentioned by Ortner in his paper on dyspragia. He mentions the case reported bv Wagenmann of a man about sixty-three years of age who had arteriosclerosis and who had transitory periods of blindness in his right eye. On one occasion Wagenmann was present when this man became suddenly blind. He made an ophthalmoscopic examination and found that the arteries during this period of blindness in the background of the eye, the retinal vessels, were empty. They were converted into thread-like shining strands, yellow in color. Normal pulsation had ceased. The veins resembled thread-like but red strings. Pressure on the eye did not cause pulsation. Wagenmann had the opportunity of observing the background of this man's eye during the entire period of blindness which continued ten minutes and vision returned as the spasm of the vessel was relieved, the arteries filling and the veins dilating with a return of pulsation.

This is a most interesting and telling experience in connection with this subject of vascular spasm. It proved that in the case recorded there was a complete occlusion of the blood vessels, a spasm which shut off the blood supply and that vision only returned when that spasm was relieved and the circulation was restored. The circulation during the spasm was positively inhibited.

In the pains of lead colic in which arterial tension is high, as well as in the crises of locomotor ataxia with arteriosclerosis, with, in both, a strong suspicion of changed mesenteric vessels, vascular spasm within the splanchnic area may ultimately prove to be a predominant factor.

It is not long since our attention was called to these vascular anomalies. Physiologists and pathologists were at a loss to understand these phenomena. The influences of peripheral circulation had been too long ignored. We had failed to look beyond the heart in many cases of arterial disease. May not the ductless glands, by perverted action, lead to insidious change? Experiment proves the ease with which adrenalin causes change in arteries.

Arterial resistance, the quantity of the blood, the functional ability of the heart, the function of local organs, must all be taken into consideration if conclusions are to be reached in connection with these paroxysmal sufferings to which I have called your attention.

The prognosis and the treatment of these conditions are not particularly encouraging. Unless these are dependent upon a removable cause, the greatest and the only improvement follows proper diet, rest, guarded exercise, local treatment and the free use of vaso-dilators. Improvement and temporary relief may follow but not *cure*. Vascular crises of syphilitic origin may yield, sometimes do yield, to energetic treatment, provided always that the patient be treated energetically and early. The great danger lies in the fact that Nature brooks so many insults, is so tolerant and long suffering, that the revolt which certainly follows and which makes clear the presence of arterial change, is too long postponed to admit of reparation.

THE CAUSES AND TREATMENT OF HIGH ARTERIAL TENSION.*

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HIGH arterial tension as symptom of disease is a result of physiologic reaction to pathologic conditions. Its causes are found in the circulatory organs themselves, or outside of the circulatory system. The principles of treatment derived from the study of causes indicate the use of certain medicinal substances and hygienic measures. When causes have been controlled, physiologic reeducation is still necessary. Hypertonia vasorum is indirectly the cause of the great increase in the number of persons suffering from heart disease and the alarming statistical reports of deaths from this cause by health officers during the last year.

No fact has been more completely accepted of late than that high arterial tension is as frequent a cause of heart disease as excessive use of an engine under trying conditions is a cause of its breaking down. In other words, in the excessive demand upon the heart of this condition, we find a great cause of heart disease and the consequent increase in the death rate from this cause.

When we consider the cause of high arterial tension in relation to this recent increase in its dire results, the one that most interests us is that which has increased lately. This is principally found in the wide prevalence of hypertonia vasorum of nervous origin. This hypertonicity of the blood vessels when resisted by a responsive heart, cause high blood pressure, so long as this heart remains competent.

The terms high arterial tension and increased blood pressure are used interchangeably in medical literature, but they certainly have a different significance. High arterial tension conveys the idea of tenseness of the myarterum or muscles of the blood vessels. High blood pressure means that the pressure inside of the vessels is high. To realize the difference one has only to observe the tremendous tonicity of the blood vessel coats in a case of fatal hemorrhage while the blood pressure gradually falls to zero. The attempt of the arteries to make up for the loss of the bulk of blood causes them to become more and more contracted as the blood is lost.

On the other hand blood pressure can be raised in the vessels of an animal in which vasomotor paralysis exists, by the simple process of allowing sufficient salt solution to flow into the veins under pressure. Of course the effect of such a procedure finally wrecks the animal but the fact remains that blood pressure has been raised without the existence of high arterial tension in the sense of contracture of muscular coats of the vessels.

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High blood pressure is caused by a response of the pressure maintaining mechanism of the body to some demand for such a pressure. With this fact to work on, a consideration of causes and treatment becomes an effort to locate this demand and the means of removing it. Seldom indeed, except as a temporary expedient, are we called upon to interfere directly with the pressure maintaining mechanism. In vasomotor paralysis we often have to do with an exhausted mechanism, but an idiopathic hyperactivity of the blood pressure maintaining apparatus is unknown. The nearest approach to such conditions is found in involvement of the great nerve centers, but from animal observations, it is found that the very tension of cerebral compression is, after all, simply the response of the mechanism to an unusual demand for circulation in the compressed brain.

On the other hand, it is possible that the mechanism having become habituated to the maintenance of high blood pressure may respond too freely and too long to demand, and the pressure may not immediately fall when the demand is removed. In such cases which are the nearest approach to idiopathic hyperactivity of the pressure maintaining mechanism, we may concern ourselves directly with the high arterial tension.

There was a theory of high arterial tension that was formerly held, that I think is difficult at the present moment longer to defend; and that is the theory that contraction of the blood vessels was caused by some irritating material circulating in the blood, and acting directly upon the coats of the blood vessels. The furthest we can go with this theory would be to believe that there can be action on the local nervous mechanism. High tension may logically result from the demand of the system for some chemical activity that is not being sufficiently carried on. The most familiar instance for this, is the high pressure that results as a reflex from the demand of the blood for oxygen when respiration is suspended. The suspension of respiration whether voluntary or otherwise, has an immediate action in raising blood pressure. Is it not possible therefore, that the high pressure so frequently associated with gout and other instances of defective metabolism may be the result of a reflex similar to that which raises the blood pressure in asphyxia? Time will not permit the discussion of cases.

Before passing from a consideration of the causes of high arterial tension to treatment, it is necessary for us to consider the means by which it may be detected. We have spoken elsewhere of the high degree of skill that is obtained by physicians in the use of the fingers in feeling the pulse, and we still believe that the educated touch can detect hypertonicity of the vessel in a manner that can never be entirely replaced by the instrumental means. We also acknowledge that it is absolutely impossible, with the fingers, to

estimate the subsequent reading of the sphygmomanometer in cases which we know to be high when they are above 170 millimeters, also low tension cases often appear much lower to the touch than they are actually proved to be. The educated touch can often decide whether a pulse is normal or not, and all instrumental blood pressure findings must be discounted by allowing for hypertonic contraction particularly when very high readings are obtained.

For a long time I have felt the need of an instrument that would quickly and easily decide the presence or absence of high and low arterial tension.

The simplified instrument that I have used lately consists essentially of an armlet 15 centimeters wide and 40 centimeters long, made of strong cotton material. This armlet or cuff differs from the Rivi Rocci armlet in its greater width and in the fact that the rubber bag occupies only part, instead of the whole, circumference of the arm. The advantage of this latter arrangement is that the rubber bag when expanded compresses the artery against the bone, rather than surrounds the whole arm which proved to be painful. Connected with the cuff is a red rubber tube, 203 centimeters long. To this is connected a white tube 60 centimeters long and to this a blue tube and a blue bag, measuring from the center of the bag 136 centimeters. Connected to the blue rubber bag is a cord passing through a pulley of special construction. This pulley is so constructed that it can be easily hung at a height by means of a cane or a similar implement. There is a special scale which is attached to the bag at the level of its contents and is used to ascertain the blood pressure in terms of millimeters of mercury. The instrument can be rolled up and carried in the pocket and is used as follows:

The tube is separated at one of the connections and the air is drawn out of the two bags by suction, by placing them one at a time in the mouth. The bags are now placed on the floor and the ends of the tubes plunged in a basin of water and about 12 ounces allowed to syphon into the bags.

The ends of the tube are now rejoined under water so that no air can enter. The red cuff is now lifted up so that all the water runs into the blue bag which is left on the floor. Then the armlet is laced around the arm of the patient in such a manner that the part containing the bag comes on the inside of the arm. The pulley with the cord to it is now attached high up to a picture moulding or some other convenient object, and the bag is hoisted slowly until the pressure of water that had flowed back to the cuff has compressed the brachial artery and obliterated the pulse at the wrist. To find the exact point at which this takes place it is better to lower the bag until the pulse is distinctly felt again, and then raise it two inches at a time counting five beats of the pulse each time until the pulse disappears. If at this point the white tube be opposite the level of the patient's heart, or the level of the cuff which is practically the same, having the patient in a sitting position, the patient's blood pressure is within normal limits. If the blue tube is opposite this level the patient has a sub-normal blood pressure. If the red tube the patient has an increased blood pressure. In order to measure the blood pressure in terms of centimeters of mercury, the special scale is attached to the blue bag at the level of the water in it when the apparatus is in operation, and the figure on the scale at the level of the heart when the pulse disappears indicates the blood pressure in millimeters of mercury. The small diagram shows the hydrostatic principle.

This apparatus has been compared in all kinds of cases with the standard instruments and its readings found correct. A closer reading is often possible with this instrument than with the other instruments on account of the absence of

the troublesome fluctuations and the greater length of the scale. This is particularly true in low pressure cases. The instrument is especially convenient for detecting the cases of blood pressure that fall into my classification of blood pressure cases, into primary low pressure cases, high pressure cases and secondary low pressure cases. It is not convenient for the measurement of very high pressure cases on account of the great elevation of the pulley that is necessary. This is simply overcome in these unusual cases by using the instrument where there is a stairway or in a high ceilinged apartment. An elevation of six feet is sufficient for normal and low cases.

The early detection of high arterial tension is very important in connection with treatment because as already remarked, we believe high arterial tension is a physiologic reflex from some underlying cause, but that the condition having once existed becomes as it were, habitual and presents all the difficulties not only of a symptom but also of a habit. When going on too long a time it also causes structural changes in the heart, blood vessels, kidneys and brain, which in turn tend to keep up high tension, and thus a series of vicious circles is established.

The first step in the treatment of a case is to ascertain exactly the condition of the blood, kidneys, metabolism and nervous constitution, including the mentality. Then symptoms must be corrected by those drugs which are physiologically antagonistic to them. Then the diet, exercise and environment must be properly selected, and the patient must be managed over a sufficient length of time for the correction of underlying causes and the completion of a physiologic reeducation that may overcome the high tension habit. Success of management of cases along these lines has been highly gratifying and will prove a revelation to any physician who has been relying on vasodilators alone.

54 West 55th Street.

MODERN CONCEPTIONS REGARDING CHEMICAL REGULATION OF FUNCTION.*

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A TREE maintains its life by chemical correlation of function. Nitrogenous compounds are obtained through the root and sugar is manufactured by the leaf. Loss of the leaves or of the roots results in death. There is here no nervous system to bring about correlation.

In the higher vertebrates the nervous system is known to regulate activity. Much of this regulation is below the threshold of consciousness. A beheaded fowl may fly, a beheaded duck swim, and a "spinal dog" respond to the "scratch reflex." All these coördinations instantly cease with the destruction of the spinal cord. The nervous system, however, is not the sole integrating factor of the organism. If, for example, the adrenal glands be extirpated, death follows within a few hours. This is not due to shock from the operation, as was beautifully shown by the experiments of Dr. Busch, of Buffalo. Dr. Busch grafted a section of an extirpated adrenal from a rabbit, into the animal's own kidney. Three months later the second adrenal was removed. The rabbit made a complete recovery, and subsequent investigation revealed a survival of the medullary portion of the transplanted adrenal, provided with a good vascular supply. The medullary portion prepares the essential constituent, adrenalin.

The cause of death after adrenal extirpation is therefore due to the removal of the gland, and not to the direct injury of the nerves. It is well known that the adrenals prepare a powerful substance, adrenalin, which maintains the tone of the vascular system, and of muscles dominated by the sympathetic, such as the dilator of the pupil and the muscles of the hairs. This effect is produced whether the nerve fibres to these various tissues be cut or not, as many experiments of Meltzer have demonstrated. The nerve endings, however, must be intact for the adrenalin to be effective.

Adrenalin is a substance which may be heated to boiling without injuring it. It is therefore not a ferment. It however, belongs in the class of "hormones" or "chemical messengers," substances produced in a certain locality which excite activity in other parts of the body. Thus, the adrenals manufacture a substance, which arouses activity in organs controlled through the sympathetic nervous system.

Krehl reports a case from Marchand's Institute, in which tuberculous infection of the adrenals was accompanied by enlargement of thymus, thyroid, hypophysis, and spleen. This is cited only to emphasize complexities difficult of explanation. When it is considered that all the organs of the body pour products of their activity into the general blood stream to be widely distributed, the possibilities of abnormal disturbances appear to be numberless. Krehl points out that it is this background which yields infinite variety in the physician's practice. The very difficulty of the subject has brought into the literature a vast amount of rubbish based upon little else than grotesque images of the mind. No absurdity has been too great to prevent its further embellishment by distorted fancy.

As regards the upper digestive tract, it is known that the production of saliva is due to a reflex through the nerves. Ludwig, in 1851, showed that stimulation of the chorda tympani resulted in a large flow of saliva from the submaxillary gland. A similar influence over gastric secretion was not shown until the modern

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researches of Pawlow and his school. This investigator found that if the vagus be cut in the neck the vaso-constrictor fibres contained within the nerve degenerated after three days, and then on stimulation of the still irritable secretory fibres, a copious flow of gastric juice was produced. This is the normal pathway for that outflow of secretory impulses from the brain to the stomach which accompanies a good appetite. Starling believes that there may be no secretory nerves to the pancreas. Pawlow, however, declares they are present in the vagus, and Popielski affirms that he has stimulated certain branches of the vagus in the thoracic cavity which caused a secretion of pancreatic juice within three to four seconds, or as quickly as saliva may be obtained on stimulation of the chorda tympani.

Intestinal juice may also be secreted through the influence of nervous impulses, for a solid substance introduced into an intestinal loop which has been isolated from its extrinsic nerve supply, will excite a flow of fluid into the gut. This is a reflex through the local plexus of Meissner.

No nerve impulses have ever been made out as exciting the liver to secretion of bile.

Bayliss and Starling have discovered that a method of secretory excitation exists other than that through nervous pathways. They state that a "chemical messenger" or hormone, which they call *secretin,* arises through the action of hydrochloric acid on the duodenal membrane, and is carried to the pancreas, liver, and intestines, exciting secretion in all these localities. A similar excitant called gastric secretin was discovered later by Edkins, which causes a flow of gastric juice.

When food is taken into the mouth, there is a reflex production of saliva whose amount is determined by the kind of food, and is also modified by visual and olfactory sensations. An aroused sense of appetite causes a discharge of nerve impulses through the vagus to the stomach, bringing about gastric secretion. Certain substances, like bread for example, if directly introduced through a gastric fistula into the stomach, cause no gastric secretion. But if the bread be partly digested and then introduced through the fistula, gastric secretion results. This secondary secretion takes place after severance of the stomach from the central nervous system by cutting the vagi and extirpation of the sympathetic plexuses. Furthermore, if the stomach be separated to form two pouches, a smaller and a larger, and a similar extirpation of the nerves takes place, then introduction of partially digested bread into the larger pouch will cause a secretion of gastric juice into the smaller cavity. Pawlow and his pupil Popielski explain this secondary secretion as due to a local reflex through the intrinsic ganglia of the stomach wall brought about by the stimulus of the products in the partly digested bread. However, Edkins finds that on boiling the mucosa of the pyloric antrum with water or 0.4 per cent. hydrochloric acid, he is able to obtain a filtrate which, if injected into the jugular vein, causes a flow of gastric juice. Similar extraction of the fundus produces no active liquid. Edkins therefore, believes that the process of secondary secretion of gastric juice depends on the absorption of certain substances from the stomach by the pyloric membrane, which in turn, yields "gastric secretin" to the blood stream, which later excites secretion in the fundus.

Cannon has recently emphasized the fact that while free hydrochloric acid in the stomach causes the pylorus to open, the same acid in the duodenum brings about its closure. It is known that this entrance of gastric chyme into the duodenum causes the flow of pancreatic juice and in lesser degree bile and intestinal juice. Heidenhain called attention to the fact that hydrochloric acid on the duodenum was the most efficient stimulus for a flow of pancreatic juice. This mechanism is of greatest value, for as long as acid chyme passes from the stomach just so long are the digestive glands stimulated to secretion. Pawlow believed that hydrochloric acid acted on the sensory nerves of the duodenal wall and caused a reflex secretion of pancreatic juice through the vagus and splanchnics. Later Popielski showed that the vagi might be cut, the sympathetic extirpated, and still an abundant flow of pancreatic juice followed the introduction of hydrochloric acid into the duodenum. Popielski attributes this reaction to a reflex due to the presence of local nerve connection between the gut and the pancreas, which obviates the necessity of the long reflex paths.

Starling, however, believes that the principal element involved is the production of secretin within the duodenal membrane which is carried by the blood stream to the pancreas. If an extract of the duodenal membrane be boiled with acidulated water, nearly neutralized, filtered, and then introduced into a vein, a very large secretion of pancreatic juice results. Cold water alone will not extract secretin from the mucous membrane, so Starling believes that a substance called prosecretin is normally present in the gut but this requires an acid to activate it. Prosecretin can also be activated by organic acids, soaps and other substances. Secretin may be produced from almost the entire length of the gut, but in greatest quantity from the upper portions. Introduction of hydrochloric acid directly into the blood has no effect whatever on the pancreas.

In the crucial experiment of Bayliss and Starling a loop of the jejunum was separated by ligatures from the rest of the intestine. Introduction of 0.4 per cent. of hydrochloric acid into this loop produced at once a flow of juice through a pancreatic fistula. The loop was now deprived of all its nerve connections and the mesenterium was cut away so that the only connection between the gut and the rest of the body lay in the blood vessels. Introduction of acid again produced as great a secretion of pancreatic juice as before.

This experiment proves that nerve reflexes are not necessary in the production of pancreatic juice, but that Starling's theory of chemical excitation through the blood stream is correct.

It must, however, be added that Popielski has failed to confirm Starling's experiment. He can obtain no secretion after denervation of the intestinal wall and vigorously denies great importance to secretin.

In spite of this discordant note, the work of Bayliss and Starling is now generally accepted in the literature. However, it may well be that the influence of nerves on the pancreas is greater than these investigators are inclined to acknowledge.

Starling has also shown that secretin injections promote a flow of bile and of intestinal juice. It is, however, certain that the reabsorbed bile salts are very efficient cholagogues and long ago Voit showed the dominant influence of proteid ingestion upon the formation of bile. Starling would explain this latter phenomenon through the large quantity of acid chyme produced.

The demonstration of both nervous and chemical correlation of function in digestive glands is an example of the "factors of safety" as set forth by Meltzer.

It was long ago shown by Voit that removal of bile from the intestinal tract profoundly influenced the proper absorption of fat, whereas the digestion and absorption of proteid and carbohydrates were not disturbed. Extirpation of the pancreas leaves the power to digest and absorb proteid apparently unchanged. Fat and carbohydrates are said to be less freely absorbed than normally.

Ordinarily the pancreatic juice contains only zymogens, or mother substances of enzymes, which are later activated on reaching the intestine by other ferments called kinases. In pathological cases the zymogens of trypsin and steapsin are activated within the gland and self-digestion with fatty necrosis of neighboring tissue is the result.

If the portal blood be diverted to the vena cava in an animal so as to shut out the liver, serious intoxications are seen, due to the accumulation of chemical substances ordinarily rendered innocuous. Similar pictures arise in diseases of the liver. Chemical poisons act on the liver cells destroying their function, and hence the explanation of much generally classed as auto-intoxication. Dr. Pearce and Dr. Jackson have recently published valuable and exhaustive analytical data on this subject.

It is widely known the complete extirpation of the pancreas produces diabetes with absolute intolerance for glucose. Here one must accept the theory of Lépine that a ferment is normally provided by the pancreas which is necessary for the first cleavage of sugar in the organism.

There is no time to mention the function of the thyroids, parathyroids, testes, ovaries, pituitary body, etc. All these produce substances valuable for life.

Starling has shown that extracts made from the fetus of a rabbit if injected into a virgin rabbit which has never been with a buck will cause development of the mammary gland. Extracts of the placenta and uterus have no such effect. Here then there is a production of a hormone in the fetus which supplied to the blood causes hypertrophy of the mammæ of the mother.

The beautiful experiments of Pässler show that after removal of one kidney and a large part of the other in a dog, urine may continue to be formed, but a vaso-constriction of the blood vessels may develop. Whenever this occurs hypertrophy of the left ventricle ensues, to be followed later by similar hypertrophy of the left auricle and right ventricle. This development occurs only when the parenchymatous tissue of the kidney is sufficiently reduced in amount. We may, therefore, believe that some substances ordinarily removed by the kidney are retained in sufficient quantity to excite chemically the vasomotor system, thereby producing compensatory development in the heart.

One more example of chemical regulation may be cited. It has long been known that a transitory fever sets in after some operations involving no septic influence, the so-called aseptic or surgical fever. Dr. Arthur R. Mandel has shown that in such cases the amount of xanthin bases increases in the urine. In typhoid and pneumonia he finds a similar increase, and in all cases the amount of xanthin bases present is proportional to the height of the fever. He has furthermore shown the xanthin given to a monkey causes a rise in temperature, a rise which is prevented by simultaneous administration of salicylic acid. It may well be that the deficient distribution of blood to the periphery which is part of the syndrome of fever is caused by the action of xanthin bases upon the temperature regulating apparatus in the mid-brain. The administration of milk which is free from xanthin bases to a febrile patient therefore finds its scientific justification.

THE TECHNIC OF AN EFFICIENT OPERATIVE PROCEDURE FOR THE REMOVAL AND CURE OF SUPERFICIAL MALIGNANT GROWTHS.*

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AT the commencement of the reading of this short paper, I would like it understood, that I claim neither entire novelty as to method nor absolute perfection as to result: but it is one that I have used with such satisfactory results for so many long years, that I have no hesitation in advocating it before this body,

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FIG. 1, CASE I—BEFORE OPERATION.

and in recommending it for more general, though not exclusive, use in the cases referred to by caption.

During the last thirty-five years, I have used this method nearly always with good results, and with relatively few recurrences of the trouble; exact I cannot be, but I think relapses have occurred in very much less than 10 per cent. of the cases operated upon; a decidedly good showing. In papers and discussions on the subject in special societies and others, I have been long urging my colleagues to adopt these measures in appropriate cases.

Notably, in one paper read at the Tenth Meeting of the American Dermatological Association, entitled "Remarks on and Queries as to the Relative Frequency of Pathological Changes in Moles and other Tumors on Head and Face," which was published in the *Journal of Cutaneous and Genito-Urinary Diseases*, 1887, did I recommend this mode of treatment of these disfiguring and dangerous growths.

In the paper just quoted, I dwelt on the frequency of these tumors in the regions named, and asked the members for the reasons of their relatively exaggerated malignancy in these situations, giving some theories of my own therefor.

To be brief then, and not "thunder in the index" too long, I would say, that the procedure in question I am recommending, is simply curettage, that, however, thorough, deep and efficient; thereafter followed by immediate, and just as thorough, application of an escharotic (the one preferred by me being a 60 per cent. solution of the acid nitrate of mercury, "Squibbs"), which has to be allowed to remain, with various reapplications, at the time of operation, for a varying length of time.

The final step of the operation is the, at least, superficial neutralization of the caustic agent, by some alkaline medium, of all others I prefer common sodium bicarbonate, in powdered form, a few grains being powdered on, and pressed into, the wound. This latter forms immediately

FIG. 2, CASE I—AFTER OPERATION.

The annexed illustrations from photographs taken by my friend and colleague, Dr. N. T. Beers, are taken from among others to show the application and results of the method in difficult and dangerous situations. They were taken a few days since.

CASE No. I.—Man somewhat over 60, operated on nearly six months since, by curettage deep and thorough; ten minutes' repeated applications of full strength of acid nitrate of mercury. No dressing whatever exccpt the neutralization of escharotic, first by sal. solution of sod. bicarb, then a thin layer of same in powder. Scab fell off in about three weeks.

CASE No. II.—Lady somewhat over 60. In this case the dotted line shows the extent of lesion; it had existed getting worse under all treatment nearly three years. During the last twelve months had been under X-rays about forty exposures. Operation, ether anesthesia, as above, very thorough, curettage, Paquelin cautery to stop severe hemorrhage in orbit, repeated application of acid nitrate for twenty minutes, neutralized as usual. Eye protected during operation by pad moistened with soda solution firmly pressed. Both tear ducts were affected in this case, still both are moderately patent now, and only a little epiphora resulted. Scab remained "*in situ*" for nearly or quite two months, being adherent to nasal bone and bony orbit as results of deep curettage. No maturation from scab at any time from its aseptic nature. The picture in the case is most excellent and truthful representation of the "status presens." Operation took place in early November, 1907.

a plain scab, which should be allowed to remain *in situ* untouched and dry, till it falls, or rather is pushed off, by and with process of healthy repair beneath, leaving then a healthy scar, and usually, I might say an always relatively insignificant, or not very noticeable one.

From any of the foregoing, I am not to be understood as opposing the use under proper conditions, and hands, and in appropriate cases, of the other agents for the relief of these conditions.

The knife of the surgeon is perhaps preferable in pendant and loose portions of the human subject, as in the cases where the penis, lips, ears etc. are affected, but in many cases in these

FIG. 3, CASE II—SHOWING AREA OF DISEASE. MARKED IN CIRCLE, AND RESULT OF OPERATION.

regions, what I will call my own method, is to be chosen even in them. Nor do I at all wish to disparage the wonderful and potential dynamic action of the X-ray, and radium in these cases.

These agents however, are not always to be found, as we know, in the offices of all practitioners, and unless the trouble is situated in an inoperable, or almost inoperable, site even then I say and maintain, their action for a variety of reasons is not to be preferred.

When either of the latter two agents is used a great deal of time is taken up; they are not always, as we know, whatever the reason, certain or constant in effect or result; no matter what the skill or experience of the applicant or user may be. As a rule, too the time and expense of these methods is to be taken into serious consideration.

It may be urged that pain might be a deterrent factor in the method I favor; but really this, at least excessive, pain may be avoided or controlled by the agents I will speak of later on, and now in a few brief words in due order, I will describe the method as I think it should be employed.

First of all, before operating, be sure your patient has a malignant trouble. Generally this is not difficult to distinguish and to be relatively certain of, on clinical grounds alone without the aid of microscope or pathologist.

It is almost an insult to this intelligent audience to describe, we will say, the insidious, long protracted slight excoriation of an old mole, of face, or cheek, temple, nose etc., the repeated scabbing of same, and crusting, with apparent improvement for a time, under any mild treatment in course of years. Then the relatively slow increase of growth or infiltration or exudation into surrounding skin. Then the persistent slow ulceration, with the usually hard, raised, averted and pearly edges, all of which are in and of themselves, diagnostic.

But of the uncertain, beware; always in these slow growths be suspicious of tertiary syphilitic manifestations; if there is doubt of this, let your diagnosis be corrected and assured by such treatment as will lead to exclusion of this.

Many such cases have been referred to me for operative interference, and did not get it I assure you. Especially it occurs to me, in my experience, when the patient has been sent with tumor formation, ulcerating at the point where the middle cartilage of the nose, the septum, joins the upper lip, and in fact any tumor formation involving the nasal cartilages, whether the primary growth started from within, or without, is more characteristic of syphilis than epithelioma.

Not unfrequently sarcoma is present in these cases, but as this would be equally appropriately treated by the method I speak of, it can be left out of the question.

All idea of error or complication being removed, you will proceed in the following manner, no matter where the lesion exists.

It is well to have at least three dermal curettes, fenestrated are the best, of different sizes. The edges of these instruments should not be of knife, or razor like sharpness, but have a clean wire edge.

The patient should either be put under general anesthesia, though this in my practice is seldom necessary except in surfaces either very deep or over, say, size of a dollar. Women in my experience too, bear the operation better than men, their confidence being once gained.

Nitrous oxide gas is often a typical anesthetic in these cases, when general anesthesia must be

employed though the formidable appearance and bulk of the armamenta used sometimes cause alarm: and it necessarily requires a specially skilled assistant. Before giving the general anesthetic, in fact in all cases, I introduce two or three drops of a 2 per cent. or stronger solution of cocain, in two or three or more punctures, at or about the edges of the affected part, and at the same time, give a hypodermic of about one-quarter to one-third grain of morphin with or without atropia as shall be deemed best, at some distant point of body. The patient is then ready. A few pledgets of lint and two or three basins of water, one very hot, also at hand. The larger curette is then used with decided force, into, around and about, all parts and edges of affected area, so as to effectually remove all morbid tissue. The smaller curettes can then be used in all sinuses and anfractuosities, and as I have said before with energy. Do not fear hurting the sound tissue, the normal skin is a pretty tough proposition.

It will astonish one not accustomed to this procedure to notice what an amount of fairly good looking, and apparently healthy tissue will come away. It reminds one of an apple, apparently sound, "goodly, but rotten at the core."

Being satisfied then that all that is necessary is accomplished in this way, and this takes but a few instants ordinarily, the next thing is to stop the bleeding, which often, though not grave in character, is persistent.

In some very superficial growths and where pressure etc., can be easily applied, it ordinarily soon (in a minute or two), stops, but in order to save time, and shorten operation, usually I take with me and have ready a Paquelin cautery, the lightest possible touch of the point of which, blocks the spurters, or stops the oozing from a patent lacerated vein. Then for a little while with the application of a solution composed, say, of one-third fluid adrenalin and a 10 per cent. cocain solution, the abraded surface becomes only moist. Then the acid nitrate of mercury in its full 60 per cent. strength is mopped on, which effectually stops all weeping and so to speak, cooks the tissues, this mopping has to be repeated two or three, or several times. The best mops are of cotton wool, tightly wrapped around a wooden applicator, a match or toothpick, and should not be too large, about bulk of pea would be medium size.

This is naturally the painful part of the procedure, by that I mean the first touch, and will doubtless wake your patient up to the consciousness of having a pain somewhere; but after the first touch, and under the greater or less grade of anesthesia present, it will be borne well enough. The continuous action of the morphia, of which naturally the amount can be increased, keeps the patient from intense suffering.

The pain lasts in some degree for some hours as does that ordinarily of a toothache, or scald of whatever nature. The amount of touching with the acid nitrate, can only be learned by experience. I frequently have to allow it to remain ten, fifteen, even twenty minutes before neutralization, when its thorough and deep action seems required; but as I have said, the first touch or scald, is the crucial one. "Ce n'est que le premier pas qui coute."

The last step I have already spoken of: a layer of bicarbonate of sodium is introduced into the excavated surface and pressed firmly down so as to make an adherent scab. This turns yellow as a result of the prompt double decomposition of the salts, and thereafter turns black in a day or two.

This dressing, if I may use the term, should not be interfered with in any way, should be protected and kept dry. Bandages are useless if not annoying.

The scab is allowed to remain *in situ* till it either falls off or is removable with very little force. This occurs usually in any time from a fortnight to three weeks and sometimes longer. It is in fact pushed off as aforesaid by the formation of perfectly healthy scar tissue beneath.

For the first two days or so after operation there will be a good deal of inflammation at site, and around it. If on the face, it will cause apprehension in the anxious, or ignorant; and thoughts of erysipelas, etc.

There never has been in my experience occasion for alarm, even if eyes are closed by the swelling, and I have frequently operated in and around the orbital region; but it must be insisted on to the friends, that no dressing, and especially and particularly, no wet dressing, be applied for fancied relief. It will soon go down.

This inflammation I look upon as a blessing, and for the following reasons I prefer this method to the more elegant mode of removal by the knife.

We all know the beautiful, and when fortunate, the almost unnoticeable scar left after successful ablation by the knife, but I maintain that to remove all the aberrant embryonic cacoplastic cells of sarcoma in the first place, or the buried and equally aberrant and malignant epithelial tissue in the other, to be even fairly certain of non-recurrence by ordinary surgery, a wide margin of ablation should be given, so that much sound and apparently healthy tissue must be removed.

We all know how frequently recurrences happen in these scars, however. By the method which I have described I think, and if experience is any guide I know, that the chances of recurrences are less, and possibly, I think probably, for the following reason or reasons.

I believe these less viable cells of which we know malignant growths are composed, are like unto the imperfect non-viable infant of four or

five months uterine life to use the simile, and must perish under conditions which would little, if at all, affect the normal. I believe then that the inflammation itself and *a fortiori* the absorption of the potent alternative escharotic element by the lymphatic, etc., in the neighborhood of the diseased part, cause the breaking down and destruction of those cells, before named, into innocent waste products, to be cast off by the economy.

In this way, and no other, can I account for what I have stated, as to the non-liability of recurrence.

One further remark: I know some, many, of my colleagues do not agree fully with me in this. I always put my patients on a course of arsenic after these operations for a long time, and intermit for months, even years.

Now, I am no fanatic or admirer of arsenical preparations in ordinary skin disease, eczemas and the like, but I do most sincerely believe in its prophylactic, or better perhaps, inhibitive virtues, in sarcomas at least, very probably I think in epitheliomas, and possibly in true carcinomata.

I think in closing, I may refer you, or any of you that will find it of special interest, to a paper of mine which appeared in the *American Journal of the Medical Sciences,* Philadelphia, for October, 1892, entitled "Multiple Sarcoma, History of a Case Showing Modification and Amelioration of Symptoms, under Large Doses of Arsenic."

It is, I think, at least of some interest. At the time of using I was not acquainted with Kobner of Berlin and Funk of Warsaw's work in the same line, but the results were equally well marked, as showing the beneficial action of arsenic on the economy in destruction or prevention of malignant cell life.

It may be asked finally, how many cases have you had to warrant your procedure, your theory and conclusions? I may frankly say now I do not know. I am not given to compiling of statistics. Very many hundreds certainly. I have said that I have been practicing dermatology purely for about thirty-five years, my private practice has averaged nearly what it does now or better for many years. I used formerly to have at least double my hospital practice, having of late years given up some clinic practice. This year I find on looking over my books that I have operated twenty-eight times on epitheliomas, two sarcomas, five lupus vulgaris, five lupus erythematous, one carcinoma, besides a number of other things, such as linear nevus, nevi, deep abscesses, moles, verrucous growths, etc., with success.

Very seldom, I can remember but two cases now, has a second operation been required.

33 Schermerhorn Street.

ACUTE DIVERTICULITIS.

SOMETIMES MISTAKEN FOR APPENDICITIS.

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INTESTINAL diverticula, generally speaking, are congenital or acquired. The most frequent form of congenital diverticulum is that know as Meckel's diverticulum, and has the following characteristics: It is single and generally has a rectangular implantation in the ileum in the neighborhood of the ileocecal valve, being made up of all the coats of the intestine; its terminal portion may be free or attached to the abdominal wall or the mesentery or another part of the intestine. The acquired diverticula, as a rule, are multiple, small, thin-walled, generally round in shape, and may be found in any part of the intestinal canal, more frequent in the descending colon and rectum, and are nothing more than a hernial protrusion of the mucous membrane through the separating fibres of the muscular coat. Congenital diverticula have been known for years to be the cause of intestinal strangulation and sometimes peritonitis from perforation.

Of acquired diverticula, in the production of intra-abdominal abscess, very little is known, and hardly any literature has been written on the subject.

The case which I wish to call your attention to came into my office during the past year:

Mr. J. P., a middle aged man, 45 years old, thick set, giving a history of pain in the abdomen for past week, in neighborhood of umbilicus, generally constipated and slightly nauseated. The pain sometimes shifted itself to the lower abdomen, being well marked on the left side as well as the right; his pulse was seventy-two and temperature normal. On examination I could find nothing of importance and thought the man suffering from an acute attack of indigestion and constipation, as there was some irritability of the stomach. I accordingly administered a laxative and other appropriate treatment. The patient went to his home and in three days called me to see him, as he had become worse; he at that time also had suppression of urine; pulse 84 and temperature 99; no chill; more pain in abdomen, which gradually became worse and seemed to be more increased in the lower right inguinal region; very little distension of abdomen and slight rigidity. Finally the pain localized itself over the region of the appendix, muscular rigidity became well marked on the left side as on the right side; patient was put in hot pack and catheterized; urine quite scanty, dark in color, showed granular and hyaline casts and trace of albumen specific gravity, 1015. During the night the patient experienced a sensation as if something had ruptured inside of him and called me. On examination I found a mass about the size of a small orange over the region of the appendix. Temperature was 100 and pulse 84, slight distension of abdomen with much rigidity. Thinking, of course, I had a perforating appendicitis, under chloroform anasthesia an incision was made to the right of the rectus muscle, low down over the most prominent part of the mass, through the oblique and transervalis muscles down to the peritoneum. On opening the peritoneum about a cup full of thick, yellow, foul-smelling pus escaped. The intestines were matted together and walled off with a fibrous exudate. The appendix was found intact, but slightly inflamed; the pus seemed to

come up from the pelvis; the intestines were drawn upward; at the bottom of the cavity were found three enteroliths about the size of a very small pea and near by was a highly inflamed loop of the sigmoid flexure of the colon on the right border of which could be seen the gangrenous remains of a perforated diverticulum with gas and feces escaping. The cavity was washed out with normal salt solution, the small perforation allowed to remain open, the wound partly closed, a rubber drain doubled upon itself and inserted and carried down to the botom of the pelvis. The patient rallied from the operation, the temperature subsided; the wound was washed three times daily with a normal salt solution and continued to discharge fecal mater for five weeks, when it closed spontaneously and the patient was as well as ever.

This case proves conclusively that an acute diverticulitis of the sigmoid flexure, causing a right-sided, deep pelvic abscess localizing itself, was caused by fecal concretions or enteroliths which acted as a predisposing cause of the perforation, giving nearly all the symptoms of an acute perforating appendicitis.

EXTRACTING TEST-MEALS.

By ANTHONY BASSLER, M.D.,

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IT is not the purport of this paper to reiterate the historic subject of the stomach-tube, nor does its author wish to say much about the form or quality of the different kinds of tubes, the indications and contra-indications for their use, etc. Much of value in the field of gastric work depends upon the success in the extracting of test-meals, and consequently I feel that a brief addition to the matter of the expression of them is of value enough to pardon a reconsideration of the subject.

Since the introduction of the elastic tube into the diagnosis of stomach diseases (Ewald, Olser), different workers have made changes in the style of the tube until to-day the one suggested by Boas (with the two velvet eyes, difficult to procure in this country) is the best; with the one of Ewald's (modified with velvet eyes to the large aperture and end hole, and which is readily procurable) nearly as good. The Boas tube is the most successful in my hands. I may further parenthetically state that the suggested added advantage of the Ewald tube for lavage purposes is not a strong factor in its favor when you compare the tube with gastric douche tubes of Einhorn and Rosenhein.

The lack of instruction on this subject in our medical colleges; the fact that it is rarely mentioned in our text-books on medicine and diagnosis; the relegation of the duty of drawing test-meals to the third assistant or nurse in the hospital, are most responsible for the reckless *sang froid* on the one hand and the unwise degree of fear in the use of the tube on the other—conditions which may influence the dispatch and completeness of the return, the degree of attendant distress to the patient, and the instances of accidental injury to the integrity of the gastric mucosa during the performance of extraction.

To a practical extent, the first introduction of a stomach-tube is rapid and comfortable, and the results of its employment satisfactory to the operator according to the degree of the technical skill of the physician and his ingenuity in disarming apprehension on the part of his patient. When a test-meal has been prescribed (unless the specific question is asked, which is seldom) no mention or suggestion of the method of its removal should be made. "When you return, I will make a test of your stomach to find out accurately what is wrong," is generally quite sufficient; for often, only the mention of a tube harbors up in the uninitiated mind the horrors of the Kussmaul pump and other strained and unfavorably influencing apprehensions.

The best chair for the patient to sit on is a high-backed, small-seated one. If the throat and fauces are tender (tobacco smokers, chronic pharyngitis and tonsilitis, etc.) precede the introduction with a spraying of a 5% eucain solution, and lubricate the tube with glycerin (glycerin does not injure the rubber as vaseline does and is easily washed off and disinfected in cold solutions), otherwise plain water will suffice. If a patient is present who is accustomed to the passage of the tube demonstrate its introduction to the new patient—this is reassuring to most people. If not, keep the tube out of sight until the patient is seated and properly protected by a rubber apron which buttons around the neck and falls well over the shoulders and knees. Then show the tube and emphasize, in as few words as possible, the harmlessness of its passage and that you would like him to swallow when you tell him to.

It is wise to have every patient begin the introduction (even the nervous ones). I usually have them hold the tube (about five inches from the end) loosely between the thumb and index finger of the right hand and ask them to pass the tip as far back into the mouth as they can, placing my left hand on their left shoulder at the same time. A confident, quiet and gentle mien is wise. When the tube is introduced over the rise of the tongue it should be seized quickly, the patient firmly asked to swallow, during which the tip can be delivered below the laryngo-pharyngeal junction, and then with both hands and with short strokes, pushed quickly into the stomach, at the same time encouraging the patient to breathe as deeply as possible through the nose. For obvious reasons, I always have a closed cut-off, like those used on a fountain syringe, near the outer end of the stomach tube. When the tube is in situ; such words as, "you have done nicely"—"the worst part is over," or some remark pertaining to the most prominent subjective symptom of their trouble is often diverting.

From now on, success in the procedure of the

extraction of the meal is enhanced if the patient's attention can be fixed on something. I have often tried Boas's advice to compel the patient to keep looking into my eyes, as well as other suggested plans, but I have discarded them all. It must be remembered that unless the patient is one of the resigned, confident, or tube-broken type, the only thing in their mind's eye at the time is the twenty or more inches of tube within them, together with the attendant uncontrollable gagging, retching and distress. But in the simple expression method of Ewald's to have the patient hold a receiving bottle in the left hand, to caution them to watch that the end of the tube remains in the neck, and ask them to raise or lower the bottle and so on as you direct, is of value; while with your left hand and arm around the back of the patient's neck you unlock the cut-off and slowly introduce the tube further or draw it out as is required to gain the level of the gastric contents. I usually do not open the cut-off until the moment is favorable and immediately afterward I tell them to strain for the first time.

The universal employment of the simple expression method and its success in the majority of instances is its great endorsement. In the plain test breakfast (35 grammes of wheat bread and 400 grammes of water) and under the common conditions found in the routine of cases it suffices. But much of the success in the method depends upon the skill with which it is done, the fluidity of the chyme, the amount of the meal within the stomach, the force of the abdominal straining, the relative location of the tip and the patency of the tube in its first few inches.

As case after case comes to us in our private and hospital practice every now and then, in even the best hands, we meet with discouragement when depending upon expression alone. Of course if we are satisfied with obtaining less than the entire quantity of chyme present in the stomach then no more need be said. Surely, to do the proper kind of scientific gastric work a greater quantity of gastric juice is required than that. What can you ordinarily do with 10 or 15 c.c. of chyme after it is filtered?—a test for reaction, a makeshift quantitative examination of total acidity, a few drops for the starches and maltose, a slide or two for the microscope and loops for cultures, and it is all gone. How about the knowledge of the total quantity so necessary for estimating the condition of motility and patency of the pyloris; the amount of incorporated mucus that renders the chyme almost too viscid to rise through the tube; the undigested food substitutes (skins, green vegetables, fascia from meats, etc.) from an early breakfast hours ago, possibly from the evening before, and the particles of which had occluded the eyes of the tube; the proper quantitive and qualitative examination of all the acids (hydrochloric, lactic, butyric and acetic); the thermostat work with the ferments; the chemical tests for the albumoses, peptones, dextrine, erythrodextrine, achrodextrine and maltose, and so on through other examinations as they suggest themselves? No, it is essential for the best kind of work that the stomach be emptied.

Does a stomach tube always patently follow the course as suggested by Boas?[1] Not always. To prove this to myself I covered the lower end of a stomach tube with a tightly fitting rubber condom and thereby occluded the end apertures, and then, half filling the tube with an emulsion of bismuth, subnitrat, passed it, on several occasions, into the stomachs of three of my patients. I selected thin subjects in whom the greater curvature of the stomach was definitely above the transverse umbilical line. By means of the Roentgen rays (Crooke's tube in the back of the left lumbar region and its target facing slightly upwards, with a flouroscope screen pressed tightly over the gastric region in front) I proved to myself that a tube may also bend with its convexity towards the pyloris. It seemed to depend upon how the tip engaged on the floor of the stomach and the uplift of the lower regions of the stomach in the act of vomiting at the contact time, and possibly also upon the condition of the peristaltic wave in that location at the same moment. However, to see how a stomach tube can kink under the influence of vomiting explains fully the, before rather unaccountable, reason of why the return of a test-meal sometimes stops in the middle of a jet, and also why at times it does not return as it should when the conditions for it doing so are apparently favorable, and a rather unpleasant sensation within oneself as to whether the point of this stiff, straight tube (unless it lays well along the floor) may not do actual harm to the integrity of the gastric mucosa itself. Personally, I believe that it can and often does. What other explanation is there for the occasionally seen blood-tinged last few cubic centimeters of a test-meal (blood not from the pharynx and fauces) and for the more rarely found particles and small pieces of glandular layer of the stomach returned by the simple expression method (I mean in cases that are not ulcer, erosions, malignant disease, congestions of the stomach, etc.). It is no doubt due to the play of the tube on the pressing stomach. I may incidentally mention that the employment of this bismuth tube is an accurate and easy method of discerning the lower outlines of the stomach.

In the face of the prevalent strong opinions against it, and Fleiner's[2] caustic words, I am becoming more and more dependent upon the assistance of aspiration, and as the consideration of this immediately centers into the matter of suction, and as this is the main purpose of my paper, I will now enter into this subject.

Suction can be practically exerted: firstly, by syphonage with a length of outside tubing reaching to a level below that of the stomach; this method answers well for the return flow of lav-

age, but for obvious reasons is not worthy of much consideration in the extracting of test-meals. Secondly, the employment of strong rubber spheres or syringes attached directly to the outer end of the tube; whether it be the pear-shaped rubber ball of Ewald's,[3] the ovoid one of Boas[4] or the globular one on the Chase apparatus or any tight-fitting syringe or pump, for routine diagnostic gastric work, their employment should be discouraged. They belong best in the kit of the ambulance surgeon for use in his emergency poison cases. And lastly, suction can be exerted by the employment of a bottle from which more or less air can be readily extracted, such as the apparatus recommended by Fürbringer[5] to remove pleural exudates and which has been modified by different observers since its introduction.

I feel that much of the harm and the prevalent opprobrium of suction can be attributed to the employment of suction to a tube by the means of a directly attached ball or syringe. When at work, such an apparatus practically incorporates the entire length of stomach-tube itself into part of the syringe, the end holes of the nozzle of which play directly upon the gastric mucosa. The danger of harm is plain. If an assistant manipulates the syringe or ball too strongly a too great degree of suction is very liable to take place, and often when there is no return (because the eyes of the tube are in contact with the gastric mucosa, etc.) the efforts of suction are the more energetic. By the using of a ball (only one hand required) you can better control the suction yourself. But with it, it is difficult to regulate the degree of the force, and in a rash moment, born of discouragement, one is liable to send in a charge of air, to clear the apertures, followed by a much too forcible draw. I appreciate this as an extreme statement to make to my careful and scientific colleagues, but I have seen it happen in the hands of careful workers in this field of medicine, and I feel that it more frequently occurs with those less skilled than they.

By the means of an intervening bottle the suction can be nicely regulated. Even with the employment of the Potain exhauster (and surely with the rubber ball aspirator) there is seldom any too great degree of suction force, and to minimize the liability of this further I have discarded the use of the previously exhausted bottle, in which the vacuum is very much of an unknown quantity (too complete or too low), and exhaust, or rather encourage, the return of the meal by the use of an aspirating ball as the indications for its use arise. The attachment of the Potain syringe also requires an assistant, and again the strange hand in the handling of it. To obviate the unnecessary disturbing moral effect on the patient by the presence of another, and to hold the continued safe control of the suction, I have dispensed with both and employ the ball instead, which is easily manipulated by the one hand while the other controls the tube within.

The bottle is a simple, heavy, two-necked test-bottle of 500 c.c. capacity, on which are marked graduations (diamond ink used) running from 20 to 260 c.c., the two long marks to the right, at 20 and 50 c.c., show the limits of normal returned quantities from an Ewald and Boas meal. In the left rubber stopper is a single bent glass tube connecting by means of a length of tubing on which is a cut-off with a straight glass tube that fits directly into the end of the stomach tube. At the beginning of the expression if the return is easy, quick and not too distressing to the patient, that completes all there is to the ap-

The Author's Test-Meal Bottle

paratus. It is simply expression into a graduated bottle of small size, the right end of the apparatus being detached and therefore inconspicuous. The right end consists of a Y-shaped tube, bent downward, to which is attached the aspirating bulb (front bulb), and an inflow bulb (rear one) for the purpose of inflating the stomach after the meal has been extracted. This right end can be quickly plugged into the right neck and be brought into use in an instant of time. The extracting limit of the aspirating bulb is 70 c.c., the capacity of the bottle and its length of tubing from it to the gastric end of the tube is about 550 c.c., thereby making the degree of suction from the bottle from nil to only and always a safe and easily regulated degree of force. The attachment of the two bulbs on the one stem does away with the necessity of changing the aspirating bulb around for the purpose of inflation. The bottles and tubes are all easily cleaned, the right end never coming into actual contact with the meal. The graduations on the bottle mark the upper meniscus as the meal is generally turbid.

It is true that all this means "apparatus" and apparatus sometimes suggests to an apprehensive patient a "pumping out of the stomach." But in this regard my experience with the bottle has not been discouraging; on the contrary, patients have often expressed words of surprise and pleasure that it was all done so much quicker and with less distress than had been their experience on other occasions when the tube alone had been

used. And I have been so well pleased with the employment of it that I feel that I can heartily endorse its use. For it is true that under all conditions and particularly when extracting a test-dinner or when there are obstructing particles of food in the chyme in the stomach, it is decidedly more satisfactory than when depending upon expression alone. With the proper degree of thoughtful manipulation and skill, from a bottle like this, a stomach can be emptied quicker and more positively, with less distress to a patient and surely with no added dangers to the integrity of the gastric mucosa than by the unassisted simple expression method, and I say this after an ample experience, a close consideration and observation of the subject, and the minute examination of several hundred extracted meals.

228 East 19th Street.

[1]Boas: *Centralbl. f. innere medicine*, 1896, No. 6, and "Diseases of the Stomach," p. 98.
[2]Fleiner: "Lehrbuch der Krankheiten der Verdauugsorgane," Stuttgart, 1896.
[3]Ewald: *Klinik der Verdauugskrankheiten*, 1893, 3 Auflage, S. 13.
[4]Boas: "Diseases of the Stomach," p. 139.
[5]Fübringer: *Berliner Klinische Wochenschrift*, 1888, No. 13, S. 254.

OBSERVATIONS ON THE INTRA-CRANIAL COMPLICATIONS OF MIDDLE EAR SUPPURATION, WITH A REPORT OF TEN CASES.*

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A PURULENT infection of the mastoid process may be followed, at any time, by an invasion of the meninges, the intra-cranial blood vessels, or of the brain.

To the surgeon endeavoring to trace and follow such an invasion from the middle ear, the factors tending to cause the lesions are an interesting study. Beginning in the middle ear and the mastoid process, the invasion reaches the cranium partly along performed anatomical channels, and partly through orifices artificially made by the destructive action of the diseases in the bone.

Anatomically, the petrosquamosal suture, and openings in the tegmen during early life, besides developmental defects[1] in its contiguity at other ages, affords a possible route of invasion to the middle cranial fossa. The floor of the tympanic cavity, overlying the dome of the jugular bulb, likewise often exhibits defects, making possible the direct transmission of purulent inflammation from the tympanic cavity to the jugular bulb.

In the mastoid antrum, the protuberance of the horizontal semicircular canal exposes it to the eroding influence of the pus in this cavity, while the medial wall of the tympanic cavity, being as it is, the external wall of the internal ear, lays a possible route to the cranium open, by invasion at either labyrinthine window, by erosion of the promontory, or because of developmental defects in the bony encasement of the facial nerve.

Once in the labyrinth, pus reaches the cranium through various channels. It may follow the acoustic nerve to the internal auditory meatus; by involving the internal auditory vein, and after involving the inferior petrosal sinus, the lateral sinus becomes affected. The posterior cranial fossa may be reached because of pus in the aqueductus vestibuli, and following a purulent collection in the aqueductus cochlea, the jugular vein may be reached through involvement of the small vein which drains the cochlea (Körner). Nor must the communication between the perilymph channels of the internal ear and the subarachnoidal space be left out of account when considering the avenues of invasion toward the posterior cranial cavity.

We are all familiar with cases which have had a middle ear suppuration for many years without at any time in their course evidencing the slightest symptom of intracranial involvement. In such cases, after the advent of an acute inflammation, intracranial complications are somewhat common. The determining factor of the acute exacerbation is likewise the important element in producing the intracranial lesion. Any element which impedes free drainage of the middle ear spaces is thus of moment, because tending to cause pus retention. Among such may be enumerated, medicinal powders which cake in the external auditory canal, exuberant granulations, foreign bodies, aural polyps, impacted cerumen, exostoses, etc. Furthermore, in case of long standing middle ear suppuration, the eburnization of the mastoid is quite a common finding. This hardening of the mastoid cortex, the effort of nature to shut off the purulent process, thus making egress of the pus more difficult externally, favors its advance inward toward the cranium. In addition, the eburnization is very rarely observed at the tegmen. The eburnization of the temporal bone is, therefore, a significant factor toward the production of intracranial lesions.

In mastoid surgery, the prolonged use of the chisel—a necessity when operating upon an eburnized mastoid process—is in itself a causative factor in the production of cranial lesions. Conceivably, the shaking and jarring of the head may break down protective adhesions, set free septic particles and arouse into activity a meningeal or brain lesion which has been dormant for a long time, and which, without such trauma, would have continued to be quiescent indefinitely. This experience, which is by no

*Read before the Medical Society of the State of New York, January 30, 1908.

[1] Bürkner (Transactions X International Medical Congress, Bd. IV) places these at 176 in 765 bones; and Körner (*Archiv. fuer Ohren.*, Bd. 28) places them at 18 times in 209 bones.

means rare in radical mastoid surgery, has lately brought the indications for the radical mastoid operation into close scrutiny. I do not wish to discuss this latter phase of mastoid surgery. Suffice it to draw attention to the radical mastoid operation as a causative factor of cranial lesions. On the other hand, we have no means whereby to estimate how soon a walled-off intracranial lesion will of itself become active. Other agencies acting similarly to surgical trauma are causative factors. Thus a fall, any accidental trauma to the head, a sudden jar, in cases of long persisting middle ear suppuration may arouse into activity a latent lesion. This side of the question should be considered when the likelihood of surgical trauma is discussed as arousing cranial complications.

With these remarks as introduction, I report the following ten cases of intracranial lesions which came under observation during the last eighteen months. The lesions either followed or were found at the time of operation in four simple mastoidectomies, and six radical mastoid operations.

The following tabulates the cases:

Case I.—Sex, female. Age, 27 years. Side, right. Ear disease, O. M. P. C. Duration, 3 years. Nature of original operation, radical. Significant operative findings—Bone completely eburnized. Antrum very small. Cheesy deposits in antrum. Tegmen intact. When opened extradural abscess discovered. Pus of very foul odor. Dura covered with granulations. Later at exploratory operation. Pus near tip of petrosal pyramid. Significant post-operative symptoms—Dizziness, falling forward, headache, fever, later nystagmus toward healthy ear. Intermediate lesion—Necrosis of dura. Perforation middle cranial fossa. Empty cerebral (sphenoidal lobe.) Abscess. Terminal lesion—Meningitis. Result, death. Remarks—Encapsulated cerebral abscess plus extradural abscess in middle cranial fossa. The radical operation may have started into activity a process which was encapsulated and quiescent for some time. The operation was imperatively indicated by the acute exacerbation of the chronic middle ear suppuration.

Case II.—Sex, male. Age, 1 year. Side, left. Ear disease, O. M. P. C. Duration, 3 weeks. Nature of original operation, radical. Significant operative findings—Mastoid cortex perforated with fistulous tract leading to antrum. Dura over tegmen and lateral sinus exposed. Posterior meatal wall destroyed. Facial nerve involved in granulations. Horizontal semicircular canal wall necrosed and opened. Significant post-operative symptoms—Persistent facial paralysis (had been present before operation). Later, advent of rigidity of back and neck. Spasms of muscles, stupor and unconsciousness. Vomiting. Intermediate lesion—Purulency in internal middle ear found at exploratory operation. Terminal lesion—Meningitis. Posterior and middle cranial fossa involved. Remarks—Patient had gastro-intestinal disturbance for some time and only came under observation at time of development of facial paralysis. Child much emaciated and semi-comatose when admitted.

Case III.—Sex, female. Age, 1½ years. Side, left. Ear disease, O. M. P. C. Duration, 1 year. Nature of original operation, radical. Significant operative findings—Mastoid cortex perforated. Usual findings except that horizontal semicircular canal eroded by diseased process. Stapes embedded in granulations. Significant post-operative symptoms—Facial paralysis came on one week after radical mastoidectomy. Petechial rash all over the body. Rise in temperature. Later, refusal to take food. Rigidity of back. Later, loss of consciousness. Absence of nystagmus during exploration of stapes. Intermediate lesion—Discovered at exploratory operation—purulency in internal ear. Discolored and purulent cerebro-spinal fluid obtained from arachnoidal space, under pressure in posterior cranial fossa. Terminal lesion—Meningitis. Posterior cranial fossa. Result, death. Remarks—Gastro-intestinal disturbances for some time. Lumbar puncture failed to show cerebro-spinal fluid under pressure in spite of great pressure evidenced when posterior cranial fossa was opened. Noteworthy sudden facial paralysis, one week after radical operation.

Case IV.—Sex, female. Age, 1½ years. Side, right. Ear disease, O. M. P. Ac. Duration, 1 week. Nature of original operation, simple mastoid operation. Secondary operation, radical. Significant operative findings—*At simple operation:* No cortex perforation. Cells filled with granulation detritus and pus. No dura exposed. Blood clot after-treatment unsuccessful. *At radical operation:* Necrosis of bone over middle cranial fossa. Stapes embedded in granulations. Perforations of its angular ligament. Exposure of dura showed it to be healthy. Significant post-operative symptoms—One month after simple mastoidectomy, high fever, vomiting and sudden facial paralysis. Late in course of disease: Inequality of pupils, the right one being larger than the left. Intermediate lesion—Involvement of the labyrinth through perforated annular ligament of stapes. Posterior fossa involved. Disease along facial nerve. Terminal lesion—Internal ear involvement. Death due to shock from operation on labyrinth. Result, death. Remarks—Gastro-intestinal disturbances with onset of ear trouble. Facial paralysis one month after simple operation and synchronous with high fever, vomiting and spasms. Death undoubtedly resulted from shock.

Case V.—Sex, female. Age, 18 years. Side, left. Ear disease, O. M. P. C. Duration, 17 years. Nature of original operation—Radical exploration of lateral sinus and resection of internal jugular vein. Significant operative findings—Mastoid process eburnated. Purulent tract found from antrum to sigmoid sinus. Sinus wall found open, its interior full of fluid pus, no blood. Internal jugular vein found collapsed. Resected. No bleeding obtained from behind, until sinus was opened to within ½ inch of torcular. Dura when exposed was found normal, both in posterior and middle cranial fossa. Significant post-operative symptoms—Headache came on late. Low septic temeprature. Some vomiting and nausea. Blurring of optic disc on temporal sides, lateral nystagmus. Left pupil larger than right. Some dizziness. Intermediate lesion—Exploration of dura over cerebellum showed same to look normal. Terminal lesion—Intra-meningeal cerebellar abscess discovered after death. Result, death. Remarks—Acute exacerbation of a chronic purulent middle ear. Before operation, a marked albuminuria, which subsided after operation. Perisinus abscess. Noteworthy was the healthy appearance of cerebellar dura, which covered and concealed the intradural collection of pus. The resection of the jugular and removal of septic thrombi from the sinus was a success, inasmuch as the wounds in the neck were almost closed and the mastoid wound healing, the patient out of bed, before the advent of temperature, etc., gave evidence of the terminal lesion.

Case VI.—Sex, male. Age, 52 years. Side, right. Ear disease, O. M. P. C. Duration, 3 years. Nature of original operation, radical. Significant operative findings—Cortex intact. Interior of mastoid process entirely disintegrated. Inner table absent, sinus and cerebellar dura uncovered and coated with discolored granulations. Dome of jugular bulb exposed. Facial nerve imbedded in granulations. Dura over tegmen ulcerated. Pus coming from interior. Exposure of brain showed surface ulcerations. Significant post-

operative symptoms—Local pains and headache. Slow cerebration. General apathy. Intermediate lesion—Intradural abscess in middle cranial fossa. Result, recovery. Remarks—Facial paralysis of three weeks' duration before operation. The operative findings showed a mastoid process almost entirely disintegrated. The patient recovered because the internal ear escaped involvement.

CASE VII.—Sex, female. Age, 3 years. Side, left. Ear disease, O. M. P. C. Duration, 1½ years. Nature of original operation, radical. Significant operative findings—Cortex intact. Bone necrosis extended to tegmen, at time of original operation. At exploratory operation: Tegmen antri et cellulæ found necrotic, extra cellular pus. Significant post-operative symptoms—Comatose, high fever, Kernig's sign. Rigidity of back and neck. Intermediate lesion—Extradural pus in middle cranial fossa. Intradural and intraventricular pus. (Lateral ventricle involved.) Terminal lesion—General purulent meningitis. Result, recovery. Remarks—Pus found in mastoid; extra, intrameningeal accumulations evacuated. Lateral ventricle punctured. Lumbar puncture gave purulent cerebro-spinal fluid. Recovery because exciting disease was radically removed, intracranial pressure kept down by lumbar puncture, and meningeal drainage was promptly established.

CASE VIII.—Sex, male. Age, 16 months. Side, left. Ear disease, O. M. P. C. Duration, 2 weeks. Nature of original operation, simple mastoidectomy. Significant operative findings—Marked post-auricular superficial swelling; gave no pus upon incision. Cortex found to be perforated. Upon opening cortex, pus under pressure, coming away in pulsations. Dura over tegmen antri exposed, extra dural abscess. Sinus wall lying free bathed in pus. Exploration of wound because of fever in four weeks, showed granulations dirty; these removed to dura. Significant post-operative symptoms—In the fourth week of after-treatment vomiting and high fever. Result, recovery. Remarks—Onset with gastro-intestinal disturbances. Noteworthy, swelling superficially behind ear, giving no pus on incision. Pus coming from opened cortex in pulsations. Extra dural (middle cranial fossa) and perisinus abscess. Recovery follows prompt surgical intracranial intervention.

CASE IX.—Sex, male. Age, 38 years. Side, right. Ear disease, O. M. P. A. Duration, 3 weeks. Nature of original operation, simple mastoidectomy. Significant operative findings—Marked post-auricular superficial swelling, which gave no pus on incision. Cortex found open. Fistulous tract leading down to antrum. Sinus wall exposed and bathed in pus. Covered with granulations. Significant post-operative symptoms—Some stiffness of neck. Blood in urine. Result, recovery. Remarks—At no time, either before or after operation, was there marked pain in the ear, nor was there any sharp temperature rise. Noteworthy: Superficial post-auricular swelling without evidencing fluid pus when incised. Perisinus abscess evacuated and evisceration of all bone disease lead to recovery.

CASE X.—Sex, female. Age, 22 years. Side, left. Ear disease, O. M. P. A. Duration, 1 month. Nature of original operation, simple mastoidectomy. Secondary operation—Radical mastoid exploration of dura. Significant operative findings—Marked post-auricular swelling, giving no pus upon cutaneous incision. Cortex intact. Pus coming away in pulsations. Inner table broken through with pus between dura and bone—cerebellar region. Sinus uncovered because of suspicious appearance opened—no thrombus. Pater, pus between tegmen antri and dura evacuated. No intradural pus found. Significant post-operative symptoms—Septic condition before general operation. Semiconscious after, until death. Intermediate lesion—Extradural abscess in middle and posterior cranial fossa. Terminal lesion—General septic pyemia. Result, death. Remarks—The case was one of delayed surgical intervention. At the time of mastoid operation, patient was already profoundly aseptic. The evacuation of pus extradurally and intrameningeal drainage occurred too late to offer relief, patient dying before recovery from the systemic sepsis was possible. The radical could not be undertaken on the first day because of precarious condition of patient.

Summarizing, we find as follows: In age, the cases ranged from one to 52 years. Both sexes were represented, there being six females and four males. The left side was diseased four times, the right six times. The duration of the ear trouble, prior to coming under treatment, ranged for the acute cases from two to four weeks. For the chronic cases, from 1½ to 17 years.

The acute cases occurred mostly in children. Two of these gave a lapsed interval of time between the first operation and the advent of the intracranial lesion. The complicating lesion was ushered in with sudden facial paralysis and high fever. Gastro-intestinal disturbances and absence of otorrhœa marked the process in another of these cases until the advent of otorrhœa simultaneously with the appearance of facial paralysis drew attention to the diseased ear. In these three cases, the intermediate lesion involved the internal ear. The third case among the children was relieved before the internal ear became involved.

Three cases presented all the external evidences of subperiosteal abscess, yet upon cutaneous incision no fluid pus was evacuated from the tissues overlying the mastoid process. This tissue was found indurated, edematous and friable. The mastoid cortex was found perforated four times, three times among children; once in an adult 38 years of age.

Marked albuminuria presented in a case of sinus thrombosis. This disappeared after removal of the thrombus.

Inequalities in the pupils were noted. In two cases, the larger pupil corresponded with the diseased side.

The middle cranial fossa was invaded five times, the posterior cranial fossa was involved alone four times, and both middle and posterior cranial fosa were found involved twice.

In a general way, two routes were travelled by the pathologic process:

I. The direct route, the disease spreading by contiguity from the middle ear to the inner table covering blood vessels or tegmen—dura. and, therefore, involving the meninges. Such was the finding in seven cases.

II. The indirect route, the disease spreading from the middle ear and only involving the meninges and brain after first diseasing the labyrinthine channels. This occurred in three cases.

Pathologically, the following lesions were found in these cases:

Pachymeningitis externa (extradural and perisinus abscess) .....7 times
Pachymeningitis interna (intradural abscess-cerebral and cerebellar).....4 times

Cerebral abscess (tempero-sphenoidal lobe) .....once
Cerebellar abscess .....once
Sinus thrombosis (involving jugular bulb, once
Ulcerations on the brain cortex.....once
Purulent labyrinthitis .....3 times
Pus in the lateral ventricle.....once

A few remarks on these lesions are in order.

The *purulent inflammation of the external surface of the meninges* and the formation of extradural abscess are the most commonly met otitic intracranial lesions. It is generally the sequelæ of bone necrosis extending to the dura, or it follows caries or cholesteatomatous degeneration of the temporal bone. The disease is generally traceable to the dura. When occurring in the cerebellar region, the pus accumulation takes the form of a perisinus abscess.

Invading the middle cranial fossa, the pus is located over the tegmen, although it has been noted at the top of the petrosal pyramid.

If the abscess complicates a middle ear suppuration, the bone is not necessarily completely disintegrated. It is often found partly eburnized and interlaced with purulent tracts.

At the site of the abscess, the dura is found discolored, often covered with granulations. The meningeal membrane may exhibit surface ulceration infiltrated with pus. On the other hand, sometimes it appears thickened, lifted off from the bone, and between it and the bone, a thick stream of foul smelling pus oozes.

The differences in the findings are, to my mind, varieties of degree rather than kind, depending to a great extent upon the time when the lesion is discovered. An earlier operation may uncover only a thickened dura, where a later one would have disclosed an ulcerated membrane. The virulence and variety of the invading micro-organism is also a factor determining the findings.

Extradural abscesses readily yield to treatment when early uncovered and the pus thoroughly evacuated.

The intrameningeal abscess (intradural abscess—pachymeningitis interna) is found when the virulent process disintegrates the dura and involves the intradural spaces, meanwhile remaining circumscribed and *not* causing a general infection of the subdural spaces.

The dura, like the peritoneum, appears to be able to take care of a certain amount of infective material without producing a general infection of the membrane. The short duration of the process in the intradural spaces and the lower virulence of the infection are factors preventing general infection of the intradural spaces.

Körner (Die Eitrige Erkrankungen des Hirns, die Hirnhaute und die Blutleiter) describes two types of intradural abscess.

1. The subdural abscess accompanied by ulcerations on the brain cortex.

2. The formation of intradural abscess with a somewhat diffuse involvement of the intradural spaces.

Again, I hold these to be differences of degree rather than of kind.

The first type may be latent and quiescent for some time without any symptomatic manifestations. (Observed in Case VI). This type usually involves the middle cranial fossa. It yields to surgical treatment promptly as Case VI shows.

It seems impossible to diagnose the presence of such an abscess before operation.

The second type of this lesion is seen in combination with the extradural abscess, or with sinus thrombosis, or with actual brain abscess (Case I).

The varying clinical picture results from the extent and varying complications of the lesion.

Diognosis is rarely possible except upon the operating table. When recognized thus, and evacuated, response is prompt to surgical treatment. In the diffuse type, if the inflammation has extended far into the intradural spaces, the prospects of recovery are not so good. This was shown in Cases I and X.

Finally, there are cases which cannot be correctly classified as either extra or intradural. These present features of both classes and often, in addition, present rather deep ulcerations or necrotic areas of the brain surface proper (Case VI).

Purulent otitic meningitis occurs as an involvement of the pia mater, and may present, either independently of, or as a coincidence to sinus thrombosis or brain abscess, or it may be the result of any of these lesions. As the terminal lesion it was observed in Cases I, II, III and IV.

As compared to brain abscess or sinus thrombosis, it is a rare sequelæ of middle ear suppuration in its uncomplicated form. Superficial brain ulcerations may be found. Small surface abscesses have been observed by Martin (Cited by Huguenin, Ziemssen's Handbuch Bd. IV), Bürkner (Arch. fuer Ohren. No. 19, Case III), Bezold (Arch. fuer Ohren. No. 21, Case V), and others. Sometimes the pus enters the ventricles, as personal observation has shown (Case VII).

The greatest pus accumulation occurs generally at the place when the meninges are in contact with the diseased bone, and the location of the greatest pus accumulation is, therefore, sought at this demonstrable point of contact (Held and Kopetzky, Arch. of Otology, vol. XXXV, No. 6. The case upon which this observation was made is here republished as Case VII). The meningeal involvement spreads from this point.

When the intrameningeal purulency is brought about through a labyrinthine infection, we usually find the meninges to have become affected primarily in the cerebellar region. Such was the finding in Cases II, III and IV.

In Cases III and IV, even when the exposure

of the dura in the cerebellar region demonstrated extreme intracranial tension, the lumbar puncture did not evidence cerebrospinal fluid under pressure in the spinal column. As the histories show, subsequent incision of the dura freed a large amount of purulent fluid from the arachnoid space, notwithstanding the finding of negative pressure at the lumbar puncture.

The question of diagnosis of purulent meningitis is not within the scope of this paper.

The causative disease of *brain abscesses* is generally a chronic middle ear suppuration of many years' duration. In Case I, the suppuration had persisted for three years; in Case V, for eighteen years.

In the majority of cases, the brain abscess results from actual disease of the bone, and not from disease of the mucous membrane lining the middle ear cavities. The differential diagnosis between a chronic middle ear suppuration whose pathology demonstrates bone disease from one only involving the mucous membrane, therefore, becomes an important item in estimating the possible advent of a brain abscess in cases of long standing middle ear suppuration. To a great extent, such differentiation is possible through a study of the otoscopic picture and a bacterial and cytological examination of the ear discharge.

Observation has shown that in brain abscess, the dura is often found adherent to the brain surface, and, therefore, upon uncovery of a locality of this finding, a brain abscess is to be suspected.

Time and space forbid a detailed discussion of cerebral and cerebellar abscess.

The treatment of the intracranial lesion depends upon the local findings in the given case. No hard and fast rule can be formulated as a guidance. Each case offers characteristics which must be met individually.

The principles involved in treating these lesions may be summed up as follows:

I. *Complete eradication of the primary foci of disease in the temporal bone.* This is to be understood as a searching surgical exploration of the boney wound cavity, generally under full anesthesia, to find and eradicate overlooked purulent mastoid cells; to expose and examine the sinus wall and the tegmen dura. If the symptom complex directs attention toward the labyrinthine capsule, then a wider opening of the middle ear spaces is indicated, and a search of the capsular wall for evidence of the route of invasion of the internal ear is demanded. With labyrinthine purulency established, if defects are discovered in the walls of the semicirculars, or ulcerations at the labyrinthine windows, or perforations in the cochlear whorl, then further exploration of the internal ear becomes necessary. This should be undertaken only upon positive findings, for the surgery of the middle ear is not only a grave procedure in itself, but one which necessarily sacrifices the hearing faculty on the affected side.

II. *Evacuation of extradural, intradural and brain abscesses, with establishment of meningeal drainage.*

The uncovery of the sinus wall will give evidence of its condition from its appearances, feel, color, etc. The very uncovery of the sinus wall will evacuate a perisinus abscess. Regarding the exposure of a small area of dura over the tegmen, this in itself is a harmless procedure, if the dura is healthy, and when done as a routine measure in suspicious cases, it will often uncover unsuspected extradural pus accumulations. The appearance, feel and color of the uncovered dura, added to the evidence of intracranial tension, leads to suspicion of intradural lesions. This becomes more positive, if the dura is found covered with discolored granulations, from whose meshes pus is observed coming away.

Small necrotic dural areas are left *in situ*. Larger areas of necrosis are removed.

Incision of the dura evacuates intradural pus. When a large accumulation is evident, it has been found better to make exposure through the squamosal plate, and then create a counter opening from which meningeal drainage is better established. Multiple parallel incisions in the dura have been found advantageous. The evacuation of an abscess in the sphenoidal lobe, or if the case demands it, puncture of the lateral ventricle is easier of performance from the opening in the squamosal plate, than through the existing mastoid wound.

The evacuation of a perisinus abscess may, by the subsequent development of the case, namely, the establishment of sinus thrombosis, necessitate exploration of the sinus and eventual ligature of the internal jugular. As soon as the diagnosis of this condition is made, just so soon should its surgical treatment be undertaken.

The persistence of febrile symptoms, with a healthy wound after resection of the jugular and eviscertation of a sinus thrombosis, leads to a suspicion of a cerebellar pus accumulation.

The removal of the inner mastoid table overlying the cerebellar meninges is then indicated. If cerebellar abscess is located, entrance to the accumulated pus may be made either from the mastoid wound or from behind, through the skull cortex. The location of the abscess governs the procedure in a given case.

III. *The maintenance of intracranial pressure, as near normal as possible, through repeated lumbar punctures.* Aside from the diagnostic data which the cerebro-spinal fluid furnishes, the relief afforded by lessening intracranial pressure is important. We have invariably observed a clearing of the consciousness, less rigity of the back, and generally a better systemic condition to follow the puncture. In cases advancing toward recovery, the observation of less and less purulency in succeeding puncture fluids encourages efforts to secure recovery. Such results are obtainable, however, only in cases wherein the foramen Magendie is patent. An

obstruction of this outlet, and negative pressure of fluid in the spinal column with high tension of fluid in the subarachnoid space intracranially is a finding indicative of a bad prognosis.

This sums up the principles of surgical intervention.

The results of our operative intervention were as follows: Of the ten cases, six died and four recovered. Of those terminating fatally, one died of septic pyemia, the operation having been performed too late to secure recovery from the profound general sepsis. A second case, in a child, died before the operative results were determinable—probably from shock. In the remaining fatal cases, the lesion progressed in spite of operative intervention.

The extent of the lesion does not necessarily cause a fatal outcome. In one of this case series, recovery was obtained (Case VII) in spite of pus located extra and intradurally and from the lateral ventricle and spinal cord.

The study of these cases demonstrated that fatal terminations obtained in those cases wherein the principal foci of the lesion was situated in the posterior cranial fossa. Furthermore, in only one of the fatal cases (Case X) could the bone disease be traced directly to the meninges by contiguity. Unfortunately, autopsies were not obtainable, but from the gross operative findings in Cases II, III and IV, it was unmistakably evident that the posterior cranial fossa became invaded through the labyrinthine channels. The clinical picture also substantiated this. We feel that had the disease been checked in the labyrinth, some of these might have recovered.

Of the cases which recovered—Cases VI, VII. VIII and IX—the meningitis and abscess formations were brought about by direct contact with diseased bone. The labyrinth was not involved.

It seems, therefore, at the present state of our knowledge of these lesions, that a meningitis produced by contiguity offered better prospects for ultimate recovery after operation, than one which follows an invasion of the labyrinth. Disease in the middle cranial fossa gives a better prognosis as to eventual recovery after operation than obtained from a purulency in the posterior cranial fossa. Furthermore, disease in the posterior cranial fossa, when operated upon, will *not* yield to treatment unless the labyrinthine purulency is first eradicated.

In conclusion, I urge that expectant treatment in the face of post-mastoidal intracranial symptoms be limited as much as possible, and that as soon as diagnosed, or even a well founded suspicion of purulent involvement of the meninges is entertained, that a systemic exploration of the meninges and labyrinthine capsule be undertaken.

The operation on the labyrinth should not be deferred until meningeal symptoms intervene, as then the symptoms from the latter overshadow the former, and the chances for eventual recovery are lessened.

The establishment of early meningeal drainage will save many cases which otherwise would develop general meningitis and terminate fatally.

Finally, even the most desperate cases from the clinical standpoint should be subjected to exploratory operation, because occasionally surprising results will follow, and the exception to the generally fatal rule may save a patient who otherwise would die.

Summarizing our conclusions, we find:—

1. That intracranial complications result from contact of diseased bone with dura, or they come about from an invasion of the cranium through the labyrinthine or other anatomical channels.

2. That trauma, either accidental or surgical, may arouse into activity latent intracranial lesions.

3. That intracranial lesions are generally, although not invariably, the result of an engrafted acute process upon a chronic middle ear suppuration, especially if the chronic suppuration is a disease of the bone.

4. That the intracranial invasion, when located in the posterior cranial fossa, generally will first have involved some part of the labyrinthine channels.

5. That involvement of the middle cranial fossa is more amenable to surgical treatment than when the posterior cranial fossa is the seat of the lesion.

6. That the earlier the surgical intervention, the better the prospects of ultimate recovery.

7. The evacuation of pus from the posterior cranial fossa without surgical relief of the purulent labyrinthitis is useless (when labyrinth is involved).

8. That lumbar puncture, as an aid to surgical treatment, is of undoubted value.

9. That no case should be considered too hopeless to submit to operation, as sometimes surprisingly good results are obtained even in such.

10. Finally, that surgical trauma, in the form of the radical mastoid operation, should only be imposed on patients in whom the positive diagnosis of *bone necrosis,* unyielding to other treatment, is made, and that the radical mastoid operation should not be undertaken simply to attempt a cure of a persisting purulent otorrhea.

616 Madison Ave.

"Knowledge of the normal functions of the body and the simple methods of keeping them in healthy action is the one thing that no educated person should be excused from possessing; yet most of our children reach maturity without sufficient parental or scholastic instruction in many essential matters of health. Men and women who would be greatly chagrined to be corrected in the pronunciation of a popular foreign proper name, or who would resent as an insult any imputation as to their lack of general culture or learning, show not the slightest embarrassment at their ignorance of the common physiologic functions of digestion, circulation, respiration, etc."—*Pyle: A Manual of Personal Hygiene.*

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NOTICE TO MEMBERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The members of the Medical Society of the State of New York are earnestly requested, if they have not already done so, to *at once* return the Directory card sent them requesting information for insertion in the 1908 Directory.

J. C. BIERWIRTH, M. D.,
Chairman Committee on Publication.

Editorials.

EDUCATION AND THE HEALTH OF GIRLS.

MUCH is said about the girl returning from school or college in a bad state of health and sadly in need of vacation. Little is said of the girl who grows robust while in school. The former is all too commonly heard; the latter, too seldom. Education, if it is worth being called education, conduces to good health. This is not yet freely admitted, but some day it will be. There was never a time when learning things that have been written was better than being well.

Our systems of feminine education have not yet reached a point in their development when they have much to offer beyond a knowledge of certain more or less useful, or useless, facts and theories. The educating process to which the modern college girl is subjected is not so much directed to make her efficient, observant, original, resourceful, self-reliant, and thoughtful, as it is to make others think that she is. And while she is learning the merits of Paradise Lost, the intrigues of the English kings, the names of the several members of the family of Stuart, the ramifications of the Greek verbs, the distinctions between the Elizabethan and the Lake School of poetry, and the psychology of impulses, too often the roses are perishing from her cheeks and her eyes are taking on the dreamy, far-away look of neurotic culture.

Herbert Spencer wisely suggested that should we suddenly become an extinct race, and should some future historian find the school-books used by our young women, he would think that he had discovered a race of celibates who were interested in everything but their own lives and happiness. The fact that between forty and fifty per cent. of the women admitted to the hospitals for the insane in New York State belong to the class which is spoken of as "well educated," can not in itself be taken as a reflection upon the work of the schools; but it does indicate that something is wrong with their manner of life to bring them to this unfortunate state; and while we cannot say that stress of study is an etiological factor, we can say that their education should have been more in the lines of helping them to a state of harmony with their environment, for want of which they have become deranged, and that they have frittered away precious study days in chasing the silly baubles of classic culture.

If after leaving school, young women indulge in practices which are injurious to health, and therefore to happiness, it is quite evident that they have not learned the best things. The appreciation of the best things in life is happily growing; but unconscionably slowly. A few lectures on hygiene—how to ventilate a room, the harm of tight lacing, the value of sleep, the importance of discretion in diet, and kindred subjects—will not make school girls healthy. Self-preservation and perpetuation is a bigger subject than primary hygiene. It involves all of the functions of the mind as well as the body. It involves all of the day of work and play and sleep. It is the most important thing for young women to study. But in our schools and colleges it is as yet imperfectly grasped. When we begin to educate young women in the vital things of life many of the difficult social problems will be answered, and we shall not find

so much that is pertinent in the questions—What shall we do with our girls? Why do American marriages fail? Why do American mothers fail?

It is actually true that girls in our schools listen to instructors prate of the infinite when their grasp of the finite is so meager that if they were cast away on a desert island they would perish of hunger and thirst in the midst of plenty. There is much that answers to the name of education, which, instead of preparing young women for life is contributing to their undoing. The one line in which they are least learned is that of natural sciences, which deal with the things that surround us and which are known. Its pursuit is the most profitable and cultivating. It helps the mind and the body; and so long as it continues to be slighted young women will lack salutary education. It is the one line of study that will save their health and preserve them from the pitfalls of mysticism and the cults of mental obliquity.

BUSINESS WISDOM IN MEDICINE.

WHILE medicine is a science and an art, still there are a large number of good men and their families who depend upon its practice for their daily bread. We may wisely have before us always the high ideals of our profession, but we cannot escape the grocer and the tax collector. No matter how hard the doctor works, the mortgage on his house is also at work, and the children's shoes are wearing out. In justice to his patients it behooves him to be a good doctor, and in justice to himself and his family it behooves him to be all this and a good business man as well.

Most of our medical publications devote their pages, quite exclusively, to the scientific and technical side of practice. It would be desirable for some of our better journals to give more attention to the doctor himself. He is the agent through whom all of this medical knowledge must be made to reach the people. He is not only the source of medical wisdom but the mechanism for its application. He, as well as the public, for the sake of his best efficiency, should be interested in his good condition and prosperity. It is not undignified to consider the practical business relations of the doctor to his professional work; indeed, it is a lack of wisdom not to consider them.

Some ideas concerning the practical business side of the doctor's life have been expressed by Dr. J. E. Dildy, in the *Texas State Journal of Medicine,* in such a forceful way and with so much frankness, that we take pleasure in quoting them. He says that, we are professional men in every sense of the word; we have the mental labor of lawyers, the moral standing of ministers, the technical knowledge of organized artisans and the business qualifications of school children.

"The average man will give a lawyer $300 to $500, together with a lifetime's praise, to keep him out of the penitentiary for from two to ten years, and at the same time he will raise a phosphorescent glow and a kick that can be heard around the world if a doctor charges him $50 to $100 to keep him out of hell for a lifetime. We are the only people under God's ethereal tent to-day who keep open shop 24 hours each day and 365 days in each year. We are also the only laborers to keep on working for people who do not pay. I can carry my part of charity with as good a grace as most men. I can go through rain, snow or mud and do my best, provided the case is one of worthy need, but to reward continually downright rascality, willful drunkenness and wanton laziness is getting out of my line."

The breezy character of these observations only adds to their value. The sapient Texan says:

"The average doctor tries to do much work. Every doctor wants every body to patronize him. He likes to be going night and day, rain or shine, Sunday or weekday, hot or cold. This is a business mistake. It wears a doctor to a frazzle. It gives him no time for bill-collecting and business matters; no time for patients who naturally feel neglected and are slow pay as a consequence. A doctor can do better work, more good, and build up a more enviable reputation if he coolly takes his time and is careful and painstaking in his examinations.

The business side of practicing medicine is worthy of discussion, and general medical societies will do wisely to introduce into their programs an occasional paper such as the one above referred to.

THE INTERRUPTION OF PREGNANCY.

THE interruption of pregnancy for pelvic contraction has been so thoroughly worked out that it has been reduced almost to a matter of mathematics. Beside the pelvic contractions, however, there is a large number of conditions in which the induction of abortion or premature labor may be indicated, but in which much knowledge and good judgment must be brought to bear.

Charles Jewett (*Am. Jour. of Obstct.*, Vol. 55. No. 6) speaks of between thirty and forty of these complications which demand in-

terruption of pregnancy. Artificial termination of pregnancy in pulmonary tuberculosis promises good results, he says, as a rule only when practiced in the early months—both of the pregnancy and of the disease. Such abortion has a favorable influence on the tubercular process, not so much on account of its effect as a curative agent, as from the fact that it removes a grave factor in the progress of the disease. Certain other authors believe that abortion should be reserved for florid cases of the disease and those which are not benefited by the usual treatment.

In heart disease there seems to be a considerable divergence of opinion among obstetricians. Some claim that in the presence of grave cardiac disease abortion is indicated; others, that premature delivery is to be employed when dyspnea and other evidences of cardiac difficulty become pronounced; and still others, that it is better to allow a woman to go to full term than to subject her to the greater dangers of premature delivery. Jewett believes that in grave mitral or aortic lesions, especially mitral stenosis or aortic incompetency, when hygiene and medical measures have proved of little avail, and in all cases of broken compensation, the uterus should be emptied. He recalls cases in which serious complications developed at the close of labor when they were not expected. While the induction of labor in grave cardiac disease is a perilous undertaking, and may be followed by death, the risks of continual gestation and labor at term must be regarded as still greater.

While chronic nephritis is seldom a cause of eclampsia, yet it is attended with a large fetal death-rate, and the mother's life is jeopardized with each succeeding month of gestation. For this reason it is advisable to induce abortion in the early months on the first appearance of unfavorable symptoms. Dyspnea and irregularity of the pulse are among the early signs of danger.

The interruption of pregnancy on account of pyelitis and pyelonephritis seems rarely to be required. With the aid of the recumbent position, attention to the bowels, suitable diet, plenty of water, and the use of hexamethylenamin, most, if not all, cases may be carried on to full term. Pyonephrosis or abscess of the kidney, of course, must be dealt with according to surgical indications.

In hyperemesis the changes in the nitrogen ratios afford the most accessible sign of an unstable condition of the organism, which may turn unfavorable on slight provocation. In diabetes, it is Jewett's judgment that the uterus should be emptied in the early months, owing to the bad prognosis for the child and the fact that the disease is apt to become aggravated as the pregnancy progresses.

These are a few of the more important conditions demanding consideration. It is to be hoped that further studies of the complications of pregnancy may reduce this treatment to a positive basis upon which all obstetricians may agree.

THE PLACEBO.

PLACEBO means "I will please," but whom, is not implied. Presumably it is meant to please the patient. It is doubtful if it gives great pleasure to the physician. The distinction between a placebo and a remedy is often illy defined. It is largely a psychologic one residing in the mind of the doctor. If the physician believes that the medicine is influencing the course of the disease, it is a remedy; if it is not influencing the course of the disease, it is a placebo, provided its administration is continued after its inefficiency is realized. The placebo is much used. Its destiny, however, is oblivion. Two things are conspiring to bring about this consummation: the honesty of physicians and the enlightenment of patients. The placebo is, and always has been, distasteful to the honest doctor, and the enlightened patient does not require it. If there is no drug which will influence the course of a disease, and the disease is naturally self-limiting, the intelligent patient is glad to know it from the lips of an honest physician.

The placebo is to be replaced by the remedy which is administered wholly for its psychic effect. This will continue to be called a placebo, but it has a definite place in medicine and a positive therapeutic use. The prick of a needle may be as effective as an injection of water, and an injection of water may be as effective as an injection of medicine; but if they are, they are, properly speaking, remedial in value. There is more than one way to reach the nervous system and thence let loose the necessary impulses to influence an actual pathological state. It is the gratuitous and unnecessary employment of the placebo that is to be deprecated; and happily it is fast passing away.

Observations

ON EXERCISE AND HEALTH.

An eastern potentate of great age and vigorous health, who sat watching some Englishmen playing polo, asked if the young men were really so poor that they could not hire people to do that for them. A modern philosopher has observed that, work is work if you are paid to do it; it is pleasure if you pay to be allowed to do it.

There is much confusion between strength which can be measured by foot-pounds, and strength which means vitality and can be measured in resisting disease. The athletic exhibit in the physical culture advertisement, whose back looks like a corduroy road, and who can bite nails in two, and the plain citizen who prefers arguing with a burglar to tossing him through the window and who is never sick till he turns eighty, are two very different exhibits of strength. Good health should be the criterion. That is what we are seeking.

All men are constituted differently so far as exercise is concerned. For health's sake a man should take as much exercise as he needs. Most of us need exercise. It is an hereditary necessity. Our organism is constituted for exercise, and we must have it or suffer a certain degree of unbalancing of our system. This is necessary for the reason that our ancestors for hundreds and thousands of years took exercise. Their vocations were acts of toil and manual labor. Hunting food, fighting off enemies, tilling land, and building houses are the functions for the performance of which we have inherited organs. Our good health demands that we shall to a certain degree live up to our intentions. It is only since the conditions which make for inequality in social standing have appeared that a part of the community labors and another part is exempted from labor. Much of our so called education is patronized with the view of securing exemption from labor. If a man is uneducated, he must labor; if he is educated, he may earn his livelihood manipulating the products of the labor of others. These things will be adjudicated by and by.

The older civilizations in fertile countries, where food has been abundant, and where prosperity has followed trade, have gradually eliminated in many instances the necessity for exercise of the bone-moving muscles. We are yet too near the soil to do this. Most of us need not go back more than a generation or two to find our ancestors delving with bone and sinew. What is true of the individual is true of the race. It is not good for the health of the brawny blacksmith to quit his anvil and turn bookkeeper. Nor can the children of the toiling lineage live in muscular idleness. Each requires exercise in some sort akin to his hereditary wont. His best physical health demands it.

But lack of exercise is not the only change made by the man who becomes sufficiently cultured to escape physical labor. He also exchanges the free and open air of his ancestors for the confinement of the office, and he adds the stress and strain of *mental competition* which his ancestors knew not as a necessity for livelihood, but only incidentally as a pastime. Thus the man who labors not with his hands, if he would follow the tendencies of his race or family, which must have been salutary, because they have produced him, needs exercise, free and open air, and relief from the stress of mental competition. These three things his system needs and will be benefited by; and he is not wise unless he gives himself the advantage of them regularly and systematically. Unless he does, his family line must pay the penalty, and end with him or with his emasculated offspring.

The city is a trap in which is caught the great eagle who has soared the air and dwelt amid the mountain cliffs for countless generations. The free expanse of earth and sky have been his and his fathers. Now he is caged—a mighty specimen. Call him "magnate" or "Napoleon" or "prince" or "clerk" or what you will, he has in his blood the impetus of a thousand generations and the memories of the free air and sky to give him strength, but keep him caged in the city and his breedings will be but barn-yard fowl, which will perish and melt away.

The Anglo-Saxon business man or professional man needs not only some exercise, but he needs it in the open air. I am not sure but that the latter is even more important than the former. It is quite true that much of the benefit attributed to exercise belongs to fresh air and forgetfulness of mental competition or business cares. A day's target shooting, lying on the ground at Creedmoor, gives results apparently as good as a day at golf. And of all the miserable makeshifts of exercise is bowling, practiced as it usually is in an illy-ventilated basement, in artificial light and dust and dirt. Your average habitual bowler is a pretty pasty proposition. Better exercise would be found in the same length of time spent lying on one's back under a tree on the hillside studying the flight of the birds.

This whole matter of exercise and recreation requires orientation. It needs to receive scientific study and to be presented to the people as a part of their education. Witness the unwholesome struggles for recreation and exercise indulged in by the hordes flocking to the summer amusement places. How utterly deficient in education upon this important subject is this sweating, peanut-eating, gewgaw-bespangled, beer-consuming throng. The poor man, like the rich man, prizes his recreation according to the cost. The sport which costs money is the thing.

I should like to see the rich man's recreations turned to even greater usefulness. There are useful recreations which give as good exercise as the non-productive exercises. A man who plays eighteen holes of golf—even though he indulge in no stronger expletives than "Tush, tush!"—has used enough energy, if turned into useful channels, to cultivate, say, an acre of po-

tatoes or to split enough wood to keep a single family warm through the winter. These are practical and useful employments. To say that a man has taken enough exercise if converted into foot-pounds to raise himself perpendicularly five thousand feet is very scientific, but a man does not want to be raised perpendicularly five thousand feet. He is better off where he is. But we do need potatoes and fire-wood for the winter. Trimming shrubbery, laying walls, mowing grass, digging ditches, making roads, cutting weeds, planting trees, are as good exercise as golf; and all are useful. The best kind of labor is useful labor, and so is the best kind of play; and the former becomes the latter if entered into in the right spirit. Let us have more useful play.

Items.

EDITED BY

FREDERICK TILNEY, A.B., M.D.

THE AMERICAN MEDICAL ASSOCIATION.—The fifty-ninth annual session of the American Medical Association, held at Chicago, June 2-5, has gone into history as a most successful meeting. The registration exceeded that of any previous session, and the general interest in the work of the Association was elevated to a high plane.

One of the important steps was the election to the presidency of Dr. William C. Gorgas, Colonel and Assistant Surgeon General in the United States Army, member of the Panama Canal Commission, and the man to whom belongs the credit of making the work on the Panama Canal possible.

The Association strongly endorsed the movements for improving the standards of medical education, as carried on by the Council on Medical Education. It also endorsed the work in progress for combatting the nostrum evil and for enlightening the public upon medical matters and the work of the medical profession. Steps were taken in the interest of animal experimentation, a committee of seven being appointed to adopt measures for the protection and furtherance of such scientific work.

New York State was well represented at this meeting, the full quota of delegates being present. Dr. Wisner R. Townsend was made a member of the Board of Trustees of the Association. Dr. A. VanderVeer was appointed a member of the Committee on Medical Education; Dr. Julius C. Bierwirth a member of the Committee on Section and Section Work; and Dr. Wisner R. Townsend Chairman of the Committee on Reports of Officers.

DECLARATION ON THE STATUS OF THE PRESCRIPTION.—The New York Branch of the American Pharmaceutical Association has declared the status of the prescription to be as follows:

1. The prescription should be a signed and dated order from the physician to the pharmacist to prepare and deliver certain medicines, etc., to the patient. The prescription should be written plainly and distinctly in ink, if possible. It should bear the full name of the prescriber, either printed or written, and should state the name of the patient, and if a child, also the age.

A telephoned prescription, that is a prescription which in case of emergency the physician telephones to the pharmacist, must in all cases be repeated by the pharmacist, so as to avoid misunderstandings, and should be followed, especially in the case of potent drugs, with a written order from the physician.

In case the physician intends to prescribe an unusually large dose, the quantity of drug should be underlined and be followed by an exclamation mark. General directions, like "As directed," etc., should be avoided.

2. The pharmacist who dispenses the medicine should invariably retain the original prescription for future reference, and as a record, for a limited period—say five years. This for his own protection as well as that of the prescriber and the patient.

3. The medicine prescribed should be supplied not more than once on the same prescription, in the following instances:

(*a*) If ordered by the prescriber "not to be repeated" or marked "Ne repetatur;"

(*b*) if it contains medicinal substances commonly called narcotic or habit-forming drugs;

(*c*) if asked for by some person known not to be the original holder.

4. One copy of the prescription may be furnished to the patient, but to no other person. This copy should be marked "copy" or "copia," and should be plainly and distinctly written in ink. In the event of the prescriber not desiring a copy to be given, he should note this on the prescription by writing the words: "Give no copy." It would be desirable to have such notation appear on every prescription. Under no circumstances should a copy of the prescription be given, without consent of the physician, after the patient has recovered.

THE NATIONAL VOLUNTEER EMERGENCY SERVICE is a society for coping with the emergencies of peace and war. It was instituted in 1900, and has recently been reorganized by the election of Dr. James Evelyn Pilcher, the distinguished editor of *The Military Surgeon,* as its Director-General, and Dr. F. Elbert Davis, of New York, as its Adjutant-General. Its work will be conducted along military lines, the details being worked out in three separate Corps, a First Aid Corps, a Public Health Corps, and a Medical Corps—the latter consisting of physicians, with rank from Lieutenant to Colonel, according to length of service, to whom are afforded special opportunities for emergency training. It includes among its personnel a large number of notable personages, and is rapidly extending its membership throughout the country. Full details regarding the service and its work may be obtained by addressing Director-General Pilcher, at Carlisle, Pa.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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NOMA IN CHILDREN.

Pawlowski reports two cases of noma, one of which he observed in a five-year-old girl after measles. An ulceration of the mucous membrane began at the left angle of the mouth. This ulceration, the size of a penny, became much larger within 48 hours. The ulcer was excised and the wound packed with iodoform gauze. In the following 48 hours the necrosis had taken in the whole surface of the wound and far along the edges of the lips. The whole left side of the face was edematous. After a second excision and cauterization with the Paquelin the process was arrested and healing slowly followed. In the second case, a seven-year-old child, the noma developed in the right cheek, following after a long-continued diarrhea with emaciation. The author investigated both these cases histologically and bacteriologically, and has come to the conclusion that noma must be classed as an acute infectious process, accompanied by necrosis, and belonging to the class of streptothrix diseases.—*Russi Wratsch*, 1907, No. 24; *Zentralblatt für Innere Medizin*, 1908, No. 4.

LUMBAR PUNCTURE IN THE MENINGEAL FORMS OF ENTERIC FEVER IN CHILDREN.

This is the title of an important paper in the *Gazette Hebdomadaire des Sciences Medicales des Bordeaux* of January 26, which is extracted in the *Lancet* for February 15. The subject is of such importance and interest that we here make use of it.

In children enteric fever is often complicated by meningeal symptoms. In some cases these are slight and fugitive and of only secondary importance; in others they are more marked and persistent and occupy the first place among the clinical manifestations. For a long time writers discussed these meningeal symptoms and insisted on the variability of the prognosis according as there existed true meningitis or meningeal symptoms without an anatomical substratum (meningism). The introduction of lumbar puncture has given a new interest to the question.

From the clinical standpoint four types of meningeal manifestations in enteric fever in children may be distinguished. In the first, toward the end of the second week appear intense headache, repeated vomiting, and constipation (which may replace the pre-existing diarrhea). Cutaneous hyperæsthesia, irregularity of pulse and respiration, various vaso-motor troubles, and retraction of the head follow. Ocular symptoms (inequality of pupils, strabismus, and ptosis), are rarer and of more serious prognosis. After some days these symptoms may disappear, but sometimes they terminate in death.

In the second type the complete "tableau" of acute cerebro-spinal meningitis is presented. In addition to the symptoms described Kernig's sign appears and rigidity of the neck and spine, as marked as in acute cerebro-spinal meningitis, follows. The rigidity may extend to the limbs, and the hands and feet may assume the attitude of tetanus. This is one of the most frequent types. The third type is rarer. The attack presents from the first the complete "tableau" of tuberculous meningitis, and erroneous diagnosis is easy. The fourth type is peculiar to infants. During an attack of enteric fever convulsions appear and lead to a rapidly fatal termination. Lumbar puncture has thrown a new light on the pathogenisis of these phenomena. It may yield (1) pus in which may be found the typhoid bacillus in pure culture, other microbes, such as staphylococci, or a mixture of the typhoid bacillus and other microbes; (2) a turbid or transparent liquid in which centrifugalisation shows microbes—the typhoid bacillus or others; (3) a liquid which, though quite clear, contains abnormal cellular elements, usually abundant lymphocytes; and (4) a liquid of normal composition but flowing out in a jet, indicating abnormally high tension.

In the first two cases the pathogenesis of the meningeal symptoms is manifest; the meninges are infected. In the third case it is logical to suppose that the meninges are irritated by microbial toxins which give to the cerebro-spinal fluid its cytological characters. In the fourth case also the hypersecretion of cerebro-spinal fluid is probably due to the same cause. M. Roger has shown the frequency of serous exudations under the action of various toxins. These facts also explain why lumbar puncture can be useful in the meningeal forms of enteric fever. Concetti, Netter, and many others have shown that repeated lumbar puncture is the best treatment of bacterial meningitis. The operation is therefore indicated in cases of enteric fever in the cerebro-spinal fluid contains microbes. Each puncture removes some of the microbes and they are reproduced with difficulty as the cerebro-spinal fluid is a bad culture medium. They therefore, soon disappear. If, on the other hand, the meningitis is simply toxic, the removal of a certain quantity of fluid charged with toxins cannot fail to have a favorable action. In the case of abnormally high tension puncture diminishes the pressure on the nervous centres and removes the resulting symptoms.

The following is one of eight cases showing

the value of lumbar puncture related by Dr. Rocaz and Dr. Carles. A boy, aged eight years, had a severe attack of enteric fever characterized by profuse diarrhœa, a temperature of 103.6° F., rose spots, and so on. On the eighteenth day he complained much of headache, cerebral vomiting occurred, and the diarrhœa was replaced by constipation. The head was retracted, the head was rigid, and Kernig's sign was present. Lumbar puncture yielded 12 cubic centimetres of clear fluid under high pressure. Cytological examination showed that this was of normal composition. All the symptoms of meningitis had disappeared on the day following and uninterrupted recovery followed."

SURGERY.

EDITED BY

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INDIRECT PRODUCTION OF PAIN AT McBURNEY'S POINT.

Professor W. Thorkild Roosing, Copenhagen, describes a method of producing pain at McBurney's point in cases of appendicitis that he considers of diagnostic value. The hand is placed flat upon the abdomen over the descending colon. The fingers of this hand are pressed firmly down with the other hand and both brought firmly up toward the splenic flexure. Roosing's idea is that the gases displaced in this way find their first resistance at the cecum, Bauhin's valve preventing their escape into the small intestine. Any increase of the tension of an inflamed cecum or appendix must of course produce pain. This proved to be so in over one hundred cases examined by Roosing, and he considers this method of two-fold value; namely, as an aid to the difficult diagnosis between appendicitis and diseases occurring in the right iliac fossa; and secondly, he finds it the value in cases of appendicitis where extreme tenderness or tension or distention make a direct palpation painful or dangerous.

In the later number of the *Centralblatt fur Chirurgie,* Lauenstein reports a lapse in which Roosing's method was tried. On every pressure over the colon in the left side there followed pain over the gall-bladder region. Lauenstein thought that he had to deal with an appendix turned upward and perforated at its tip. He found an inflamed gall-bladder adherent to the transverse colon. Instead of confusing him, as Lauenstein says, Roosing's method did just what was to be expected and even more. It not only produced no pain at McBurney's point but it pointed to an affected gall-bladder.

Centr. fur Chirurgie v. 34-43 and v. 35-8-12.

Rupture of Pancreas.

RUPTURE OF PANCREAS.

H. Heineke, in V. Langenbeck's Arch IV. Vol. 84, No. 4, reports five cases of rupture of pancreas. Of these five two were confined with ruptures to other organs. The writer was able to collect nineteen cases, of fourteen operated upon nine recovered. The prognosis is therefore favorable, particularly so, if operation takes place early.

The dangers of the injury are first the hemorrhage, and then, what is worse, the escape of pancreatic juice with its resulting fat necrosis. A positive diagnosis is nearly impossible. At first the symtoms may be mild probably because the bleeding is then slight. A definite sign is obtained when an isolated collection of blood is found in the lesser sac. This is found when the foramen of Winslow is not patent and the ligamentum hepatogastricum is not torn. It has not been proven whether or not the normal pancreatic juice can produce fat necrosis. It may be that through the injury the intestinal juices escape and enhance the power of the pancreatic secretion. Or the contusion of the organ may have a similar effect upon its secretion.

As a therapeutic measure, in rupture of the pancreas, the author thinks that only tamponade is to be considered. In clean lacerations sutures may be thought of. It may be that these can be used to preserve the continuity of some of the ducts and thereby the function of an isolated fragment be saved. In cases not operated upon, and even cases of extensive lacerations there may result cases of cyst formation as the author shows by a case reported at length.

THERAPEUTICS.

EDITED BY

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POTASSIUM IODIDE IN OBSTINATE COUGH.

The very satisfactory result usually obtained in acute attacks of asthma by the use of moderate doses of potassium iodide, indicates that the drug possesses some antispasmodic power in certain conditions. This action is not limited to acute asthma. In some other conditions of obstinate cough it is equally efficacious. The cough that is not typical of ordinary bronchitis. but that is somewhat spasmodic and wheezy in character, without much expectoration, but persistent and very harassing, seems to be very dif-

ferent in nature and dependent upon a different cause from that of bronchitis. It seems to be akin to the asthmatic condition. Cases of this kind commonly resist the ordinary treatment with expectorants and sedatives, but yield very promptly and fully to moderate doses of potassium iodide.

LOCAL TREATMENT OF SOME INTERNAL DISEASES.

Doubtless the principle of local treatment should be considered whenever the site of the disease is accessible. Aside from diseases of the skin and other lesions usually classed as surgical, we are coming more and more to regard the respiratory and digestive tracts as avenues for local treatment of certain of their disorders. Pneumonia because of its character as a general infection, does not offer much opportunity for local treatment, but the more localized infections, tuberculosis and bronchitis, lend themselves to the application of the principle.

In pulmonary tuberculosis medicinal treatment has been in recent years greatly discounted, in comparison with out of door living, good nourishment and proper adjustment of bodily rest and activity. But local treatment, by the use of antiseptic inhalations, is so rational and so useful in incipient cases, as to easily take first place in the medicinal part of the treatment; and the less perfectly the hygienic treatment can be applied in any given case the more important becomes the inhalation treatment, though secondary in value. Combinations of phenol and benzoin preparations are highly useful, possessing antiseptic power, while mild in action because of the analgesic property of the phenol. A typical combination may contain 10 minims of phenol and 30 minims of compound tincture of benzoin to the fluidrachm, with glycerin as vehicle, this quantity to be poured upon a pint of boiling water and the steam inhaled for ten or fifteen minutes, to be used twice daily. In cases with purulent expectoration 5 minims of tincture of iodine may be included. Other drugs of the volatile antiseptic class may serve as well as these suggested. In chronic bronchitis the same treatment is indicated, particularly when there is much expectoration. Acute bronchitis commonly does not require this treatment, but whenever a case is protracted, with expectoration showing a subacute infection, it is important to correct the condition as quickly as possible by means of antiseptic inhalations, so as to remove the danger of tuberculous infection of the affected tissues.

The treatment of asthma by inhalation of antispasmodic vapors is a matter of many years of experience and requires no emphasis.

In disorders of the digestive tract, aside from routine cleansing of the same by means of cathartics, the employment of water, plain or modified by sterilization or medications, has assumed an importance of first rank. Lavage in certain gastric disorders will accomplish what no other means can, and cases are thereby benefitted which, under former methods would be compelled to spend years of a dyspeptic existence. Likewise the use of gastric sedatives and antacids illustrates the further application of the principle of local treatment in diseases of the stomach.

A louder plea should be made for the use of wisely-selected antiseptics internally. While they cannot be applied with as great scientific precision as the more mechanical methods, the factor of fermentation in digestive disturbances is one of importance, and one that can often be met by the local action of antiseptics in stomach or intestine. A simple fermentation in the stomach can usually be removed by minimum doses of phenol before meals, diluted to one-half or one per cent solution, and given a short time before meals, so as to have effect before further dilution occurs. If irritation is present a bismuth salt may be added. Intestinal fermentation, particularly in the small intestine, is less easily corrected by antiseptics, because of the changes that the drug is subject to in passing through the stomach; nevertheless, the less soluble agents such as salol, betanaphthol and the sulphocarbolates, often serve the purpose well.

It is fortunate that the phenol and phenol derivatives restrain fermentation quite readily, while they do not seem to have much effect upon the digestive enzymes. In diseases of the large bowel local treatment should have first place as a rule, for the effect of a drug given by the mouth must be a very uncertain quantity after it has traveled as far as to the ileocecal opening and met with the various chemical conditions on the way. Local treatment, on the contrary, can here be absolutely definite, unless anatomic or pathologic conditions interfere, Even when bowel motility is to be lessened by systemic medication, the drug, e. g. opium, can as well be used in suppository and with less nauseating effect. Indeed, in the treatment of diarrheas and dysentery, the occurrence of vomiting may render such medication by the bowel quite necessary.

The attested value of occasional irrigation in colitis has emphasized local treatment as well as the essentially microbic character of the disease. In severe cases, with pain and very active peristalsis, and also in ordinary cases of dysentery, we may go a step further in local medication, to the advantage of digestion, by employing medication by the rectum. In these cases nothing can be more rational than thorough cleansing of the colon by irrigation and then employing a suppository of local and general sedative character. A useful combination would include a cocaine salt for local effect, so that the suppository may be more easily retained, extract of belladonna for a more prolonged local action, and opium to secure rest to the irritated bowel. Liquid medication may be preferred, but the principle of local treatment will hold, with advantage to the stomach thus undisturbed by drugs.

E. H. L.

PATHOLOGY.

EDITED BY

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THE PATHOLOGY OF ACID INTOXICATION.

F. A. Bainbridge, of London, draws a distinction between acidosis and acid intoxication. In acidosis the essential feature is the occurrence of certain organic acids in abnormal amount in the blood and urine. Lactic and B-oxybutyric acids are the most important of these. The term acid intoxication should be limited to conditions in which, in addition to acidosis, toxic symptoms, referable to the organic acids, make their appearance.

The alkalinity of the blood may be diminished but often remains remarkably constant. The total excretion of ammonia and the ammonia coefficient do not necessarily or even usually correspond to the degree of acidosis. It is true that in acidosis the output of ammonia may reach a very high figure, but for the correct interpretation of the ammonia analyses several factors must be taken into consideration, and it should be clearly recognized that when the nitrogen intake is low, a high ammonia coefficient may have no pathological significance.

Lactic acid may occur in acute yellow atrophy and occasionally in extreme cirrhosis or cholemia, but the writer believes that lactic acid is never the cause of acid intoxication in man and that its appearance in the urine is either the result of excessive production by the muscles or is secondary to the failure of the liver to convert ammonia into urea; its occurrence is not due to deficient oxidation of lactic acid by the liver.

Lactic acid is known to be normally formed in metabolism, but there has been much discussion as to whether this also holds good for the acetone bodies. It is highly probable that B-oxybutyric acid is a normal metabolic product, but diacetic acid has never been found in normal urine. The view that the acetone bodies arise from fat has been advocated by certain German writers. There seems to be no doubt that when carbohydrate is withheld, and still more in starvation, the consumption of fats is excessive; and the view has been put forward that the tissues, unequal to the strain put upon them, fail to oxidose the fats completely and that B-oxybutyric acid passes into the blood and urine.

On the other hand, certain observers have found that the addition of fat in starvation had little or no influence upon the acetonuria. The acidosis of starvation can be abolished by the administration of quite small amounts of carbohydrate and it may be that in starvation, acidosis occurs not because the consumption of fat is excessive but because carbohydrate is absent, and the addition of carbohydrate may abolish acidosis not only by supplying energy to the body but also by modifying the metabolism of the cells. Baer and Blum consider that the retention in the body of sugar, nitrogen and acetone bodies can be excluded, and that glutaric and homologous acids modify the nitrogenous metabolism in such a way that sugar is either not formed from proteid or is burnt up by the tissues, and that the increased supply of energy thereby obtained prevents the formation of the acetone bodies.

It appears that the bulk of the B-oxybutyric acid is derived fairly rapidly from ingested food. It is also proved that the lower fatty acids notably and quickly increase the output of the acetone bodies. The advance in our knowledge of proteid metabolism has brought into prominence the possible formation of B-oxybutyric acid from proteid. There is also definite evidence that leucin can give rise to the acetone bodies.

It is not easy to form a clear conception of the way in which the organic acids produced by the tissues eventually disturb their metabolism. Observations on the total intake and output of bases in diabetes are lacking, but it seems very probable that there is a gradual depletion of the alkalies in the tissues, and that a point is ultimately reached when the alkali content of the tissues is insufficient for normal metabolism and symptoms of intoxication occur.—*Lancet*, March 28, 1908.

THE OCCURRENCE OF SKATOL IN THE HUMAN INTESTINE.

C. A. Herter says that skatol is by no means always present in the contents of the lower gut in man. In healthy children it is seldom detectable and then only in traces. In healthy adults it is frequently absent and when present occurs only in traces. He found skatol abundant and persistent in the feces only in the case of persons who were ill or had recently been ill of some intestinal disorder. In some cases of excessive intestinal putrefaction skatol formation is considerably increased, often together with increased indol formation but sometimes without this. There are instances in which the feces contain skatol but no indol, despite the fact that the presence of indican in the urine points to indol formation in the intestines. As there is no evidence that indol is absorbed more rapidly than skatol in such cases, the presence of skatol without indol is probably due to the later production of the skatol.

Increased skatol production is observed in many persons suffering from excessive saccharobutyric putrefaction, due mainly to putrefactive anærobic bacteria. There are strains of the bacillus of malignant edema and of bacillus putrificus which form skatol. The bacillus coli communis makes indol but usually no skatol or only mere traces.

There is no doubt that both indol and skatol

are derived from tryptophan, as there is no reason to suppose that any other constituent of the proteid molecule is able to yield these two substances.

The conditions giving rise to the formation of skatol are fundamentally different from those that govern the formation of indol. The formation of indol-acetic acid is perhaps a necessary step in the formation of skatol, most bacteria attacking it with difficulty, if at all.—*Journal of Biological Chemistry,* January, 1908.

ON THE RELATIVE EFFICACY OF THE DOULTON, BERKEFELD AND BROWNLOW FILTERS.

Bulloch, Craw and Atkin of London, have tested the relative efficiency of porcelain and Kieselguhr filters, in particular the Doulton porcelain filters and the Berkefield Kieselguhr filter.

A few samples of the Slack-Brownlow filter (sand and porcelain mixture?), were also tested.

Of ten Doulton filters only two transmitted germs on the second day of continuous filtration and the incubation periods, viz., two and seven days, indicate that the number of germs must have been very small. In no case did the filtrates from the Doulton filters show the slightest sign of contamination during the first twenty-four hours, which shows that no direct transmission of organisms took place. Of the ten filters, one gave slightly contaminated filtrates on the third day. Four filters transmitted germs on the fourth day, one gave a filtrate on the fifth day, which only showed contamination after two days incubation, and another only after three days at 37.°C. Lastly, one filter gave sterile filtrates for five days and on the sixth day the samples only showed growth after two days incubation. Often Berkefeld filters only one gave a sterile filtrate on the first day. The remaining nine gave contaminated filtrates within fifteen minutes, that is to say, as soon as the filters were started. Further, the number of germs passing these nine filters immediately must have been relatively great as growth took place after incubating for one day.

Five Slack-Brownlow filters gave uniformly highly contaminated filtrates during the first fifteen minutes filtration, abundant growth taking place after twelve to twenty-four hours incubation. Of the filters tested, the Doulton filters alone uniformly prevented the direct transmission of micro-organisms; the Berkefeld filters all permitted of direct transmission, with one exception, and all the Slack-Brownlow filters gave contaminated filtrates immediately.—*Journal of Hygiene,* January, 1908.

THE LEUCOCYTIC FORMULA IN MEASLES AND GERMAN MEASLES.

The cases studied by Lagriffoul occurred in two epidemics, over one year apart, in the garrison at Montpelier. Twenty-two cases of measles and thirty of German measles were examined. The term "mononuclear cells" includes all lymphocytes and large mononuclear leucocytes.

Measles.

Incubation.—The writer was able to study only two cases during this stage. Both showed a distant hyperleucocytosis, 12,000 leucocytes with 78 per cent. polymorphonuclears in one case and 15,000 with 80 per cent. in the other.

Invasion.—The number of leucocytes diminishes and may even fall below normal before the period of eruption. Sixteen of the 22 cases studied showed this hypoleucocytosis.

Eruption.—Generally a hypoleucocytosis is found which is often very marked and accompanied by an increase in the mononuclear cells.

Desquamation.—The number of leucocytes tends to return to the normal. The eosinophiles, which have almost completely disappeared during the period of eruption, reappear and many times, although rarely, reach 4 or 5 per cent. Complete return to the normal occurs between the sixth and fifteenth day after the end of the eruption.

German Measles.

Incubation.—In the three cases studied a moderate hyperleucocytosis was present with a polymorphonuclear increase, 9,500, 12,400 and 13,000 leucocytes respectively.

Invasion.—The number of leucocytes is generally increased.

Eruption.—A hypoleucocytosis is observed less often than in measles. The writer observed it in only five of his thirty cases. Fifteen of the cases gave a normal leucocyte count and ten showed a hyperleucocytosis with a polymorphonuclear increase.

Desquamation.—The eosinophiles, absent or diminished during the period of eruption, reappear, but scarcely pass the normal limits.

The writer has never found myelocytes or nucleated red cells in either of the diseases.

While the above mentioned leucocytic formulae are not constant enough to enable one to base a diagnosis exclusively upon them, nevertheless they may serve to differentiate measles and German measles from small-pox on the one hand, showing a mononuclear leucocytosis with an increase in the myelocytes, and scarlet-fever on the other hand, showing a polymorphonuclear leucocytosis with eosinophilia.—*Archives de Medecine Experimentale,* November, 1906.

"It has been said that 'health is a man's birthright; that it is as natural to be well as to be born,' and that from ignorance and transgression of physiologic and hygienic laws arise most disease and tendency to disease. Yet to-day, so tardy has been the recognition of the importance of instruction in the fundamental principles of applied physiology as a means to complete living, that a thoroughly well person after middle life is the exception in every community.—*Pyle: A Manual of Personal Hygiene.*

BACTERIOLOGY.

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THE OPHTHALMO—AND THE CUTANEOUS DIAGNOSTIC REACTIONS IN TUBERCULOSIS.

Wolff-Eisner, in the *Beiträge zur Klinik der Tuberkulose,* 1908, IX, 1., discusses this subject. This volume of 200 pages forms the first number for the year of Brauer's Beiträge. It is a complete review of the new subject, less than a year old, of local reaction tuberculin tests, and contains besides much original material. Over five hundred articles have appeared since June, 1907, many of which have been reviewed by the author. He gives two hundred and forty-five references to articles on this and related subjects.

The credit of originating the ophthalmo-tuberculin test has frequently been assigned to Calmette, but Wolff-Eisner demonstrates his own priority in suggesting its clinical use and prefers the designation "Conjunctival reaction" to "Ophthalmo-tuberculin reaction," which is the term used by Calmette.

He recognizes the value of the subcutaneous tuberculin test but thinks it is not entirely devoid of danger beside producing severe general symptoms. The temperature must be carefully observed for some days before and after the test. The temperature is, moreover, not as accurate and delicate an index of the body's reaction to tuberculin as could be desired. The test cannot be readily given without certain apparatus for preparing dilutions, and its field has been therefore somewhat limited. All these disadvantages are overcome, or diminished, in the new local reaction tests.

The technic of the tests, the results of clinical observation and finally the theoretic considerations on which they are based are discussed in turn.

Technic of the cutaneous test.—The skin is first rubbed with alcohol. The scarification need not be extensive, hardly more than a point, and may be made with any sharp instrument or with Pirquet's "Schaber." It is an advantage to have a platinum instrument as it is readily disinfected. There is, however, very little risk of infection. It is unnecessary to do more than reach the superficial lymph vessels and it is an advantage not to draw blood. The scarification may be made through a drop of tuberculin previously placed on the skin, or the tuberculin may be applied after the scarification is made. A twenty-five per cent. solution of Koch's old tuberculin is used. Control vaccinations with sterile salt solution or with glycerin and carbolic acid solutions in the strength in which they are found in tuberculin (five per cent., or one-tenth per cent.), are made, as in certain individuals the skin is greatly irritated by the slightest traumatism. It is better to employ a separate lancet for the control test.

Technic of the conjunctival test.—The patient's head should be tipped well back, the under lid should be supported by the finger for half a minute after the diluted tuberculin is dropped in the eye. The eye should not be rubbed afterward. A freshly prepared one per cent. of Koch's old tuberculin in eight-tenths salt solution is used and one drop is placed in the eye with a small glass pipette or dropper. The use of purified tuberculin prepared by Calmette's method is considered unnecessary. Calmette's one per cent. solution of purified tuberculin is in the author's opinion too strong and may do harm.

The course of the cutaneous reaction.—In a positive reaction, after a few hours a reddening appears which usually reaches its intensity between the twelfth and twenty-fourth hour; it may be moderate, marked or excessive; may disappear within forty-eight hours, or last for weeks; there may be beside the hyperemia, exudation and infiltration causing the formation of a palpable papule.

The course of the conjunctival reaction.—After six to twenty-four hours the conjunctiva begins to redden and in reactions of the mild grade nothing more is noticed. In reactions of the second grade the redness is more marked and there may be muco-fibrinous exudate. In the third grade reactions there are all the appearances of a severe conjunctivitis. When the reaction is very severe boric acid solutions or a combination of a three per cent. cocain solution with a one-tenth per cent. solution of adrenalin has been found useful, by the author, in relieving the discomfort. He has observed no unfavorable results from the tests. At least ten thousand tests have been reported by other workers. In a very few cases there have been disagreeable after effects, a prolonged conjunctivitis following Calmettes ophthalmo-reaction (*Boston Medical and Surgical Journal,* clviii, 1908). Still care must be used. The author does not consider ordinary conjunctivitis a contra-indication. Tuberculosis of the eye is a contra-indication and in many such cases the test would be unnecessary. In this connection it is surprising that ophthalmologists using tuberculin in the treatment of such cases have not discovered the reaction. Diseases of the uveal tract, present or past, are contra-indications and it is wise to ask the patient whether he has had any such trouble with his eyes. In children there has sometimes been a lighting up of a phlyctenular conjunctivitis. As this disease is almost always a scrofulous manifestation it

should be remembered that scrofulous children possess a hypersusceptibility to the poisons of the tubercle-bacillus and only weak solutions should be employed in making the test if indeed it is used at all.

Failure to react to either test, in cases of undoubted tuberculosis, the author considers an unfavorable prognostic sign, indicating that the organism lacks the capacity of reacting against the poisons of the disease with its protective forces. Those cases, in the first stage of the disease, failing to react, have, in his experience, done badly. A much larger proportion of advanced progressive cases fail to react than those in the earlier stages.

The time of the appearance of the reaction, especially of the cutaneous reaction, is considered to have considerable prognostic value. A promptly appearing severe reaction indicates a favorable prognosis. The more severe the reaction the better is the prognosis. A quickly occurring mild reaction, or the failure to react, suggests an unfavorable prognosis. A delayed mild reaction indicates a healed or latent lesion. These principles apply also, he believes, to the reactions from the subcutaneous injection of tuberculin.

Pirquet, on account of the frequency with which adults react to the cutaneous tests, has considered its field of usefulness limited largely to the study of tuberculosis in children. Wolff-Eisner has found that many adults do not react, though a much larger proportion do than when the conjunctival test is employed. He considers that the cutaneous test reveals the presence of latent or healed tuberculosis while the conjunctival test shows the presence of more or less active lesions. The great value of the cutaneous test, he thinks, is as an aid to prognosis. The conjunctival test is a much more valuable diagnostic procedure.

Wolff-Eisner's theory of the mechanism of tuberculin reactions is substantially as follows: Individuals with tuberculous lesions have, all the time, in their blood bacteriolysins for the tubercle-bacillus. All tuberculins contain at least fragments, "splitter," of tubercle-bacilli, and when these come in contact with the patient's bacteriolysins, endotoxins are set free from these fragments of bacilli which cause the phenomena of the reaction. Analogous phenomena have been observed in the study, by the author, of immunization to pollen in hay fever, and in Pirquet's study of the "serumkrankheit" as well as in the investigation of immunity in various acute infectious diseases. It is noted that the frequency with which convalescent typhoid fever patients react to the conjunctival tuberculin test may be due to the abundant production of bacteriolysins, so abundant that they affect not only the typhoid bacillus but other bacteria as well.

It is impossible in this abstract more than to refer to many of the interesting phases of the subject which the author has considered in detail. Among them are the confirmation of the tests by autopsy findings, the significance of reactions to repeated tests, the great question of hypersusceptibility and immunity considered in the light of recent studies in regard to anaphylaxis and the serum disease, the use of the reactions in pediatrics, dermatology, ophthalmology, gynecology, psychiatry and in veterinary medicine. The special section of more than fifty pages in which the diagnosis of early tuberculosis is discussed from all points of view—deserves especially careful reading.

The book can be obtained as a separate reprint from G. E. Stechert, 129 West 20th Street, New York City. A. T. L.

Correspondence

THE STUDY OF MALARIA.

To the Editor of the NEW YORK STATE JOURNAL OF MEDICINE:

In the issue for April 11, 1908, of the *New York Medical Journal*, I published an article, entitled "Malaria in Greece," describing the measures employed there to exterminate malaria, such as: drainage, destruction of mosquitoes, provision of quinine and various ways of public education, by means not only of the medical profession, but also of the public schools, the clergy, the press, the distribution of handbills and public display of notices, and public lectures with stereopticon demonstrations.

It was my intention to give a series of papers on the work done by our Greek brethren under the protection of the King of the Hellenes in co-operation with the Greek people to exterminate malaria in their country.

I took my information from the reports of the Syllogos, founded by Dr. Cardamatis, to combat malaria in Greece for the years 1905 and 1906, and also from different writings of Cardamatis, foremost the book for which he received the prize "On Eltnosia (Malaria) in Athens."

It was my intention to give a series of papers on the history of malaria in Greece and the method employed there at present to combat this plague, but on reconsidering the matter I find that nothing short of a complete translation would do justice to the noble work, published by Professor Sabba and Dr. Cardamatis, modestly called a report of the Syllogos, which in reality presents the state of our knowledge of the present day about malaria and the scientific measures employed against it in all different countries. Everything of scientific value that has been done and written is here collected in a masterly way.

Such a version in English would serve great purposes: it would draw the attention to the state of medical knowledge in Greece and would be a means to enlist our people in the cause of exterminating malaria; it would aid in stimulating our authorities to support our Board of Health in its attempt to secure hygienic conditions, for instance, in Staten Island, in order to make this beautiful island an earthly paradise; but further to stimulate the government and the legislators to assist in one of the greatest and noblest tasks the medical profession can undertake.

All I ask for is the signature of the colleagues stating that they desire to see such a translation made, in order that I may secure a publisher.

126 East 34th Street, New York A. ROSE.

New Books

IMMUNE SERA. Concise Exposition of Our Present Knowledge Concerning the Constitution and Mode of Action of Antitoxins, Agglutinins, Hæmolysins, Bacteriolysins, Precipitins, Cytotoxins, and Opsonins. By CHARLES FREDERICK BOLDUAN, M.D. *Second Edition, Rewritten.* New York, John Wiley & Sons, 1907. viii, 154 pp., 12mo. Price: Cloth, $1.50.

This is a very interesting and instructive little book. It will well repay a careful perusal by all who desire a clear exposition of Ehrlich's "side chain theory" and wish to become perfectly familiar with the latest doctrines as to infection and immunity, the nature and relationship of toxins and antitoxins, agglutins, hæmolysins, opsonins, etc.

This subject is not merely of academic or theoretical interest, but it is of great practical importance. Many of our newest ideas on preventive medicine and on the treatment of disease are based on the knowledge derived from the study of immune sera by Ehrlich and his followers. Hence the value and timeliness of such a work as this, which, in a comparatively few pages, brings to the attention of the physician important facts which could only be obtained otherwise by a long search through recent literature. J. EDDY BLAKE.

OBSTETRICS. A Text-Book for the Use of Students and Practitioners. By J. Whitridge Williams. *Second Enlarged and Revised Edition.* New York and London, D. Appleton & Co., 1908. xxviii, 950 pp., 16 pl., 8vo. Price: Cloth, $6.00.

Williams' Obstetrics has held a prominent place among the leading text-books in its subject since its first appearance in 1903, and the new edition will be warmly welcomed. The book in its present form is somewhat larger than its predecessor; extensive revisions have been made and new matter added.

The author's teachings are, for the most part, already familiar. Of special interest among the newer topics are the Pregnancy Toxemias, Vaginal Cæsarean Section and Pubiotomy. The toxemias of pregnancy, to which Dr. Williams' researches have contributed so much, have been wholly rewritten. The author still adheres to the views set forth in his recently published papers. He takes issue with Stone, Ewing and others, drawing a sharp line of distinction between the toxemia of hyperemesis and that of eclampsia, basing his contention upon the difference in the clinical manifestations, the urinary picture and the pathologic changes.

While he grants that pernicious vomiting is almost invariably of toxic origin, he still recognizes a reflex and a neurotic type of hyperemesis.

Vaginal Cæsarian section is strongly endorsed as affording an ideal method for rapidly terminating pregnancy in all cases in which the cervix is undilated and rigid. He declares it is far superior to brutal attempts at manual or instrumental dilatation.

Hebotomy, Williams believes, should displace Cæsarian section in most border-line cases of pelvic contraction and should narrow the field of induced premature labor, high forceps, version and craniotomy in moderate contraction of the pelvis.

Pubiotomy, he thinks with Gigli, is less likely than the median operation to be followed by infection and by injury to the attachments of the urethra and bladder. The mortality, too, he believes, promises to be less than in symphysiotomy. Yet in the comparatively small number of cases so far recorded, the anterior soft parts, including the urethra and bladder, have not always escaped injury, and Rosthorn has reported a case in which the patient died from uncontrollable hemorrhage. No mention is made of the tedious and taxing after-care required which surely is no less troublesome than in the symphyseal operation. The disadvantages of splitting the pelvis seem to have been minimized by the advocates of the extra-median operation, who nevertheless recognize them as serious objections to symphyseal section.

Throughout the volume the scholarly standard of the first edition has been fully maintained and the book will continue to rank among the best achievements of American medicine. J.

A REFERENCE HANDBOOK OF OBSTETRIC NURSING. By W. REYNOLDS WILSON, M.D. Illustrated. Philadelphia and London, W. B. Saunders Co., 1907. 258 pp., 12mo. Price: Flexible Leather, $1.75.

In the preface the author of this book says, in effect, that it is intended for the instruction of graduate nurses who have not had the benefit of training in a lying-in service. That the nurse untrained in practical obstetrics will find it a satisfactory substitute for what she lacks we fear is doubtful. Some of its pages relating to the anatomy and the physiology of labor will no doubt be found useful reading. Its teachings in the matter of the nurses' duties are far from practical and often are inaccurate. For example, the nurse is told to "disinfect her hands and pass them through a bichlorid solution." In putting on rubber gloves she is to "distend them with sterile water or glycerin." In eclampsia, "if chloroform is available, it should be given for inhalation." In suspected toxemia of pregnancy the urine should be "examined to determine if a poison is present." The infant is "immersed in a hot bath." "The most successful treatment of ophthalmia is that of irrigating the eyes with warm salt solution."

The practical value of such teaching may be questioned.

The book is handsomely printed and is neatly bound in a flexible leather cover. J.

THE PRACTICAL MEDICINE SERIES. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under Editorial Charge of GUSTAVUS P. HEAD, M.D. Vol. I, General Medicine, Edited by FRANK BILLINGS, M.S., M.D. and J. H. SALISBURY, A.M., M.D. Series 1907. Chicago, The Year Book Publishers [c. 1907]. 364 pp., 12mo. Price: Cloth, $1.25.

This book, of a size conveniently carried in the pocket, presents a thorough review of the literature of 1906 upon medical subjects. Care has been exercised in the editorial supervision and the interpolated remarks of Editors Billings and Salisbury add to the value of the work.

Of especial merit are the chapters upon Tuberculosis, Arteriosclerosis, Leukemia and Exopthalmic Goiter. F. B. C.

INTERNATIONAL CLINICS. Volume II. Seventeenth Series, 1907. Philadelphia, London, J. B. Lippincott Co., 1907. viii, 312 pp., 10 pl., 9 col. pl., 8vo. Price: Cloth, $2.00.

Cole, of Johns Hopkins, in opening this volume of Clinics, presents a consideration of the vaccine treatment of infectious disease that should be read by all interested in this new field of vaccines and opsonic indices. He is hopeful that the new plan of treatment will prove of substantial value.

Dock, of Ann Harbor, argues in favor of laparotomy rather than paracenticis in ascites of unknown origin and establishes his point by the citation of six cases.

Our attention is called by Dieulafoy, of Paris, to the paralysis of the external rectus of the eye with severe temporo-orbital neuralgia occurring in diabetes. This is an important paper.

Bodine, of New York, reports a series of 400 cases of local anesthesia in the operation for radical cure of inguinal hernia, in which series there were no wound infections.

De Lee's handling of post-partum hemorrhage and its treatment is encyclopedic.

The other articles, with one exception, are of merit. The exception is a paper by Lockyer, of London, on Appendicitis in Pregnancy, to which attention must be called as an example of how *not* to write on medical subjects. The author bases his paper upon six cases, three of which were never under his observation. In

the three personal cases the pregnancy in two had admittedly no bearing upon the appendiceal disturbances, in one case the appendicitis preceding the pregnancy by four years, in the other the conception of a few days being proved by the microscope. In the third personal case the appendicitis developed in the second week of the puerperium. With this wide (sic!) experience, Lockyer writes upon the question in hand. Would that men thought twice before writing for publication! F. B. C.

A Practical Treatise on Materia Medica and Therapeutics. With Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D. *Sixth Edition, Thoroughly Revised.* Philadelphia, F. A. Davis Co., 1906. viii, 1,255 pp., 8vo. Price: Cloth, $5.00 net; Full Sheep, $6.00 net.

"Good wine needs no bush" and Shoemaker stands firmly on his own craftsmanship. This, the 6th edition, has been standardized to the last edition of the U. S. Pharmacopeia (1905) and some important additions are noticeable.

One may say in praise of the section covering materia medica that the arrangement of drugs is alphabetical; that each receives concise, compressed and well-planned notice; and that the preparations and doses are listed immediately after the name of the therapeutic agent, making the book particularly available as a text book for students. A praiseworthy effort toward impressing the advantages of the decimal system is noteworthy; the decimal dosage is given before the apothecaries' measure. Another commendable feature is the heavy-face type indicating the subdivisions of each article.

A permissible criticism is the too superficial treatment of the physiological action of drugs, a fundamental requisite for intelligent therapeutics that no text-book can afford to slight.

Beside this greater bulk of the volume, eighty-four pages are devoted to brief considerations of drug preparation, classification, terminology, administration, prescription writing, dosage, etc., and an admirable section deals with various therapeutic measures other than drugs. As one might expect, these are summarized in the briefest fashion consistent with clearness, and yet a surprising amount of practical information on medical electricity, hypnotism, massage, pneumotherapy, hydrotherapy, climatology, dietetics, heat and cold, light and darkness, vibration and several ologies is compressed into the compass of these 238 pages. By-the-bye, the article on vibration contains the only illustration in the entire book. Why?

Henry Goodwin Webster.

Text-Book of Organic Chemistry for Medical Students. By Dr. G. v. Bungle. Translated with Additions by R. H. Aders Plimmer, D.Sc. New York, Longmans, Green & Co., 1907. viii, 260 pp., 8vo. Cloth.

For the majority of medical students the study of chemistry is a bête noire; and this is especially true of organic chemistry with its multitudinous formulæ, and its complicated symbols.

The ordinary text-book on organic chemistry is unsuited to the medical student. It is too comprehensive, and ofttimes the purely medical part is only cursorily mentioned. On the other hand most synopses of organic chemistry designed for the use of medical students are too condensed. In the effort to simplify the study and pass over unimportant details important subjects are presented without the connecting links, and the student fails to comprehend either the relationships or the real significance of the subjects mentioned.

Von Bunge has attempted to avoid the two extremes; of including a mass of irrelevant material which has no special reference to medicine or pharmacy, or of avoiding details, which in themselves unimportant, yet serve to show relationships and thus aid a comprehensive grasp of the entire subject. In his appointed task, Von Bunge has succeeded admirably, and his work will undoubtedly find a warm welcome among medical students who really study organic chemistry. It may well serve as an introduction to so-called physiological chemistry, which is but one branch of organic chemistry, and which cannot be comprehended without a fair understanding of the simpler organic compounds.

The translation into English is admirably done, and lacks the achaicisms so commonly found in translations. Two points might be improved in a later edition. On page 172 the graphic formula for resorcinol lacks an OH group in the meta position. On page 5 glycerin is represented by its customary formula. On page 42 the same formula appears as that of glycerol, and it is not until page 95 that we learn in a footnote that glycerol is the new and approved name for glycerin.

The typography is excellent and the indexes very complete. J. Eddy Blake.

A Manual of the Practice of Medicine Prepared Especially for Students. By A. A. Stevens, A.M., M.D. *Eighth Edition, Revised.* Illustrated. Philadelphia and London, W. B. Saunders Co., 1907. 558 pp., 8vo. Price: Flexible Leather, $2.50.

The appearance of eight editions of this work within five years is an evidence of the demand existing for such a work and of the high regard in which it is held by the medical profession.

Designed especially for medical students, it contains much of value to general practitioners, especially to those just beginning.

It is not a comprehensive treatise on the practice of medicine, and is not designed to substitute for any of those now in use. The text is too condensed, and many points of minor interest are omitted. But, on the other hand, many points of everyday importance are found here, which are commonly omitted in more extensive works, or supplied in less available form.

Nervous diseases and skin diseases are included, and directions are given for making the ordinary clinical tests on blood, urine, and gastric contents.

Last, but not least, the book is of a size that can be readily carried on the person, and much valuable time utilized which might otherwise be wasted.

J. Eddy Blake.

Surgery of Genito-Urinary Organs. By J. W. S. Gouley, M.D. New York, Rebman Co. (c. 1907). x, 531 pp., 8vo. Price: Cloth, $3.00.

This work is composed of a number of essays, many of which are the result of personal research by Professor Gouley, compiled in one book. The first few chapters are given to the consideration of catheters and catheterism and its accidents, followed by a discussion of the urethra, prostate and bladder. The chapters dealing with diseases of the urethra are of especial value on account of the large amount of original work done along this line by the author.

The using of filiform whalebone guides as conductors for tunneled catheters or sounds was the cause of a very marked change in the treatment of tight strictures of the urethra. The historical résumé which precedes each chapter and the readable manner with which the subjects are discussed, makes the book of value to the students and of interest to the graduate.

C. S. Cochrane.

A Text-Book of Diseases of Women. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E. Philadelphia, London., W. B. Saunders Co., 1907. 712 pp., 3 pl., 8 col. pl. Price: Cloth, $7.00 net; Half Morocco, $8.00 net.

Publications on special subjects in the science of medicine may be roughly considered as divisible into two classes:

1st. Exhaustive, detailed, classically complete writings, or, 2d, concisely stated and arranged, modern ideas on the subject in hand.

The former are objects of necessity and admiration

to the advanced student; the latter become teachers to the less advanced student and general practitioner whose modicum of intellectual food in each branch of his science must be concrete that he may abstractly know all.

To this latter class of works belongs Professor Webster's book, and inasmuch as there certainly exists a need for such, in virtue of their keeping apace with the progress of knowledge, this edition meets a demand.

Recommendable features present themselves in the form of excellently written chapters on anatomy and physiology, with footnotes, and on comparative anatomy, all of which is so interestingly written that the usual weariness incident to anatomical discussion is eliminated. Practically applicable is the author's method of considering such symptoms as amenorrhea, dysmenorrhea and metrorrhagia, in their relation to pelvic disease as a whole, instead of the usual consideration of them in connection with each separate pelvic condition. One is thereby taught to interpret the various menstrual anomalies in terms of general pelvic pathology rather than the usual converse method of their consideration.

A chapter on bladder diagnosis and treatment and one on appendicitis in its relation to pelvic disease and pregnancy repay special note, especially as the relation between appendical inflammation and tubal or ovarian disease is so often under consideration at the present time, taxing the most acute diagnostic acumen and requiring judgment in treatment.

Enteroptosis and allied anatomical defects receive skillful handling, particularly in the form of semi-diagrammatic illustrations of muscular defects in the abdominal parietes.

In general the number of illustrations is not so great as to displace the text and they are sufficiently diagnostic to give the clear mind-pictures so necessary in weighing evidence for or against certain diagnostic conclusions or pathologic comprehension.

In common with most works of this size the reviewer notes the absence of any special consideration of the practical relation between pelvic disease and the nervous system, an element in gynecological practice which causes many failures in treatment, many unnecessary operations and not a few female invalids.

W. C. W.

CLINICAL TREATISES ON THE SYMPTOMATOLOGY AND DIAGNOSIS OF DISORDERS OF RESPIRATION AND CIRCULATION. Part I. Dyspnea and Cyanosis. By Prof. EDMUND VON NEUSSER, M.D. Authorized English Translation by ANDREW MACFARLANE, M.D. New York, E. B. Treat & Co., 1907. 203 pp., 12mo. Price: Cloth, $1.50.

This monograph is one of a series of clinical treatises on symptomatology and diagnosis. It deals exclusively with the two common and important symptoms of dyspnea and cyanosis, and describes them as they occur in the different diseases which affect respiration and circulation. It brings together the known facts regarding those symptoms in such a manner as to make their diagnostic significance appear most clearly. It is a valuable contribution to the literature of medical diagnosis.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN. By HARRY STURGEON CROSSEN, M.D. With 700 illustrations. St. Louis, C. V. Mosby Med. Book and Pub. Co., 1907. xiii, 799 pp., 8vo. Price: Cloth, $6.00.

The author states positively that this work is exclusively devoted to the diagnosis and treatment of diseases of women as met in office work and at the bedside. He endeavors to set forth the differential diagnosis, the operation for which particular condition calls, and what it is intended to accomplish, and finally the preparation and after-care of the patient. Gynecological treatment from a medical standpoint is exhaustively treated. One may obtain a very good idea how to conduct office gynecologic treatment, how to equip his office with the necessary armamentarium and how to utilize diagnostic aids.

The book is fully illustrated, most of the illustrations being from standard works, although Dr. Crossen has added many of his own from original photographs. It has been his aim to show the actual care and handling of patients. All important points have been duly elucidated and systematically arranged. Necessary facts only are presented. Thus the reader is not confused by a mass of gynecologic knowledge intended only for the specialist. CLARENCE R. HYDE.

SAUNDERS' FORTHCOMING BOOKS.—Messrs. W. B. Saunders Company, medical publishers of Philadelphia and London, announce for publication before June 30th a list of books of unusual interest to the profession. We call the attention of our readers to the following:

Bandler's Medical Gynecology; Bonney's Tuberculosis; Volume II, Kelly and Noble's Gynecology and Abdominal Surgery; Volume IV, Keen's Surgery; Gant's Constipation and Intestinal Obstruction; Schamberg's Diseases of the Skin and the Eruptive Fevers; John C. Da Costa, Jr.'s, Physical Diagnosis; Todd's Clinical Diagnosis, and Camac's Epoch-Making Contributions in Medicine and Surgery. All of these works will be profusely illustrated with original pictures.

Medical Society of the State of New York

SCIENTIFIC SESSION

DISCUSSIONS.

ANNUAL MEETING, January, 1908.

OXYGEN IN MEDICINE AND SURGERY.

DR. WILLIAM SEAMAN BAINBRIDGE, of New York, read a paper with the above title, for which see page 281.

Discussion.

DR. J. T. GWATHMEY, of New York, asserted that oxygen used as indicated in the paper did certainly straighten out the pulse, stimulate and relieve nausea and vomiting. He cited an experiment upon an animal, when he tried to kill the animal by over-distention of its abdomen by oxygen, but the pulse, respiration and general condition remained in an even line and were not depressed. The animal came out of an anesthesia, lasting two hours and fifteen minutes, in about five minutes, and there was apparently no untoward or dangerous result of the over-distention.

DR. BAINBRIDGE said that he had not mentioned the injection of oxygen into the thoracic cavity, but that he had used it in bleeding from the lung to cause collapse of the lung. The observation was that the oxygen was absorbed almost too quickly to maintain a steady, continuous lung compression.

VASCULAR CRISES.

DR. HENRY L. ELSNER, of Syracuse, N. Y., read a paper with above title, for which see page 295.

Discussion.

DR. A. JACOBI, of New York, regarded everyone the subject of arteriosclerosis, especially after the age of thirty-five years. It might begin in the kidneys, brain or periphery. When it began in the heart the symptoms of angina were present; if in the brain, defective cerebration, etc. He considered a trace of albumen and few epithelial cells with possibly a few casts, to be suspicious of arteriosclerosis, and that every man or

woman over forty should be examined for it. If present, examine frequently. He stated that an arteriosclerosis is seldom seen without an associated Bright's disease and that the intermission in the symptoms is probably due to the nutritive circulation of the nerves and to wavering nutrition of the nerves. He believed that the sudden changes, notably recovery, that set in, are due to the establishment of a collateral circulation, and referred to the frequency of sudden peripheral paralysis in syphilis that clear up in a few hours.

He regarded the aphasia mentioned by Dr. Elsner to be due to minute thrombosis. In the treatment of such conditions he believed that the nitrites, alkalies and lactates to be in order, but also insisted upon good hygiene and a diet reduced in its calcium content.

Dr. F. C. Curtis, of Albany, at the conclusion of the scientific program, made a few informal farewell remarks. He stated that he felt honored in his office because of the illustrious men who had preceded him and also because of the high professional attainments of his successor.

He considered this past year as one of great value in fixing the Society along better ways than ever before.

He regarded all of his duties as grateful tasks, and wished to express his sincere gratitude to the various officers and members of the committees for the cheerful and efficient aid which he had received from them during the past year.

Dr. A. Jacobi, of New York, stated that for the first time in his life he should say something worth hearing.

He referred to his chairmanship of the Committee on Prize Essays, and declared that for some years past he had been kept very busy doing nothing, and he urged the revival of old time interest.

He said that the President had spoken of himself too modestly, and reported that it was mainly through the instrumentality of Dr. Curtis that the excellent program of this meeting was possible, and spoke of him as a valuable, successful and active member of the Society for many years, with this past one probably the most valuable of all his career. He moved that a vote of thanks be extended to the retiring President for his most efficient work and brilliant results. Carried.

THE OPTOMETRY BILL.

On May 22d, 1908, Governor Hughes of New York, signed the Optometry Bill, which now becomes Chapter 460 of the laws of 1908.

By the provisions of this law, the practice of optometry is declared to be "the employment of any means, other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof."

A Board of Examiners is created, composed of five persons who shall possess sufficient knowledge of theoretical and practical optics to practice optometry.

All opticians who have been actively in practice in this State for more than two years prior to the passage of the law may, upon the recommendation of the Board of Examiners, receive certificates of exemption permitting them to practice without examination.

All other persons who desire to enter upon the practice of optometry must submit proof that they are more than twenty-one years of age, of good moral character, have a preliminary education equivalent to at least two years in a registered high school, and have studied at least three years in a registered optometrist's office, or have graduated from a school of optometry, maintaining a standard satisfactory to the Board of Regents, after which they must take the examination conducted by the Board of Examiners in optometry.

Nothing in the law applies to the medical profession; in fact the law declares that "nothing in this act shall be construed to apply to duly licensed physicians authorized to practise medicine under the laws of the State of New York."

VOTE ON OPTOMETRY BILL.

Affirmative Vote in the Assembly.

George J. Arnold, Erie; Lester J. Bashford, Columbia; A. Grant Blue, Oneida; Edward W. Buckley, New York; William H. Chamberlain, Steuben; Charles A. Cole, Schuyler; Robert S. Conklin, New York; Edward P. Costello, Erie; Louis A. Cuvillier, New York; William A. De Groot, Queens; Alonson T. Dominy, Clinton; Frederick A. Dudley, Cayuga; John T. Eagleton, New York; Myron E. Eggleston, Orleans; Thomas D. Ferguson, Herkimer; Frederick C. Filley, Rensselaer; Charles F. Foley, Niagara; James A. Foley, New York; Joseph M. Fowler, Ulster; Miles R. Frisbie, Schenectady; Conrad Garbe, Queens; Harrison C. Glore, Kings; Samuel A. Glück, Kings; Mark Goldberg, New York; Michael J. Grady, Kings; Moritz Graubard, New York; Abraham Greenberg, New York; William R. Gunderman, Tompkins; Bernard J. Haggarty, Monroe; Fred. W. Hammond, Onondaga; Edson W. Hamn, Wayne; William B. Harper, Seneca; George F. Harris, Monroe; Merwin K. Hart, Oneida; Harry H. Hawley, Franklin; George B. Hemenway, Ontario; John J. Herrick, New York; James J. Hoey, New York; John Holbrook, Kings; Orlando Hubbs, Suffolk; William Jordan, Erie; Joseph W. Keller, New York; Aaron J. Levy, New York; Ladd J. Lewis, Jr., Oneida; Alfred D. Lowe, Jefferson; Clarence MacGregor, Erie; Charles K. Marlatt, Steuben; Anthony M. McCabe, New York; Martin G. McCue, New York; Robert M. McFarlane, Wyoming; John C. McLaughlin, Onondaga; George L. Meade, Monroe; Edwin A. Merritt, Jr., St. Lawrence; William G. Miller, Nassau; W. Ellison Mills, Fulton and Hamilton; Henry Morgan, Monroe; William E. Nolan, Albany; Frederick Northrup, Dutchess; Fred. B. Parker, Genesee; Harry C. Perkins, Broome; David C. Robinson, Chemung; Isaac Sargent, Kings; Philip J. Schmidt, New York; John J. Schutta, Kings; Julien C. Scott, Chenango; Jesse Silbermann, New York; Charles Smith, Otsego; Isaac H. Smith, Westchester; Myron Smith, Dutchess; Walter H. Spriggins, New York; T. Romeyn Staley, Montgomery; Solomon Strauss, New York; Frank B. Thorn, Erie; Frederick R. Toombs, New York; Robert F. Wagner, New York; George W. Walters, Erie; J. Henry Walters, Onondaga; Robert B. Waters, Albany; Charles J. Weber, Kings; James L. Whitley, Monroe; Henry J. Williams, Delaware; M. Burr Wright, Westchester; John R. Yale, Putnam.

Negative Vote in the Assembly.

Augustus Allen, Chautauqua; William M. Bennett, New York; Charles F. Brown, Cortland; Orlando W. Burhyte, Madison; Frank S. Burzynski, Erie; Thomas B. Caughlan, New York; William W. Colné, Kings; Frank De Noyelles, Rockland; William B. Donihee, New York; John H. Donnelly, Kings; W. Levell Draper, Niagara; John R. Farrar, Kings; James E. Fay, Kings; James A Francis, New York; Fred. J. Gray, St. Lawrence; George A. Green, Kings; John C. Hackett, New York; Charles M. Hamilton, Chautauqua; Frank L. Howard, Tioga; Arthur L. Hurley, Kings; William Klein, Queens; Walter H. Liebmann, New York; William E. E. Little, Ulster; John M. Lupton, Suffolk; John McBride, Kings; Patrick J. McGrath, New York; Charles F. Murphy, Kings;

George W. Murphy, Sullivan; John Lord O'Brian, Erie; James Oliver, New York; James S. Parker, Washington; Jesse S. Phillips, Allegany; Beverley R. Robinson, New York; Emil Rose, Kings; George M. S. Schulz, New York; Henry Seacord, Orange; James Shea, Essex; William A. Shortt, Richmond; Ellis J. Staley, Albany; Adolph Stern, New York; Thomas J. Surpless, Kings; Edmund R. Terry, Kings; Thomas H. Todd, Queens; John J. Volk, Cattaraugus; J. Mayhew Wainwright, Westchester; Artemus Ward, Jr., New York; Orson J. Weimert, Erie; Frederick G. Whitney, Oswego; George H. Whitney, Saratoga; Gary H. Wood, Jefferson.

Not Voting in the Assembly.

C. Fred Boshart, Lewis; William C. Brady, Greene; Thomas J. Geoghegan, Kings; Harry W. Haines, Westchester; James A. Jacobs, Kings; Frank K. Johnston, New York; Bradford R. Lansing, Rensselaer; Warren I. Lee, Kings; Charles E. Mance, Orange; George M. Palmer, Schoharie; John V. Sheridan, New York; Alfred E. Smith, New York; Andrew C. Troy, Kings; George A. Voss, Kings; William R. Waddell, Warren; Leonidas D. West, Yates; James W. Wadsworth, Jr., Livingston.

Affirmative Vote in Senate.

Joseph Ackroyd, Utica; Jotham P. Allds, Norwich; William W. Armstrong, Rochester; Francis M. Carpenter, Mt. Kisco; Owen Cassidy, Watkins; John P. Cohalan, New York City; John N. Cordts, Kingston; Thomas H. Cullen, Brooklyn; Thomas B. Dunn, Rochester; James A. Emerson, Warrensburgh; James J. Frawley, New York City; Francis H. Gates, Chittenango; Alfred J. Gilchrist, Brooklyn; Thomas F. Grady, New York; Dennis J. Harte, Long Island City; Conrad Hasenflug, Brooklyn; Seth G. Heacock, Ilion; Harvey D. Hinman, Binghamton; S. Percy Hooker, LeRoy; John T. McCall, New York City; Patrick H. McCarren, Brooklyn; Dominick F. Mullaney, New York City; William T. O'Neil, St. Regis Falls; James Owens, New York City; Samuel J. Ramsperger, Buffalo; William Sohmer, New York City; James A. Thompson, Brooklyn; William J. Tully, Corning; William W. Wemple, Schenectady; Benjamin M. Wilcox, Auburn.

Negative Vote in Senate.

Carll S. Burr, Jr., Commack; George H. Cobb, Watertown; Albert T. Fancher, Salamanca; Charles H. Fuller, Brooklyn; Henry Wayland Hill, Buffalo; Alfred R. Page, New York City; John C. R. Taylor, Middletown.

Not Voting in Senate.

George B. Agnew, New York; Frank M. Boyce, East Schodack; George A. Davis, Buffalo; Otto G. Foelker, Brooklyn; Stanislaus P. Franchot,* Niagara Falls;
*Deceased.
William J. Grattan, Cohoes; H. Wallace Knapp, Mooers; Thomas J. McManus, New York; John Raines, Canandaigua; Martin Saxe, New York City; Sanford W. Smith, Chatham; Christopher D. Sullivan, New York City; Eugene M. Travis, Brooklyn; Horace White, Syracuse.

LEGISLATIVE NOTES.

The following bills of interest to the medical profession have been introduced in the Legislature:

ASSEMBLY BILLS.

To provide for the management of the Erie County Hospital. Introduced by Mr. O'Brien and referred to the Committee on Ways and Means. Int. No. 1396, March 26, 1908. Printed No. 1911.

To amend the insanity law, relative to the support and maintenance of patients in State hospitals. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1398, March 26, 1908. Printed No. 1913.

To amend chapter 300 of the laws of 1904, entitled "An act to revise and consolidate the several acts relative to the city of Niagara Falls," relative to the establishment of a board of water commissioners, and to the powers and duties thereof. Introduced by Mr. Draper, and referred to the Committee on Affairs of Cities. Int. No. 1402, March 26, 1908. Printed No. 1917.

To abolish the office of the aqueduct commissioners created by chapter 490 of the laws of 1883 and the acts amendatory and supplementary thereto, and to transfer their powers and duties to the board of water supply. Introduced by Mr. Short, and referred to the Committee on Affairs of Cities. Int. No. 1403, March 26, 1908. Printed No. 1918.

To amend the insanity law, relative to the parole of patients in State hospitals and the voluntary care and treatment of patients therein. Int. No. 1404, March 26, 1908. Printed No. 1919.

To amend chapter 120 of the laws of 1886, entitled "An act to revise the charter of the city of Lockport," relating to the annual city hospital fund. Introduced by Mr. C. F. Foley, and referred to the Committee on Affairs of Cities—reported from said committee, read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Comittee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1245, March 17, 1908. Printed Nos. 1581, 1931.

Authorizing the trustees of the village of Peekskill to levy by tax, money for the support, maintenance and care of patients in the Peekskill Hospital or for improvement of hospital building, an institution conducted by the Helping Hand Association, a domestic corporation. Introduced by Mr. I. H. Smith, and referred to the Committee of Affairs on Villages—reported from said committee, read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1281, March 18, 1908. Printed No. 1836.

Making appropriations for construction, additions and improvements at the State hospitals for the insane. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1416, March 30, 1908. Printed No. 1967.

To amend the agricultural law, in relation to the sale and transportation of adulterated and misbranded foods and regulating traffic therein. Int. No. 1417, March 30, 1908. Printed No. 1966. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means.

To amend chapter 105 of the laws of 1891, entitled "An act to revise the charter of the city of Buffalo," with relation to city physicians in the health department. Introduced by Mr. O'Brian, and referred to the Committee on Affairs of Cities. Int. No. 1420, March 30, 1908. Printed No. 1960.

To amend section 208 of chapter 275 of the laws of 1899, entitled "An act to revise the charter of the city of Gloversville," in relation to the general powers and duties of the board of water commissioners. Introduced by Mr. Mills, and referred to the Committee on Affairs of Cities—reported from said committee, read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1335, March 20, 1908. Printed Nos. 1727, 1942.

To provide for the reconstruction of a certain trunk sewer in the city of Fulton, and making an appropriation therefor. Introduced by Mr. F. G. Whitney, and referred to the Committee on Ways and Means. Int. No. 1446, April 1, 1908. Printed No. 1998.

To amend chapter 120 of the laws of 1886, entitled "An act to revise the charter of the city of Lockport," relating to the collection of refuse in the city of Lockport. Introduced by Mr. C. F. Foley, and referred to the Committee on Affairs of Cities. Int. No. 1429, March 31, 1908. Printed No. 1975.

To amend chapter 300 of the laws of 1904, entitled "An act to revise and consolidate the several acts relative to the city of Niagara Falls," relative to the establishment of a board of water commissioners, and to the powers and duties thereof. Introduced by Mr. Draper, and referred to the Committee on Affairs of Cities. Int. No. 1438, March 31, 1908. Printed No. 1984.

To amend chapter 348 of the laws of 1901, entitled "An act to provide for sewer systems outside incorporated villages or cities," in relation to the expenses of maintaining and constructing sewer systems. Introduced by Mr. Meade and referred to the Committee on Internal Affairs, reported from said committee with amendments, ordered reprinted as amended and placed on the order of second reading—read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1296, March 19, 1908. Printed Nos. 1678, 1838, 2010.

To amend the public health law, in relation to vital statistics. Introduced by Mr. E. J. Staley, and referred to the Committee on Public Health, reported from said committee, read a second time, ordered placed on the order of third reading and referred to the Committee on Revision—reported from the Committee on Revision with recommendations, ordered reprinted and engrossed. Int. No. 1084, March 9, 1908. Printed Nos. 1334, 1712, 2006.

For the protection of the natural mineral springs of the state and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. G. H. Whitney and referred to the Committee on the Judiciary. Int. No. 793, February 19, 1908. Printed Nos. 922, 1891, 2087.

To amend chapter 344 of the laws of 1907, entitled "An act to regulate the practice of medicine, and to repeal article 8 of chapter 661 of the laws of 1893, and acts amendatory thereof," in relation to use of X-ray machines. Introduced by Mr. Goldberg and referred to the Committee on Public Health—committee discharged, bill amended, ordered reprinted as amended and recommitted to the Commmittee on Public Health. Int. No. 1124, March 11, 1908. Printed Nos. 1401, 2056.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interests therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects." in relation to the expenses of condemnation. Introduced by Mr. Bennett, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 1467, April 3, 1908. Printed No. 2062.

Proposing an amendment to section 7 of article 7 of the constitution, permitting the use of the forest preserve lands situated outside of the Adirondack park and Catskill park for the storage of water for public purposes under state ownership and control. Introduced by Mr. C. F. Murphy, and referred to the Committee on the Judiciary. Int. No. 1474, April 3, 1908. Printed No. 2069.

To amend the agricultural law, in relation to the diseases of domestic animals. Introduced by Committee of Agriculture, and referred to the Committee on Ways and Means. Int. No. 1482, April 3, 1908. Printed No. 2077.

To amend the revised statutes, relative to drainage lands. Introduced by Mr. Wright, and referred to the Committee on General Laws—ordered placed on the order of third reading and referred to the Committee on Revision. Int. No. 1113, March 10, 1908. Printed No. 1371, 2085.

In relation to the payment of the costs and expenses of draining certain lands in the town of Eastchester, Westchester County, and to the discontinuance and abandonment of certain parts of said improvement. Introduced by Mr. Wright, and referred to the Committee on General Laws—reported from said committee, ordered placed on the order of third reading and referred to the Committee on Revision. Int. No. 1114, March 10, 1908. Printed Nos. 1372, 2022.

To amend the agricultural law, in relation to the sale and shipment of calves and veal. Introduced by Mr. Blue, and referred to the Committee on Agriculture —reported from said committee with substitute and referred to the Committee on Revision. Int. No. 510, February 3, 1908. Printed Nos. 543, 1894, 2019.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interests therein, and for the construction of the necessary reservoirs, dams, aqueducts, filters, and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," as to compensation for damages. Introduced by Mr. Fowler, and referred to the Committee on Electricity, Gas and Water Supply. Int. No. 1458, April 2, 1908. Printed No. 2049.

To amend the agricultural law, in relation to the giving of bonds by manufacturers and shippers of butter, cheese and milk, to secure their patrons, and the posting of financial statements. Introduced by Mr. Lewis, and referred to the Committee on Agriculture. Int. No. 1259, March 17, 1908. Printed Nos. 1595, 2033.

To amend the public health law, in relation to the sale, adulteration and misbranding of drugs. Introduced by Mr. G. H. Whitney, and referred to the Committee on Public Health, amended on second reading and referred to the Committee on Revision. Int. No. 610, February 7, 1908. Printed Nos. 684, 1445, 1620, 1802, 2026.

To amend the village law, relative to plumbing and drainage. Introduced by Mr. Surpless, and referred to the Committee on Affairs of Villages—reported from said committee with amendments, ordered reprinted as amended and placed on the order of second reading—reported from the Committee on Revision with recommendation, ordered reprinted and engrossed. Int. No. 906, February 27, 1908. Printed Nos. 1084, 1835, 2024.

To provide for the management of the Erie County Hospital. Introduced by Mr. O'Brien, and referred to the Committee on Ways and Means—amended on second reading, ordered reprinted as amended to a third reading, and referred to the Committee on Revision. Int. No. 1396, March 26, 1908. Printed Nos. 1911, 2109.

To amend the State charities law, relating to the appointment and removal of managers or trustees of State charitable and reformatory institutions. Introduced by Mr. Phillips, and referred to the Committee on the Judiciary. Int. No. 1516, April 8, 1908. Printed No. 2152.

To amend the agricultural law, in relation to the giving of bonds by manufacturers and shippers of butter, cheese and milk, to secure their patrons (and the posting of financial statements.) Introduced by Mr. Lewis, and referred to the Committee on Agriculture —amended on second reading, and referred to the Committee on Revision. Int. No. 1259, March 17, 1908. Printed Nos. 1595, 2033, 2130.

To empower the commissioners of agriculture of the State of New York to lease farm lands and buildings thereon for the purpose of conducting experiments and investigations to ascertain the best methods of

dealing with the disease known as bovine tuberculosis; and making an appropriation therefor. Introduced by Mr. Boshart, and referred to the Committee on Ways and Means. Int. No. 1508, April 8, 1908. Printed No. 2147.

To amend the agricultural law, in relation to oleaginous substances manufactured in imitation or semblance of butter. Introduced by Mr. Boshart, and referred to the Committee on Agriculture. Int. No. 1520, April 8, 1908. Printed No. 2156.

To amend the agricultural law, in relation to preventing deception in the sale of paint, turpentine and linseed oils. Introduced by Mr. G. H. Whitney, and referred to the Committee on Agriculture—reported from the Committee on Rules with a substitute, ordered printed and recommitted to said committee. Int. No. 1430, March 31, 1908. Printed Nos. 1976, 2171.

To amend the domestic commerce law, relative to unlawful detention of milk cans and courts having jurisdiction of violations. Introduced by Mr. Scott, and referred to the Committee on Agriculture—reported from the Committee on Rules with amendments, ordered reprinted as amended and recommitted to said committee. Int. No. 126, January 10, 1908. Printed Nos. 127, 2181.

To enable the town of Pelham to establish and maintain a sewer system and disposal works in the unincorporated portion of said town and in the incorporated villages of North Pelham, Pelham and Pelham Manor. Introduced by Mr. Wright, and referred to the Committee on Internal Affairs. Int. No. 1541, April 10, 1908. Printed No. 2204.

To amend chapter 724 of the laws of 1905, entitled "An act to provide for an additional supply of pure and wholesome water for the city of New York; and for the acquisition of lands or interests therein, and for the constructing of the necessary reservoirs, dams, aqueducts, filters, and other appurtenances for that purpose; and for the appointment of a commission with the powers and duties necessary and proper to attain these objects," as amended by chapter 314 of the laws of 1906, as to compensation for damages. Introduced by Mr. Fowler, and referred to the Committee on Electricity, Gas and Water Supply—reported from the Committee on Rules with amendments. Int. No. 1458, April 2, 1908. Printed Nos. 2049, 2172.

For the protection of the natural mineral springs of the State and to prevent waste and impairment of its natural mineral waters. Introduced by Mr. G. H. Whitney, and referred to the Committee on the Judiciary. Int. No. 793, February 19, 1908. Printed Nos. 922, 1891, 2087, 2210.

To amend the village law, relative to the plumbing and drainage. Introduced by Mr. Surpless, and referred to the Committee on Affairs of Villages. Int. No. 906, February 27, 1908. Printed Nos. 1084, 1835, 2024, 2236.

To amend the insanity law, relative to the commitment of alleged insane persons. Introduced by Mr. Ward, and referred to the Committee on the Judiciary. Int. No. 1390, March 26, 1908. Printed Nos. 1905, 2212.

To legalize the route and construction of a sewer in the city of Newburgh and to legalize the making and levying of an assessment to defray the expenses thereof. Introduced by Mr. Seacord, and referred to the Committee on Affairs of Cities. Int. No. 1554, April 13, 1908. Printed No. 2227.

Providing for the use of the rifle range at Creedmore, Long Island, as a site for the Long Island State Hospital. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1556, April 13, 1908. Printed No. 2229.

To amend the navigation law, in relation to forbidding putrid deposits and sewage in certain waters in the counties of Hamilton and Herkimer. Introduced by Mr. Ferguson, and referred to the Committee on Public Health. Int. No. 1558, April 13, 1908. Printed No. 2225.

To amend chapter 147 of the laws of 1903, entitled "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," relative to the harbor at Syracuse. Introduced by Mr. Hammond, and referred to the Committee on Ways and Means. Int. No. 1561, April 13, 1908. Printed No. 2211.

To create a reservation in the highlands of the Hudson River, to be known as the Highlands of the Hudson Reservation, to provide for its regulation and making an appropriation therefor. Introduced by Mr. Seacord, and referred to the Committee on Ways and Means. Int. No. 1563, April 14, 1908. Printed No. 2241.

To amend chapter 147 of the laws of 1903, entitled, "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," relative to the harbor at Syracuse. Introduced by Mr. Hammond, and referred to the Committee on Ways and Means. Int. No. 1570, April 15, 1908. Printed No. 2255.

To amend the agricultural law, in relation to the sale and transportation of adulterated and misbranded foods and regulating traffic therein. Introduced by Mr. Merritt, and referred to the Committee on Agriculture. Int. No. 1417, March 30, 1908. Printed Nos. 1966, 2264.

To enable the town of Pelham to establish and maintain a sewer system and disposal works in the unincorporated portion of said town and in the incorporated villages of North Pelham, Pelham and Pelham Manor. Introduced by Mr. Wright, and referred to the Committee on Internal Affairs. Int. No. 1578, April 16, 1908. Printed No. 2282.

To secure sufficient water in the barge canal between Lake Erie and the Genesee River. Introduced by Mr. Meade, and referred to the Committee on Canals. Int. No. 1027, March 4, 1908. Printed No. 1233, 2275.

To repeal chapter 335 of the laws of 1904, entitled, "An act providing for the appraisal of lands, structures and waters for the use of the improved canals as authorized by chapter 147 of the laws of 1903," and authorizing the appointment of a special examiner and appraiser by the Governor, and fixing his compensation. Introduced by Mr. Foelker, and referred to the Committee on Rules. Rec. No. 100, January 23, 1908. Printed Nos. 2168, 2285.

To amend the insurance law, in relation to forms of health and accident policies. Introduced by Mr. Bennett, and referred to the Committee on Insurance. Int. No. 441, January 29, 1908. Printed Nos. 462, 2286.

Providing for the use of the rifle range at Creedmoor, Long Island, as a site for the Long Island State Hospital. Introduced by Mr. Merritt, and referred to the Committee on Ways and Means. Int. No. 1556, April 13, 1908. Printed Nos. 2229, 2290.

To amend chapter 639 of the laws of 1906, entitled "An act to provide for a commission to investigate and consider means for protecting the waters of New York Bay and vicinity against pollution and authorizing the city of New York to pay the expenses thereof," in relation to the term of said commission, compensation for its members and funds to be raised in said city for the purposes of this act. Introduced by Mr. Yale, and referred to the Committee on Affairs of Cities. Int. No. 1580, April 18, 1908. Printed No. 2295.

Making an appropriation for the purchase of a site for the Eastern New York State Custodial Asylum. In-

troduced by Mr. Merritt, and referred to the Committee on Finance. Int. No. 1009, April 6, 1908. Printed No. 2298.

To amend chapter 147 of the laws of 1903, entitled, "An act making provision for issuing bonds to the amount of not to exceed one hundred and one million dollars for the improvement of the Erie Canal, the Oswego Canal and the Champlain Canal, and providing for a submission of the same to the people to be voted upon at the general election to be held in the year 1903," relative to the harbor at Syracuse. Introduced by Mr. Hammond, and referred to the Committee on Ways and Means. Int. No. 1570, April 15, 1908. Printed Nos. 2255, 2284.

To authorize the city of New York to enter into contracts and agreements to provide for the disposal of sewage of villages or townships within the Croton water shed, and to allow the city of New York to acquire such lands as may be necessary to carry into effect said system and to acquire lands for the sanitary protection of the said water supply and to raise funds to carry said agreements into effect or to improve the sanitary protection of said water supply. Introduced by Mr. Wainwright, and referred to the Committee on Affairs of Cities. Int. No. 1586, April 20, 1908. Int. No. 2304.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting, University Club, Albany, N. Y., April 22, 1908.

Scientific Program.

"Tuberculosis of the Kidney, a Preliminary Study," by Ramon Guiteras, M.D., New York City; "Tuberculosis of the Bladder," by J. N. Vanderveer, M.D., Albany.

Annual Meeting, Albany Medical College, Albany, N. Y., May 13, 1908.

Program.

The President, George Gustave Lempe, M.D., gave an address on "The Peritoneum, Observations on."

A resolution was introduced by Doctor Craig, calling upon the members for more careful observation and report of scarlet fever cases.

The following officers were elected for the ensuing year: President, Willis G. McDonald; Vice-President, Hubert Pease; Secretary, Joseph A. Lanahan; Treasurer, D. V. O'Leary; Censors, F. C. Curtis, W. H. George, G. G. Lempe, L. B. Rulison, Andrew MacFarlane.

ALLEGANY COUNTY MEDICAL SOCIETY.

Regular Meeting, New Belfast House, Belfast, N. Y., April 30, 1908.

Program.

"A Plea for More Painstaking Diagnosis in Chronic Gastric Disturbances," William Howe, M.D., Shinglehouse, Pa.

Discussion opened by Dr. Lyman.

"Ectopic Gestation with Special Reference to Early Diagnosis," E. D. Kilmer, M.D., Rushford, N. Y.

Discussion opened by Dr. Edith Stewart.

"Vaso Motor Drugs," Edward Torrey, M.D., Olean, N. Y.

Discussion opened by Dr. Cooley.

Reports of cases in Practice.

The following resolution was passed:

Resolved, That we petition his Excellency, Charles E. Hughes, Governor of the State of New York, to veto the West Optometry Bill, now in his hands. Drs. House, Young and Lewis were appointed a committee to draft the resolution to be forwarded to the Governor.

An invitation from the Cattaraugus Medical Society to meet with them and the Medical Society of the County of McKean, Pennsylvania, July 7th, in Olean, for a tri-county meeting, was accepted.

Sympathy was expressed for the President of the Society, Dr. C. O. Sayres, who was seriously ill with scarlet fever.

The Vice-President, Dr. E. W. Ayres, presided.

MEDICAL SOCIETY OF THE COUNTY OF CAYUGA.

Regular Quarterly Meeting, Armory Parlors, Auburn, N. Y., May 11, 1908.

Program.

"The Diagnosis of Incipient Tuberculosis," John L. Heffron, M.D., Syracuse.

"The Use of the Roentgen Method for the Diagnosis of Pulmonary Tuberculosis," Lewis Gregory Cole, M.D., New York City.

"Methods for the Education of the Public," H. D. Pease, M.D., Albany.

The tuberculosis exhibition of the State Department of Health was open for special demonstration in the Armory Drill Hall before and after the regular program of the meeting. A resolution was passed appropriating one hundred dollars of the Society funds towards the tuberculosis exhibit.

COLUMBIA COUNTY MEDICAL SOCIETY.

Semi-Annual Meeting, Empire House, Philmont, N. Y., May 5, 1908.

Program.

"Gastric Neurosis." Address by the Vice-President, F. C. Maxen, Jr., M.D.

"History of the Scarlet Fever Epidemic at Philmont, N. Y.," Z. F. Dunning, M.D.

"Our Effort to Decrease the Mortality of Pulmonary Tuberculosis," Louis Van Hoesen, M.D.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Quarterly Meeting, Buffalo Library Building, Buffalo, N. Y., April 20, 1908.

Afternoon Session.

In the absence of the President, Dr. Edward Clark, the First Vice-President, Dr. Charles A. Wall, presided. The Secretary read the minutes of the meeting held January 13, 1908, which were approved as read. On motion of Dr. Bennett, the Society then went into executive session, and all persons who were not members were requested to withdraw. Dr. McKee, Chairman of the Committee on Membership, presented a report of that Committee. Dr. Grosvenor moved that the names of applicants be considered individually. The motion was carried.

The following applicants for membership were then considered and each elected separately by ballot: Drs. Charles A. Bentz, Herman D. Andrews, William A. McFarlane, John G. W. Knoll, Eugene L. Linklater, Harry M. Weed, Harley L. Atwood, Clarence D. Duchscherer, John E. Whitmore, George A. Sloan, Loretta L. Knappenberg, DeWitt G. Wilcox, William H. Billings, Cora B. Lattin, George McK. Hall, E. Lowell Marcy, Wilford L. Odell, Robert C. Mehnert, Edwin L. Bebee, Thew Wright, Francis A. Drake, Clifford R. Orr, Edgar R. McGuire, Thomas J. Walsh, H. W. Lattin, John Scott McFarland, Jacob W. Bayliss, John R. Fairbairn, James Hoyt Lewis, James H. Carr, Francis J. Carr, Lynn S. Beals, Guiseppe Tartaro, Macy B. Searls, Julius H. Potter, Fridolin Thoma, Frederick H. Stanbro, Albert F. Erb.

Evening Session.

The meeting was called to order by the Vice-President, Charles A. Wall. During the temporary absence of the Secretary, Dr. L. M. Francis was appointed Secretary *pro tem.* Certain amendments to the by-laws

were then presented by Dr. A. T. Lytle, and under the rules were ordered to lie on the table until the next regular meeting. Dr. E. E. Snow, of Batavia, President of the Eighth District Branch, then paid his official visit to the County Society and addressed the meeting. Among other things, he spoke of the coming annual meeting in Batavia and expressed a wish to see as many as possible from this Society in attendance. This ended the business session and the literary part of the program was then carried out.

Five-minute talks were given as folows:

"Albumen," Thomas B. Carpenter, M.D.

"Intussusception in Children," Eugene Smith, M.D.

"Probabililty of Intracranial Complications following Middle Ear Infection," George F. Cott, M.D.

"Radical Treatment of Incipient Hip-Joint Disease." Report of case. H. C. Rooth, M.D.

"Casts," A. E. Woehnert, M.D.

"Influence of Relaxed Utero-Sacrals on Causation of Symptoms of Retroversion," J. E. King, M.D.

William C. Krauss, M.D., then read a very interesting paper on "Diagnosis of Spinal Cord Tumors." Report of three cases seen within a period of ten days.

At the conclusion a vote of thanks was tendered to all who presented papers, and also to those who gave clinics in the morning. The appreciation of the manner in which the program for the session had been gotten up by the special committee on program consisting of Drs. McKee, Grover Wende and Edward Clark was shown by the marked attendance.

The committee divided the program into three parts:

Two clinics at the Buffalo General Hospital (one by Charles Cary, M.D., at 10 A. M., and the other by Roswell Park, M.D.).

The afternoon session, which was devoted entirely to business. The evening session, devoted to scientific discussion. The attendance was the best of any for a long time. A hearty vote of thanks was accorded the Program Committee, whereupon adjournment followed.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, MAY 19, 1908.

Program.

1. "Some Common Injuries of the Elbow Joint," by James P. Warbasse, M.D.

2. "The Diagnosis of Certain Chronic Abdominal Conditions," by Walter C. Wood, M.D.

3. "The National Government's Estimate of the Science of Medicine," by Henry A. Fairbairn, M.D.

SECTION ON GENERAL MEDICINE.

Program.

"Home Use of Nauheim Baths," Dr. H. C. Riggs.

"Oertel System of Cardiac Treatment," Dr. B. F. Corwin.

Discussion by Dr. Charles E. Quimby, Dr. Henry N. Read, Dr. H. A. Fairbairn.

The resistance exercises of the Nauheim treatment, illustrated by Mr. A. A. Oye, Instructor of Medical Gymnastics, Manhattan.

SECTION ON PEDIATRICS.

Scientific Program.

1. "Diabetes Mellitus in Infants and Young Children," H. B. Wilcox, M. D., Manhattan.

2. "The Marantic Infant," G. F. Little, M.D.

MEDICAL SOCIETY OF THE COUNTY OF MONROE.

REGULAR MAY MEETING, GENESEE VALLEY CLUB, ROCHESTER, N. Y., MAY 19, 1908.

Program.

Morning Session.

"Injuries to the Anterior Vaginal Wall," Barton Cooke Hirst, M.D., Philadelphia.

Discussion opened by J. F. W. Whitbeck, M.D.

"Obscure Fever in Infancy and Early Childhood," John Lovett Morse, M.D., Boston.

Discussion opened by C. E. Darrow, M.D.

"Twenty-five Years of Bacteriology," Charles Wright Dodge, M.D., Rochester.

Afternoon Session.

"Colles' Fracture," Leonard W. Ely, M.D., New York City.

Discussion opened by E. M. Moore, M.D.

"Functional Diagnosis of Renal Disease," Reginald Heber Fitz, M.D., Boston.

Discussion opened by W .S. Ely, M.D.

"Diagnosis and Prognosis in Diseases of the Biliary Tract, from a Surgical Standpoint," Maurice Howe Richardson, M.D., Boston.

Discussion opened by E. W. Mulligan, M.D.

Evening Session.

"The Moral Treatment of Nervous Disorders," Samuel McComb, D.D., Boston, Assistant-Rector Emmanuel Church.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, MAY 25, 1908.

Scientific Session.

1. "The Correction of Negligent Speech: Defects of the General Practitioner," by Edward Wheeler Scripture, M.D.

2. "The Conjunctival Tuberculin Test," by George Mannheimer, M. D.

Discussion by Rudolph O. Born, M.D., Thomas Hastings, M.D., Alfred Hess, M.D., William H. Park, M.D.

3. "The Serum Treatment of Carcinoma," by Simon Strauss, M.D.

Discussion by William Seaman Bainbridge, M.D., and others.

4. "Adrenalin Therapy," by Samuel Floersheim, M.D.

Discussion by George Tucker Harrison, M.D., and Morris Manges, M.D.

5. "The Relation Between Blood Pressure and Disease," by Louis Faugeres Bishop, M.D.

6. "Some Therapeutic Uses of Active, Passive and Combined Hyperemia; Demonstration of the Author's Apparatus," by Edmund Prince Fowler, M.D.

Discussion by Frederick E. Beal, M.D., Theodore C. Janeway, M.D., and Robert H. W. Dawbarn, M.D.

ONONDAGA MEDICAL SOCIETY.

The regular quarterly meeting was held May 12, 1908.

Program.

The Session opened promptly at 2.30 P. M.

1. "Report of a case: "Sarcoma of Kidney in a Child," Edward J. Wynkoop, M.D.

2. "Acute Catarrhal Pyelitis with Consecutive Nephritis," with report of a case, E. B. Kaple, M.D.

3. "Recent Advances in the Surgery of the Hip," Henry Ling Taylor, M.D., New York City.

4. "Unconscious Therapeutics," Hersey G. Locke, M.D.

The Board of Censors have recommended for membership Dr. W. W. Jamieson, Syracuse, and Dr. A. B. Randall, Liverpool.

PROPOSED AMENDMENTS TO BY-LAWS.

Chapter VII, Section 1. That there shall be a fourth Standing Committee (a Milk Committee) consisting of five members, the President *ex-officio* being one.

This Committee to be appointed annually by the President.

Three members shall constitute a quorum, and its duties shall be governed by rules approved by the Onondaga Medical Society.

Chapter II, Section 12. Any member in good standing being 65 years of age or over, may at his request, and by the recommendation of the Committee Minora

and three-fourths vote of the Society be placed on the list of Honorary Members.

Honorary Members are exempt from dues, have no vote, can hold no office and are not members of the State Society.

THE ONTARIO COUNTY MEDICAL SOCIETY.

STATED MEETING, APRIL 15, 1908.

At the meeting of the Ontario County Medical Society the following Committee was appointed to consider the question contained in a letter received from Mr. John W. Williams, Commissioner of the Department of Labor, Albany, Drs. O. J. Hallenbeck, C. C. Lytle and A. M. Mead.

QUEENS-NASSAU MEDICAL SOCIETY.

TOWN HALL, JAMAICA, MAY 23, 1908.

Program.

At the business meeting the minutes of the last meeting were read, and a memorial to the late Dr. John Ordronaux was presented. Under new business, the advisability of a re-organization and the separation of the Queens-Nassau Medical Society into separate societies for the two counties was considered.

Scientific Session.

"The Home and Office Treatment of Spirit and Drug Takers," T. D. Crothers, M.D., Hartford, Conn.

Symposium on Midwifery:

(*a*) "The Conduct of Normal Labor," Charles Jewett, M.D., Brooklyn.

(*b*) "Eclampsia," J. Clifton Edgar, M.D., New York City.

(*c*) "The Action of Forceps," James D. Trask, M.D., Highlands, N. J.

(*d*) "Version—When Shall we Prefer it to Forceps?" William J. Burnett, M.D., Long Island City.

(*e*) The Art of Pelvimetry," Sidney D. Jacobson, M.D., New York City.

(*f*) "Caesarian Section: Its Indications and Technique," John O. Polak, M.D., Brooklyn.

(*g*) "Post-Partum Plastic Repair," L. Grant Baldwin, M.D., Brooklyn.

(*h*) "Morbidity and Mortality as Sequelæ of Labor," Walter B. Chase, M.D., Brooklyn.

RENSSELAER COUNTY MEDICAL SOCIETY.

REGULAR MONTHLY MEETING, TROY, N. Y., MAY 12, 1908.

Program.

"Demonstration of X-ray Cases and Radiographs," T. A. Hull, M.D.

"Uterine Fibroids," J. A. Sampson, M.D.

"Cervical Rib," W. Kirk, Jr., M.D.

A report of the Fourth Annual Meeting of the Council on Medical Education at Chicago, C. Howard Travell, M.D.

RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MONTHLY MEETING, STATEN ISLAND ACADEMY, MAY 13, 1908, 8.30 P. M.

Program.

"Gastro-Intestinal Diseases from an Every-day Standpoint," W. R. Bastedo, M.D., New York City.

Discussion by Drs. George Mord and Goodwin.

Presentation of cases.

MEDICAL SOCIETY OF THE COUNTY OF ROCKLAND.

REGULAR SPRING MEETING, HOTEL ST. GEORGE, NYACK-ON-HUDSON, APRIL 8, 1908.

Program.

The meeting was called to order at 2.30 P. M., and at once went into executive session, at which the following resolutions were passed:

Resolved, That it is the opinion of the members of the Medical Society of the County of Rockland that the passage of the West Optometry Bill—Assembly Bill No. 727—would be contrary to the interests of the people, and a direct infringement of the Medical Act.

THEREFORE, It is respectfully urged that said bill be not reported.

The Secretary was instructed to send a copy of same to the Chairman of the Committee on Rules in the Assembly.

Resolved, That in the opinion of the members of the Medical Society of the County of Rockland, it is imperative that a suitable tract of land be purchased in addition to the proposed Theills site to afford a proper source of gravity water supply to the Eastern New York State Custodial Asylum.

The Secretary was instructed to send a copy of same to our representatives in the State Legislature.

The Scientific Session was commenced by G. A. Leitner, M.D., of Piermont, who exhibited a case of shotgun wound of the arm in a young man, seventeen years of age. The inquiry involved the middle portion of the right arm, and caused a transverse fracture of the humerus, with a portion of the bone missing. The outer and middle half of the biceps, and part of the deltoid and triceps muscles had been shot away. The patient was taken to the Nyack Hospital and the wound dressed and arm immobilized. A very virulent infection set in, and constant irrigation with special extension, splints made of tin, was kept up for seven weeks. The irrigating solution was sterile normal saline. The patient left the hospital three months after admission, with good bony union and good functional use of the arm. The case was discussed by several present, and Dr. Leitner was complimented upon his success in saving the boy's arm.

Dr. Leitner also reported a case of recurrent appendicitis, which after operation developed a severe infection in the fatty tissue surrounding the wound. There was no discharge of pus, but there seemed to be a dry necrosis of the fatty tissues. There was also no rise of pulse and temperature, and the patient died on the eighteenth day after the operation, in a low muttering delirum with marked tetanic symptoms.

G. F. Blauvelt, M.D., of Nyack, read a paper reporting a case of gangrenous appendicitis, which after operation developed abscess of the liver. As it was decided to request Dr. Blauvelt to present his paper at the meeting of the First District Branch at Poughkeepsie in October, the paper is now withheld.

It was suggested by Dr. Leitner that some good therapeutist be invited to read a paper on "The Uses and Abuses of Digitalis" at our July meeting. The suggestion met with approval.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, KNIGHTS OF COLUMBUS HALL, SCHENECTADY, MAY 20, 1908.

Scientific Program.

"Acute Anterior Poliomyelitis with Report of Epidemic," F. C. Clowe, M.D.

"Sketch of Matteawan State Hospital," J. M. W. Scott, M.D.

"Hysteria and Allied Neuroses," N. A. Pashayan, M.D.

Scientific Review.

"Bilateral Ptosis," J. J. O'Brien, M.D.

MEDICAL SOCIETY OF THE COUNTY OF STEUBEN.

NINETY-FIRST ANNUAL MEETING, EDWIN COOK HOSE ROOMS, BATH, N. Y., MAY 12, 1908.

Scientific Program.

"Therapeutics of Children's Diseases," addressed by the President, H. B. Smith, M.D., Corning, N. Y.

"After Care of Abdominal Section Cases," W. W. Skinner, M.D., Geneva, N. Y.

"Hydrophobia," Edgar Sturge, M.D., Scranton, Pa.

"Fractures and Dislocations of the Aged," E. C. Foster, M.D., of Bath Soldiers' Home.

"Observation in the Diagnosis of the Liver and its Appendages," Lewis W. Rose, M.D., Rochester, N. Y.

"Etiology and Treatment of Varicose Ulcers," L. A. Thomas, M.D., Painted Post, N. Y.

"Diarrhoeas of Children," Roy Dunham, M.D., Hornell, N. Y.

Report of a Case, C. M. Brasted, M.D., Hornell, N. Y.

MEDICAL SOCIETY OF THE COUNTY OF WASHINGTON.

ANNUAL MEETING, HOTEL CUNNINGHAM, SANDY HILL, N. Y., MAY 19, 1908.

Program.

The meeting was called to order by the President at 10 A. M. There were thirteen members present, and Drs. Farley, Lee and Eddy were received as visitors. The minutes of the last meeting, were read and approved, and the following officers were elected for the ensuing year: President, J. S. Guinan; Vice-President, W. C. Cuthbert; Secretary, S. J. Banker; Treasurer, J. T. Park; Censors, W. A. Meelick, R. C. Davies and S. Pashley. C. W. Sumner was elected delegate to the State Society, George M. Casey was elected delegate to the Fourth District Branch.

Reports of the Comitia Minora and the Committee on Legislation were then read and the President appointed R. C. Paris, C. W. Cuthbert, J. T. Park a Committee to present resolutions on the death of Dr. H. C. Monroe.

The following resolutions were adopted:

"Resolved, that the Medical Society of the County of Washington has learned with deep regret of the death of Dr. Henry C. Monroe, of Sandy Hill, N. Y., the Vice-President of the Society, and that we tender to his family our sincere and heartfelt sympathy.

Dr. Monroe was loved and respected by the members of this Society for his personal worth and for his excellence in his chosen profession. We shall miss his pleasant smile, his entertaining conversation and his wise counsels, so freely and cheerfully given to all.

We pause in the proceedings of our annual meeting to record our profund sorrow at the decease of our beloved colleague, and to allow those who knew him best, to express in spoken words their appreciation of his many good qualities, and their sentiments concerning the irreparable loss which we have sustained. And, be it further

Resolved, that these resolutions be spread on the minutes of the Society, and a copy thereof sent to the family of our departed friend."

Committee:

R. C. PARKS,
J. T. PARK,
C. W. CUTHBERT.

Reports of the Board of Censors and of the Committee on Insurance Fees were read, and the following resolutions were presented:

"WHEREAS, the fees of twenty-five and fifty cents which are paid by industrial insurance organizations for medical inspection are far too small for the services rendered,

THEREFORE, resolved, that we, the undersigned physicians of Washington County, New York, hereby agree and pledge ourselves that on June 1, 1908, all existing contracts shall be void, and under the new contract at least fifty cents shall be charged when the applicant for insurance presents himself at the physician's office, and one dollar where the physician calls at the applicant's home or place of business for such inspection.

WHEREAS, we consider it an unjust and unwarranted discrimination to render the same services to one person for a much smaller fee than that remanded from another person, unless it be for the sake of charity.

THEREFORE, resolved that we, the undersigned physicians of Washington County, New York, hereby agree and pledge ourselves that, after June 1, 1908, we will not make or enter any new contract for less than a fee of $5.00 for each examination for life insurance with chemical analysis of the urine, and an additional fee of $5.00 where a microscopic examination of the urine is required.

FURTHERMORE, it is our opinion that a plan by which the fees for the medical examination would be paid by the Society instead of by the applicant would be feasible and of great advantage to the Societies.

The report of the Committee on Coroner's Fees was read by Doctor Davies, and the following resolution was adopted:

"Resolved, that we, the members of the Medical Society of the County of Washington, hereby fix the price for making a post mortem autopsy, and making report of same to coroner, at twenty-five dollars."

Scientific Program.

"Local Anesthesia in Surgery," D. C. McKenzie, M. D.

"Treatment of Fractures," R. C. Paris, M. D.

Afternoon session:

Address by the President—"Hyperaemia as a Therapeutic Agent." Symposium on intestinal diseases of infancy.

"Etiology," G. M. Casey, M.D.

"Diet," L. D. Washburn, M.D.

"Treatment," Kenneth Blackfan, M.D.

ANNUAL MEETINGS OF THE DISTRICT BRANCHES, 1908.

First District Branch—October 21st, in Poughkeepsie.
Second District Branch.
Third District Branch—October 27th, in Troy.
Fourth District Branch—October 13th, in Amsterdam.
Fifth District Branch—October 15th, in Utica.
Sixth District Branch—October 6th, in Binghamton.
Seventh District Branch—October 20th, in Auburn.
Eighth District Branch—September 23d to 24th, in Batavia.

Deaths

"Brother and friend, this life brings joy and ease,
And love to some; to some the lack of these—
Only the lack; to others tears and pain:
But at the last it brings to all the peace
That passes understanding."

WILLIAM HALSTED CASWELL, M.D., died at his home at Shelter Island, N. Y., May 3, aged 66.

JAMES KING CROOK, M.D., clinical assistant, instructor and adjutant professor of clinical medicine at the New York Post-Graduate School from 1883 to 1904; visiting physician to the Post-Graduate Hospital and physician to the Outdoor Department of Bellevue Hospital and St. Mary's Hospital; a delegate in 1896 to the Pan-American Medical Congress in Mexico, and in 1897 and 1903 a delegate to the British Medical Association; died at his home in New York City, April 15, from pneumonia, aged 49.

DEWITT CLINTON CRUMB, M.D., a veteran of the Civil War; died at his home in South Ostelic, N. Y., April 18, aged 60.

JAMES F. DRAPER, M.D., of Victor, N. Y.; died at the home of his son in Kansas City, Mo., May 4, after an illness of five months, aged 82.

JOSEPH OAKLEY FARRINGTON, M.D.; died at Johns Hopkins Hospital, Baltimore, May 4, aged 78.

OTTO AUGUST JAHN, M.D., died in Germany, in February, 1908.

ALOYSIUS SCHRAPINGER, M.D., opthalmic and aural surgeon to the German Hospital and Dispensary, New York City; died December 19, 1907, aged 60.

LYMAN B. SMITH, M.D., died at his home in Hornell, April 26, aged 56.

JAMES JACKSON TERHUNE, M.D., formerly surgeon of the Thirteenth Infantry, N. G. S. N. Y.; a veteran of the Civil War; U. S. pension examing surgeon; died at his home in Brooklyn, April 30, aged 64.

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Original Articles

CHRONIC MIDDLE EAR DEAFNESS.*

By W. SOHIER BRYANT, A.M., M.D.

NEW YORK.

OUR grandfathers classified ear diseases in two categories—those that got well without treatment and those that resisted all treatment. In our day there are very few cases of chronic middle ear deafness that cannot be improved. The exceptions are the cases of malformation of the middle ear, the cases of advanced stapes fixation, and those of extremely advanced otosclerosis.

The amount of the possible improvement in hearing is in inverse ratio to the pathological changes. Chronic deafness from past or present suppuration of the middle ear can, without exception, be helped by treatment. The amount of help depends upon the power of the patient to make repair and to substitute parts which have been lost. Deafness following middle ear catarrh is more resistant.

When we realize that about 98 per cent. of the cases of chronic deafness are due in whole or in part to middle ear disease, then we appreciate the great frequency of chronic middle ear deafness. About 84 per cent. of the cases of chronic middle ear deafness are due to middle ear diseases alone, while 14 per cent. are due to middle ear diseases combined with diseases of the inner ear. Of the cases of chronic middle ear deafness, about 83 per cent. are due to chronic middle ear catarrh alone; 15 per cent. are due to present or past suppuration of the middle ear; 1 per cent. due to stapes fixation, and less than 1 per cent. to congenital malformation of the middle ear. The 15 per cent. of cases which are the result of suppuration are often complicated by chronic middle ear catarrh. We see, therefore, that 98 per cent. of chronic cases of middle ear deafness are due in whole or in part to "chronic middle ear catarrh."

Chronic middle ear catarrh makes about 69 per cent. of all chronic deafness, while middle ear suppuration causes about 13 per cent. of chronic deafness. The causes of chronic middle ear catarrh arise in the nasopharynx and affect the middle ear by interfering with the Eustachian tube. The aim of treatment is first to restore the functions of the Eustachian tube; and second, to correct the defects of the middle ear. By treatment of nasopharynx, prophylaxis of these defects is easily assured.

The causes of stapes fixation are trophic disturbances. Not only must these disturbances be checked but their recurrence must be prevented.

The chief difference between the etiology of middle ear suppuration and chronic middle ear catarrh is pyogenic bacterial infection. Suppuration occurs almost never independent of nasopharyngeal disease. Prophylaxis of chronic middle ear deafness due to suppuration is secured by preventing purulent inflammation through care of the nasopharynx. But if suppuration has already begun, the hearing is preserved by immediately stopping the suppuration and by treating the nasopharynx appropriately. If any suppuration should exist in chronic middle ear deafness, it must be immediately arrested. If perforations of the membrane exist they must be closed by the growth of cicatrices. In order to compensate for the important parts of the sound-conducting mechanism which may have been lost, it is necessary to adjust mechanical appliances. Adhesions of important parts must be loosened.

Besides showing the second stage of stapes fixation (X), the following cases also show the three conditions caused by chronic middle ear suppuration, together with their nine methods of treatment (I-IX). The thirteen conditions of chronic middle ear catarrh and their treatment are also shown (XI-XXIV).

I. Case No. 12,076.—A man, aged thirty-four. Chronic middle ear suppuration with impaired hearing for six years. Perforation of Shrapnell's membrane. Acoumeter heard less than three feet. Nine weeks later after cleansing treatment and cessation of suppuration, acoumeter heard at thirty-five feet. Improvement has persisted to the present time covering a period of three years.

II. Case No. 13,016.—A man aged twenty-seven. Chronic middle ear suppuration for four years; small perforation of membrana vibrans and considerable loss of hearing. Acoumeter heard at three feet. Three months later, after cleansing treatment and cessation of suppuration, acoumeter heard at thirty feet. Improvement has continued over three years.

III. Case No. 14,214.—A woman aged fifty-three. Effects of chronic middle ear suppuration; large, dry posterior perforation of drum membrane. Acoumeter heard at twelve inches. The other ear worthless. The perforation was caused to cicatrize over by aid of paper dressings. Six weeks later, acoumeter heard at eight feet. Improvement has continued.

IV. Case No. 13,000.—A woman aged twenty, who had been rejected in a civil service examination. Effects of chronic middle ear suppuration. Adhesion of malleus handle to promontory. Perforation of drum head

*Read before the Medical Society of the State of New York, January 30, 1908.

had already closed. Watch heard at five inches. The other ear worthless. Two and a half months later, after forcible catheterization and relaxation of the bands of adhesions, watch heard at seventeen inches and applicant passed a successful civil service examination. Improvement retained.

V. Case No. 13,070.—A doctor aged forty-five. Long standing suppuration and large perforation in membrana vibrans. Acoumeter heard at ten inches. One week later, after cleansing treatment and cessation of suppuration, the perforation was closed with paper dressings; acoumeter heard at twelve feet.

VI. Case No. 14,207.—A woman aged twenty-four. Suppuration since childhood; total loss of the drum membrane and the three ossicles. Watch heard at one inch. Other ear of little use. One week later, after cleansing treatment and cessation of suppuration, tympanic ballast was adjusted, watch heard at thirty-six inches. Improvement continued over three years.

VII. Case No. 12,077.—A woman aged twenty-seven. Suppuration since childhood; loss of drum head and cicatricial attachment of malleus to promontory; early impairment of hearing. Acoumeter heard at twelve inches in right ear. Left ear absolutely deaf. Cleansing treatment and cessation of suppuration. Acoumeter heard at four inches. Tympanic ballast then adjusted, acoumeter heard at eight feet. Ballast caused return of suppuration. A mastoid antrectomy was performed in order to allow the use of the tympanic ballast. After convalescence acoumeter heard at thirteen inches. Ballast adjusted, acoumeter then heard at nine feet. Watch heard at two inches. Condition remains the same. Functional tests without tympanic ballast: Tone perception, high limit, 16,800 single vibrations, (Edelmann-Galton). Tone perception, low limit fork, 1,024 single vibrations. Bone conduction, 0. With tympanic ballast in place: Tone perception, high limit, 39,400 single vibrations; low limit, fork, 128 single vibrations. Bone conduction, fork, 512 single vibrations heard on mastoid. A tone gap existed for a time, fork, 2,028 double vibrations not heard by air conduction while other c forks were heard.

VIII. Case No. 14,478.—A man aged seventy-five. Chronic middle ear suppuration of many years duration with poor hearing. Watch heard at four inches. My modified radical mastoid operation was performed. Cessation of suppuration and watch heard at ten inches.

IX. Case No. 13,038.—A woman aged twenty-four. Suppuration since infancy; loss of all tympanic contents; tympanic caries. Watch heard at contact. Radical (Schwartze-Stake) mastoid operation performed. Convalescence complete in three weeks without skin grafts. Cessation of suppuration and watch heard at ten inches. The patient has retained the improvement now for four years.

X. Case No. 14,229.—A man aged sixty-seven. Stapes fixation in the second stage. Deafness commenced eight years ago; hearing has been very bad for three years; this condition was possibly aggravated by business failure. Hearing variable. Drum membrane whitish and opaque. Position, contour and light reflex normal; malleus movable. Acoumeter heard, right ear at four inches; left ear at three inches. Loud conversation heard in right ear at six inches, left ear at thirty-two inches. Watch not heard in either ear. Bone conduction much diminished. Fork, 128 single vibrations low limit for tone perception by bone. Fork, 256 single vibrations not heard by air. High notes well heard. Treatment by general hygiene and regulation of blood supply of the middle ear. Six months later, acoumeter heard in right ear at seven feet, watch at twenty inches; in left ear, acoumeter at four and one-half feet, watch not heard at all. Improvement has continued now for a period of four years.

XI. Case No. 13,083.—A man aged forty-seven; had noted deficiency in hearing for eighteen years. Drum heads good color, fair contour and position, light reflex very small. Nares partially occluded by hypertrophies and irregularities. Fossæ of Rosenmüller partially closed by adhesions. Tubal mouths slightly obstructed by thickened mucosa. Watch heard in right ear at fifteen inches; in left ear, at four inches. Astringents and irritants to nasopharynx. Three years later, watch heard at forty-eight inches in left ear and at eighty-four inches in right ear. Improvement maintained.

XII. Case No. 14,528.—A man prematurely old at forty-seven. First noted impaired hearing thirty-four years ago; losing ground ever since in spite of much treatment. Has not heard watch in right ear for twenty-one years, and in left, twenty-five years. Flat, opaque, retracted drum membranes; no light reflex, rigid. Nares hypertrophic; inflation by Politzer's method or catheterization impossible. By air conduction, right ear, low tone limit fork, 1,024 single vibrations; high tone limit fork, 2,048 single vibrations. Left ear, low limit, 512 single vibrations; high limit, 4,096 single vibrations. Bone conduction decreased. Right ear, low tone limit by bone conduction, 1,024 single vibrations; high limit fork, 8,192 single vibrations. Left ear, low limit by bone, fork, 1,024 single vibrations; high limit, 8,192 single vibrations. Very loud voice heard at one foot in right ear; left ear, at eight inches. Bougies, local astringents and stimulation. Portions of lower turbinates removed. Eight months later, low tone limit in left ear, fork, 256 single vibrations; right ear, fork, 268 single vibrations. High tone limit, 40,000 single vibrations in both ears. Acoumeter heard in right ear at fifteen inches; in left ear at twenty-seven inches. Watch heard light contact on both ears. Loud conversation heard in right ear at five and a half feet; left ear at four feet. Eustachian tubes patulous; appearance of drum membrane much improved in every respect; good light reflex, color, position and surface, still somewhat opaque.

XIII. Case No. 14,177.—A woman thirty-eight years old. Has undergone much injudicious treatment. Eustachian tubes used to be closed, now cannot close. Diminished hearing began fifteen years ago. Membrana tympani, thin, flaccid, readily movable. Acoumeter heard at twenty inches in right ear. Treated by rest, stimulation and collodion splints. After six months, acoumeter heard at four and a half feet; watch, at two and one-fourth inches. Improved function of Eustachian tube.

XIV.—A man aged forty-three. For several years hearing has been impaired; drum head retracted, good color, contour and reflex. Does not move on inflation. Watch heard at one and a half inches; after inflation heard at twenty-four inches. Treatment, inflation and pharyngeal astringents; one month later, watch heard at eighteen feet.

XV. Case No. 14,696.—A man aged twenty-seven. Impaired hearing for a number of years; much deafness in family. Drum membranes slightly congested along malleus handle and periphery, and depressed, small light reflexes; inflation difficult. Nasal engorgement. Left ear, watch heard at five inches; right ear, watch heard at nine inches. Bone conduction slightly prolonged. Low notes well heard. High limit, left ear, 39,000 single vibrations (Edelmann-Galton). Right ear, 44,000 single vibrations. Treated by inflation, removal of part of lower turbinates and astringents. Three days later, watch heard at tweleve feet; left ear, at ten inches. Improvement maintained.

XVI. Case No. 13,012.—A man aged sixty-seven. Some difficulty in hearing for a number of years. Membrane very thick and white, with thinner areas. Large light reflexes. Inflation slow. Acoumeter heard in right ear at twenty-five inches; in left ear, at seven inches. High tone limit, left ear, 29,000 single vibrations (Edelmann-Galton). Right ear, 20,000 single vibrations. Right ear, low tone limit, 102 single vibrations. Treatment, astringent to nasopharynx and aural stimulation; two weeks later, acoumeter heard in right ear at five feet; left ear, at fourteen feet.

XVII. Case No. 14,649.—A man aged fifty-eight. Extremely deaf for two years; hearing difficult many years. Thick, flat, contracted drum heads; no light reflexes; Eustachian tubes fairly patulous. Hears nothing by bone conduction. Cannot hear his own voice or a slap on the cheek. Hears very loud noise close to his ear. Treated by nasal counter irritation and tympanic stimulation. After several treatments, acoumeter heard in right ear at two inches; left ear, at five inches. High tone limit, right ear, 24,000 single vibrations (Edelmann-Galton); left ear, 22,000 single vibrations. Low limit, left ear, fork, 250 single vibrations; right ear, fork, 1,096 single vibrations. Eight months later, ordinary voice heard by air at four feet. Low tone limit, fork, 128 single vibrations, by air in both ears.

XVIII. Case No. 14,160.—A woman aged fifty. Hearing has been defective twenty-five years. Partial nasal obstruction. Drum head depressed, very thin, transparent and lax. Inflation not perfect; watch not heard. Right ear, the better ear, acoumeter heard at five feet. Low tone limit, 256 single vibrations. Treated by nasal astringents, removal of part of lower turbinates and aural stimulation. Fifteen months later, watch heard at thirty-six inches. Low tone limit, fork, 113 single vibrations. High limit, 43,000 single vibrations (Edelmann-Galton).

XIX. Case No. 14,128.—A man aged forty-five. Impaired hearing many years. Right ear absolutely deaf; left ear, relaxed drum membrane. Patulous Eustachian tubes. Acoumeter heard at seven inches. Treatment, paper splints and collodion. Six months later, left ear heard watch at one and a half inches; acoumeter at twelve feet. Resiliency of drum membrane restored. Improvement maintained.

XX. Case No. 12,099.—A woman aged thirty-nine. Had long noted trouble in hearing. Right ear, the best ear. A large part of the drum membrane calcified. The tube not perfectly patulous. Acoumeter heard at two inches. Treated by inflation, astringent to nasopharynx and tympanic stimulation. One month later, right ear, watch heard at eighteen inches. Mobility and elasticity of the sound conducting mechanism much improved.

XXI. Case No. 14,179.—A man aged forty-one. Has been a little deaf for a number of years. Left ear shows a somewhat depressed gray membrane with irregularly depressed surface after inflation, indicating bands of adhesions running to the inner tympanic wall. No history or evidence of suppuration. Tympanic inflation difficult. Acoumeter heard at three inches. Treatment, inflation and tubal astringents. Four months later, acoumeter heard at four feet in left ear. Adhesions appear to be entirely relaxed.

XXII. Case No. 14,177.—A woman aged thirty-eight. Noted impairment in hearing fifteen years ago. Previously tubal stricture, much injudicious treatment, now permanently open tubes and abnormally movable left drum membrane and malleus, loss of elasticity of membrane and extreme laxity of mallear ligaments. Bone conduction much increased, low notes deficient, high notes well heard. Left ear, acoumeter heard at twenty-five inches. Treatment by collodion splints, rest and irritation of pharyngeal mouth of tube. Five months later, watch heard in left ear at four and three-fourths inches. Acoumeter, at ten feet.

XXIII. Case No. 14,861.—A woman aged thirty-five. Some difficulty in hearing for at least two years. Tympanic membrane fairly normal in appearance. Malleus immovable. Right ear, watch heard at seventeen inches; left ear, at three inches. High tone limit, left ear, 40,000 single vibrations (Edelmann-Galton); right ear, 48,000 single vibrations. Gellé positive, low limit left ear, fork, 134 single vibrations; right ear, 174 single vibrations. Bone conduction, normal duration. Treated by tympanic and tubal stimulation. Six weeks later, left ear, watch heard at nine inches; right ear, at twenty-one inches. High tone limit, right ear, 85,000 single vibrations; left ear, 92,000 single vibrations. Low limit, 128 single vibrations, both ears.

XXIV.—A boy aged thirteen. Always had slightly defective hearing. Watch heard at twenty inches in both ears. Mastoiditis and operation treated with my modified blood clot dressing. After convalescence from the operation, the ear operated on for mastoiditis heard the watch at twelve feet.

Summary. We have seen that all forms of middle ear deafness except the congenital cases are amenable to treatment, and that the amount of improvement justifies the effort expended.

CHRONIC SUPPURATIVE CYSTITIS: TREATMENT AND PROGNOSIS.*

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NEW YORK.

DOUBTLESS little really new may be offered in the treatment and prognosis of suppurative cystitis: a term used in contradistinction from tuberculous, diabetic and neoplastic cystitis. Nevertheless, in consultation work the specialist in genito-urinary diseases finds a number of important details in the constitutional and local management of suppurative cystitis, which are either overlooked, neglected or ignored, although proper respect for them is the determining factor in the success of the measures adopted.

It is hoped that the points elucidated in this paper may be warranted by scientific value, if not altogether by novelty.

Inflammation of an organ like the bladder, which is practically never at rest, but is always engaged in receiving its physiologic share of the body-refuse in the form of urine, is necessarily a very difficult condition to overcome, in most cases purely in virtue of the physiologic activity of the organ.

The treatment of suppurative cystitis depends first of all on the clinical variety of inflammation present, acute, subacute or chronic, as the case may be. It will, therefore, be necessary to devote a section of this paper to the treatment of acute, subacute and chronic suppurative cystitis in its frequently neglected details as the subject may require.

Acute suppurative cystitis occurs in two forms, namely: without retention of urine and with retention of urine. It is well to consider, first, acute suppurative cystitis without retention of urine. The treatment does not vary materially in the male and the female with exception of the facts that the vagina in woman makes the use of hot douches easier than of rectal irrigations in the male for the purpose of quieting pelvic congestion; that the shortness of the urethra in woman makes the employment of such means as the retention-catheter much easier to carry out; and that the comparative independ-

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ence of the urethra in woman from direct connection with the erectile and excitable elements of the sexual organs makes cystitis as a whole, not a little less aggravating in woman than in man.

With these fundamental facts in mind, we must recognize that acute suppurative cystitis without retention of urine possesses a stage of activity and a stage of decline of the inflammation. During the stage of activity the constitutional measures of treatment are only possible.

(A) Such constitutional procedures as affect the system at large are rest in bed, a fluid and nonirritating diet, preferably of milk and of milk derivatives, and free evacuation of the bowels with calomel and salines.

(B) The constitutional measures of treatment directly affecting the bladder and its contents and its adnexa, not only comprise interdiction of the use of alcohol, condiments and tobacco because the alcohol and the condiments in the wine directly aggravate the inflammation, and because the high percentage of mineral matter in the urine from tobacco tends to do so too, but also comprise three aims, namely: First, to dilute, neutralize and antisepticize the urine; second, to quiet vesical irritation and pain, and third, to decongest the entire pelvic region.

So intimate is the relation between these various conditions that the measures adopted to relieve them cannot very well be said to result in only one effect. For example, dilution and neutralization of the urine directly tend to quiet vesical irritation and pain, and thereafter to slightly decongest the pelvic region. One finds that this fact is often overlooked by the family practitioner, and that undue amount of medication is being given with isolated particular aims.

I. Dilution of the urine through systemic methods may be accomplished by the drinking of water, hot or cold, up to two or three quarts per day, one or several tumblerfuls being taken every two, three or four hours. A precaution, which is often neglected, should be taken to stop this water drinking long enough before sleeping hours to allow the kidneys to cease their hypersecretion, and therefore, to permit the patient to be relieved from night-calls to empty the bladder. Vichy water mixed in equal parts with milk, buttermilk, kumyss, matzoon, or other milk foodstuffs, may be given alternately with the plain water, not only as diluents of the urine, but also as food.

II. Neutralization of the urine through systemic means is the next local result of importance. The neglected detail concerning this aim is, that the reaction of the urine is not sufficiently watched. An acid urine is rendered not neutral but alkaline, and an alkaline urine is changed not to neutrality but to acidity. In either case the cystitis is only aggravated. It should always be remembered that the limit of administering the various drugs is reached by neutrality of the urine, which should be determined by frequent testing with litmus paper. Strongly acid urine is seen in the cystitis of rheumatism and gout, and requires not the stronger but the simpler alkalies, such as the bicarbonate of soda in daily doses of 1 to 2 drachms, the citrate of lithium and the citrate of potash in a daily allowance of 30 to 60 grains. Alkaline urines require the vegetable acids or some of the newer synthetic preparations, such as cystogen, urotropine formin, and the like.

III. These remedies, last named, really involve, however, the next step of the local effects through sytemic means, namely: antisepticization of the urine. For this purpose salol also is of value in small doses, namely: grains, 5 to 10 three times a day. The salicylate of soda combines antirheumatic, alkalyzing and antiseptic action rather well, and may be given in doses of grains 10 to 30, three times a day. Caution against undue salicinism must not be overlooked, both in the use of salol and soda salicylate. Cystogen, urotropin and formin are familiar examples of reliable synthetic urinary antiseptics. One point in their use, however, is all too often forgotten, namely: many kidneys become irritated by them so that numerous casts, sometimes albumin and rarely even blood, appear in the urine. It is necessary, therefore, to examine the urine for casts before and during the administration of these drugs.

IV. The relief of pain through drugs constitutionally given is the next important aim of the systemic treatment for local outcome. In order to treat this pain comprehensively, one must remember that it depends first, on irritation of the bladder by the inflammation itself and by the influence of the constituents of the urine on this inflammation, and second, on the congestion of the pelvis. The pain which proceeds from irritation of the bladder will be considerably lessened by the measures just described, which are devoted to rendering the urine bland and inoffensive. That element, however, of the irritation which proceeds from the inflammation itself demands some form of narcotic, preferably opium, as an anodyne and one of the belladonna group, by choice, hyoscyamus as an antispasmodic. The circulatory sedatives, especially aconite and pulsatilla are frequently and undeservedly neglected. One frequently sees a bladder that is severely irritated, quiet a short time after the administration of aconite has been begun. Opium, as such, may be given in the form of suppositories, gr. 1 every 4 hours or as morphin by the hypodermic needle, grs. 1/8 or 1/4 until the pain is relieved. The hyoscyamus may be added to the suppository or to the hypodermatic injection. The fluid extract of aconite should be given in doses of 1 minim every hour to the sthenic, or every 2 or 3 hours to the asthenic patient until the lips, throat and fingertips begin to tingle, or until the patient begins to perspire freely and to feel relaxed. After this point the interval may be made from 2 to 4 hours, as the case may be. Aconite allays the congestion powerfully and surely, not only in the

bladder itself, but in the pelvis. It is, therefore, a valuable adjuvant to the hydrotherapeutic measures soon to be spoken of, for decongesting the pelvis. This fact only illustrates again the statement previously made, that no measure may be counted on to accomplish one thing and nothing more.

V. Rest of the inflamed bladder is the next chief local effect for consideration by drugs constitutionally administered. What should be realized more than it is, is the fact that all the foregoing measures tend more or less to secure rest of the bladder; for example, vesicle nervous excitation is relieved by opium, belladonna and aconite. The frequency of urination and the tenesmus are benefited by rendering the urine dilute, neutral and antiseptic. Congestion is reduced by the aconite and the infection and suppuration are combated by the systemic use of urinary antiseptics. The rest in bed and the bland fluid diet are features of great importance also.

The last main heading of the constitutional treatment of acute suppurative cystitis without retention for purely local results is the reduction of pelvic congestion. A rectal examination in cases of cystitis in man, and a vaginal examination with or without a rectal exploration in woman is a frequently neglected detail. It will invariably reveal a high degree of pelvic congestion which at once suggests active measures for its relief. These measures are rest in bed, the attitude of flexion of the thighs upon the trunk and of the pelvis upon the trunk, both supported by pillows. The rather free use of saline cathartics is often of great service. Finally the administration of antispasmodics, circulatory sedatives, anodynes and urinary diluents, neutralizers and disinfectants although administered primarily for other purposes have a potent effect secondarily on the pelvic congestion.

If, however, these constitutional measures fail of their desired effect on the bladder and urine we must resort to purely local procedures for relief of the symptoms of pain and irritation. The indwelling catheter or perineal section and drainage are of chief importance. Continuous evacuation by the catheter or by the perineal drain, at once accomplishes nearly all those points which have previously been discussed; these are, virtual dilution, neutralization and antisepticization of the bladder contents, in that both urine and pus are constantly drained off, and actual quieting of vesical irritation and pain, in that the bladder no longer receives, retains, or expels its contents by its neuromuscular mechanism.

In the use of the indwelling catheter, woman has distinct advantage over man, because in woman the indwelling catheter is almost always well borne, whereas in man, it may so stimulate erection and other sexual excitement as to make its use impossible, perineal section for drainage must then be resorted to. One should not hesitate to perform the open operation in the male if the catheter cannot be tolerated or if the catheter does not work satisfactorily. It is most important not to neglect continuance of evacuation of the urine and of the pus in those forms of acute cystitis without retention of urine which do not yield to the milder measures just described. An early provision of permanent drainage will often prevent the advent of chronic interstitial cystitis from which the bladder may never recover or thereafter, of ascending infection of the kidneys of which the patient may die.

It is stated by some clinicians that the retention catheter in woman invites bacillus coli infection of the bladder. The wonderful rapidity with which this form of bladder disease yields to formaldehyd derivatives and compounds, locally in irrigations and systemically through the urine, suggests that the simple use of this measure is both prophylactic and remedial. It hardly seems likely that the indwelling catheter in woman should frequently lead to this complication, except as the result of carelessness as to the toilet of the vulva, urethra, vagina and anus, while the catheter is in place. The perineal drain by catheter is so common in the male in cases of stricture, external urethrotomy for prostatic enucleation, rupture of the urethra, cystitis, and the like, without bacillus coli commune infection, that when in woman this infection does occur there must be some cause for it, such as technical errors.

There is one form of vesical irritation dependent on a special form of cystitis, namely: gonorrhea of the bladder. The pain here is caused by an urethrocystitis, that is to say, a deep urethritis involving the neck of the bladder and associated with a cystitis itself, chiefly of the trigonum. These patients are in agony from the congestion and inflammation, from the rapid pus-formation, from the efforts of the bladder to void the pus, from the spasm of the bladder due to irritation of its neck, and from the tenesmus due to the intense burning and irritation of the urine.

Two local measures not previously spoken of must not be forgotten, in acute gonorrheal systitis without retention of urine, cocain may be instilled into the deep urethra and even into the bladder, 10 to 20 drops of a 2 per cent. or a 4 per cent. solution may be thus used and will act as a local anesthetic and as a focal decongestive. Unless the patient's resistance to cocain is well understood, morphin must be given as a corrective and antidote, otherwise, one occasionally sees pronounced depression from the cocain. Following the cocain or independtly of it, one may instillate a small quantity of argyrol in 10 per cent. or 20 per cent. solution, or a few minims of a 5 per cent. solution of nitrate of silver. It is difficult to fix the action of this last measure except theoretically, the silver may act as a local antiseptic and astringent, thus respectively decreasing the violence of the inflammation and

checking the congestion with a resultant decrease in the pain. Clinically, however, these instillations are almost magical in isolated cases.

VI. Relief of pelvic congestion (the last chief heading in the first part of the paper), may be attained by measures of purely local application, such as mild counter irritation over the public and perineal regions, and rectal and vaginal irrigations with normal salt solution as hot or cold as may be borne.

Pelvic congestion is powerfully influenced by hydrotherapeutics, particularly hot general baths or hot sitz-baths. The temperature of these baths must be high enough and their duration great enough, to leave the skin of the patient red for some time after he emerges. In many households sitz-bath tubs are not found. A good substitute, however, is to draw twelve inches of hot water in an ordinary tub and allow the patient to sit in that with his lower extremities extended, thus will the entire lower half of the body be powerfully affected. Immediately after the bath the patient should be rubbed vigorously and put into a warm bed.

The treatment of subacute cystitis is the treatment of acute cystitis without retention of urine during the stage of subsidence.

(A) Constitutional treatment which affects the system as a whole, comprises a judicious continuation and a slow decrease in many of the foregoing measures, rest in bed, should, however, be insisted on. The fluid diet is slowly changed to soft and finally to solid food; the tonic measures may be endorsed, especially the nonmedicinal, such as massage and hydrotherapeutics.

(B) It is in such declining stages of the disease that the nature of the purely local aims of the systemic treatment changes. It is the caution and the judgment with which this change is carried out which are the stumbling blocks of many general practitioners. The urine should be kept nonirritating, but its antiseptic qualities should be increased and stimulant and astringent elements added.

(1) Of the list of drugs which may be used by internal administration to produce stimulation and astringency, the most reliable are: sandal wood oil, oleoresin of copaiba, oil of gaultheria, separately, alternately or combined. Minims 5 of each, 3 times a day, 2 hours after eating, in capsules, is a good initial dose which should be increased up to tolerance. It is better, however, to omit these drugs altogether than to allow them to disorder digestion.

Their influence upon the mucous membrane as stimulants and astringents may be made very advantageous.

(2) Of the urinary antiseptics, salol, urotropin, cystogen and formin, as already mentioned, are the most reliable; 5 grs. of each may be given to start with, and may be judiciously increased until the urine begins to clear. The urine should be frequently examined for casts which the irritation of the kidneys by these antiseptics not infrequently produces. Therefore, they should not be begun until the presence or absence of casts in the urine is known, after which the influence of these drugs upon the kidneys may readily be followed. This point of observing casts during the administration of such urinary antiseptics is not as carefully observed as it should be. Dr. W. H. Thompson is authority for the statement that benzoate of soda in dose equal to that of urotropin, with correct the irritation even though it be strangury from the disease.

(C) Treatment of the bladder itself by irrigations is the next point in the progress of the case and is, of course, a purely local measure. A fact which must never be forgotten is, that no means employed will penetrate to the full depth within the mucous membrane reached by the inflammatory processes and by the infection. On the other hand, however, much may be gained by the patient mechanical removal of all those products of inflammation which lie upon the surface of the mucosa. Thus aid is given to nature's own effort at casting off from herself in the form of pus and detritus that which cannot survive. Indication here is therefore twofold; first, to irrigate with a solvent of pus until a test-glass of the fluid is perfectly clear, excepting perhaps, for a few shreds, thus will the mucous membrane be cleansed down to the line of demarcation, so to speak, on the one hand, between the mucosa which may recover, although still inflamed and infected, and, on the other hand, the pus and detritus which nature has already discarded. When the mucous membrane is thus cleared, stimulating, astringent and antiseptic irrigants may be gently passed into the bladder. The indication is therefore, to use at first, normal salt solution, simple sterile water, normal sodium bicarbonate solution, normal salt and soda solution, 1 per cent. boric acid solution, etc., and then to follow these with weak solutions of potassium permangenate from 1 to 10,000, increasing slowly to 1 to 4,000; silver nitrate solution 1 to 20,000 to 1 to 5,000, formalin solution in the same strengths, boric acid solution 2 to 4 per cent., creolin solution 1 to 5,000, 1 to 1,000. The weaker solutions are used first and are gradually increased as the case improves, but never are they sufficiently strong to induce a relapse of the inflammation. A soft rubber or flexible woven catheter is the best means of carrying the fluid into the bladder. The flow or pressure of the fluid must be gentle and is best controlled by using a hand syringe of which the Janet-Franck glass-barrel syringe is the best type, in the writer's opinion. Such a syringe furnishes also a measure of the amount of fluid injected. Violent, sudden, spasmodic or extreme distention of the bladder should never be practised. It is of course necessary to fill the bladder completely so as to unfold its normal crevices and reduplications. In bacillus coli commune infection, the folds of the bladder often adhere to each other. When this form of infection has been bacteriologically demonstrated the bladder should always be distended sufficiently to separate these adhe-

sions, and to grant access of the fluid to the infolded surfaces of diseased mucosa.

The temperature of the fluid should begin at body heat measured with a thermometer and be slowly increased until the limit of the patient's comfort is reached, which varies commonly from 110 to 120 degrees. The greater the heat the higher the astringency of the irrigation within these limits. No relapse of inflammation should, however, be caused by the heat.

Test glasses for observing the quality of the return-fluid are absolutely necessary and are all too frequently omitted, as the practitioner more usually estimates the clearness of the fluid either as it flows from the catheter or as it lies in the bottom of the douche-pan.

Not a few subacutely inflamed bladders will cause tenesmus and spasm unless they contain fluid. These bladders should, therefore, receive about an ounce of fluid for retention just before the catheter is withdrawn.

Repetition of the irrigation is indicated by the rapidity with which pus reforms. At first, usually two irrigations a day are sufficient, then one each day, every other day, every third day, and so on until they are finally discontinued. A relapse in the cystitis during the period of irrigation commonly indicates a discontinuance of the washings, unless there is retention of urine, decomposition of the urine and a tendency to overdistention of the bladder. These distinctions are frequently lost sight of. The milder forms of irrigation and sterilization of the bladder should, however, be resorted to, of course, during such relapses.

The next main branch of the subject is the treatment of acute suppurative cystitis with retention of urine, which differs from the foregoing details only in the fact that on account of the retention, drainage and irrigation of the bladder must be begun even in the acute stage. The drainage may be carried out in women by the introduction of the retention catheter with marked success and in man by the same means with less success unless the patient is beyond the age when the presence of the catheter in the urethra causes sexual excitement. In men when the retention catheter cannot be borne perineal drainage by the buttonhole operation must be carried out at once. The cause of the retention must be ascertained and removed when possible. Not uncommonly retention depends on pelvic congestion and prostatic congestion, both of which may be removed or relieved by a properly graduated treatment along the foregoing lines laid down under the treatment of acute cystitis without retention.

The treatment of chronic suppuration cystitis is our next subdivision of this subject. Chronic inflammation of the mucous membranes anywhere in the body depends on the character of the cause and the degree of the effect. If the cause is fully removable, total recovery is possible, but it is possible only provided that the mucous membrane has not been deeply damaged. If the functional powers of the mucosa are essentially impaired, full recovery is impossible. One only has to turn to the mucous membranes elsewhere in the body to realize that this is true as in the nose and its sinuses, the uterus and its tubes, the urethra, the rectum and intestines. It is important to realize this fact, because if a cystoscopic examination reveals a deeply impaired mucous membrane, only the relief of symptoms and not a total restoration of the bladder to health should be promised the patient or one's self. Fortunately, in the matter of chronic cystitis, many of the causes may be removed, which should be, therefore, carefully outlined before beginning treatment.

Strictures of the urethra should be divided or dilated, calculi removed from the bladder and benign neoplasm excised; hypertrophy of the prostate suitably reduced or removed. On the other hand, one should recognize at the outset that the cause of the chronic cystitis cannot be remedied in diseases and injuries of the spine, resulting in so-called trophic cystitis, neither can it be greatly removed in tuberculosis and cancer, each of which may be regarded as causing a special form of cystitis. The measures adopted are necessarily constitutional and local.

(A, 1.) The constitutional measures of benefit to the economy as a whole, are of great importance in chronic cystitis because the disease occurs most commonly after midlife when the resisting and recuperating powers are stationary or in their decline, and therefore, doubly need aid and doubly require judgment in its application. All known measures may be adopted in their proper balance and suitable relation. Good hygienic surroundings, exercise, massage, and sleep should have attention, nutrition must be protected with selected diet. Well prepared foods, tonics and mild stimulants are important. Dilute hydrochloric acid with pepsin and pancreatin not only aids digestion and assimilation, but the acid also antisepticizes the urine. The bowels should be watched for a daily full evacuation. The kidneys should be relieved and rested by well selected hydrotherapeutics, such as Turkish baths, the hot vapor-box, hot packs and the like. Dyscrasiæ and diatheses, notably the uric acid, the oxalic acid and the phosphatic should be corrected. Chronic diseases, especially of the heart, must be respected and properly managed. Finally, when the cystitis is practically well or rendered stationary, change in climate must not be forgotten, combined, of course, with a suitable continuation of the other measures.

(A, 2.) All too frequently the following cautions are not uttered to the patient; digestive fatigue and constipation must not be induced with alcohol and overfeeding; muscular fatigue from injudicious exercise and long standing must not be allowed; nervous fatigue through stress of business and other relations should be, as far as possible, avoided; vesical fatigue due to resistance to the desire to empty the bladder, must be guarded against; vesical irritation must be abso-

lutely forbidden due to high living, course dinners, alcohol and condiments.

Protection must be had against vesical congestion due to chilling of the surface by insufficient clothing, exposure, cold or wet feet and the like. Disobedience to these injunctions induces causes for relapses in chronic cystitis which seem frequently inexplicable, until careful inquiry reveals some sin of omission or commission against these dicta.

(B, 1.) The local effects of treatment of chronic cystitis constitutionally administered are much the same as those for acute cystitis, therefore, the aim is to dilute and neutralize the urine with, for example, mineral waters, either purely diuretic, such as Suwanee, Poland and Lythia waters or the combined tonic and diuretic waters, of which many familiar forms are known, notably the Columbia Springs of Saratoga.

(B, 2.) The indication is also to acidify and antisepticize the urine. The drugs so employed have already been mentioned in discussion of acute suppurative cystitits, but in chronic cystitis the doses are slightly increased up to the toleration of the patient much in the same manner as the iodid of potash is increased in treating the tertiary forms of syphilis. In cystitis, when the urine begins to clear, further increase in the drugs is stopped. In this manner, for example, it is possible to give a drachm each of urotropin or formin combined with benzoate of soda in 24 hours with great benefit, provided, of course, as in the case of all other drugs, casts do not appear in the urine. The desire is also to stimulate, as far as possible, a healthy mucous secretion within the bladder. Here again the balsams are of service, and there is no need of change from the best three, namely; oil of sandalwood, oleoresin of coapaiba and oil of gaultheria, separately, alternately or combined in doses of 5 to 15 minims in capsules 3 times a day, 2 hours after eating. It is well to begin with a small dose and ascend until results appear in the urine, or until the faintest sign of eructation appears. Digestion must not be disordered. It is better to omit the balsams altogether than to bring this result about. Stimulants of the bladder given internally, such as cantharides, turpentine, arbutin and eucalyptus are to be avoided because they are altogether too irritating to the kidneys. Stimulation of the mucosa had best be left to irrigation. This is a caution that too many practitioners do not heed.

(C) Local measures applied to the bladder directly from without in the treatment of chronic cystitis are the next consideration and comprise nonoperative measures; namely, irrigations and instillations, and operative measures; namely, drainage by catheter, drainage by perineal section and drainage by suprapubic section.

(C, 1.) The irrigation of the bladder in chronic cystitis must fulfill three aims; first, to aid nature by a mechanical removal of mucus, pus, and detritus; second, to combat infection, decomposition, and fermentation; and third, to soothe, stimulate, and heal the inflamed mucosa. The apparatus employed is preferably a hand syringe with graduations clearly marked and a soft rubber catheter or a woven silk catheter, either of standard or special form as the case, upon investigation, may require. If a reservoir irrigator is used the graduations thereon should be clearly legible, and its height above the bladder only sufficient to determine a gentle regular flow when the stream is passing; forcible distention of the bladder should not be employed. Upon the whole, the hand syringe is much the safer and the wiser instrument because the physician soon learns to perceive the amount of pressure he is employing in filling the bladder.

The mechanical aid to nature in removing mucus, pus, and detritus is naturally available only in the superficial layers, that is, exactly at the point where nature is casting off the detritus, exactly at the line of demarcation between tissue which will necessarily die and exfoliate and tissue which is potentially healthy and may recover. Herein is the condition comparable to gangrene of an extremity where we have dead tissue and possibly living or healthy tissue separated by the line of demarcation. The art of carrying out this detail of irrigation consists in using the solvents of pus and mucus, particularly normal salt solution, normal bicarbonate of soda solution separately, or combined, or consecutively, 1 per cent. boric acid water, and even plain sterile water, until the return flow is clear, not to the eye as the stream leaves the catheter, but to the eye as it inspects the fluid in a test-glass. When the fluid thus collected in a test-glass is perfectly clear, excepting, perhaps, for a very few small shreds, the mechanical removal is completed, and not before. We then consider the use of antiseptic and stimulant measures to revivify the mucosa thus cleared of scum.

The posture of the patient does not seem to make much difference so long as a free outflow of urine to afford syphonage may be provided. A little study will therefore determine whether the dorsal, the lithotomy, the right and left lateral, the knee-chest or the sitting posture should be employed.

The temperature of the fluid should be at least that of body-heat, measured with a thermometer, not estimated. The temperature may be slowly increased with advantage, in many cases, until fluid as hot as 115 or even 120 degrees may be used in old cases.

The amount of fluid injected at each irrigation should be carefully determined, no forcible, sudden or distressing distention, pain or spasm should be induced by the procedure. Most bladders may be successfully treated by the use of from 2 to 4 oz. at each filling, which of course, must be repeated until the return is perfectly clear under the test just described. Bladders with chronic cystitis and a large amount of residual urine, will frequently permit from 8 to 16 oz. to be used at a time without distention, more than

that to which the bladder has long been subjected. This suggests the rule that one should always run in just fluid enough to unfold the crevices of the bladder and thus to reach all parts of it. The total amount of fluid required for this result varies between a pint and one or two quarts in extreme and peculiar cases. As long as the rule of gentleness and proper temperature is observed, these bladders may be very thoroughly washed out without any difficulty. The index of a successfully given cleansing and antiseptic irrigation is a sense of relief and comfort in the patient without pain, spasm, tenesmus, or frequency of urination.

(C, 2.) The second aim of irrigation of the bladder in chronic suppurative cystitis is to combat infection, decomposition, and fermentation. The drugs employed for this purpose are the same as those indicated in dealing with the irrigation of acute cystitis. In chronic bladder inflammation the strength of the solutions, however, is slowly increased until a distinct stimulating and astringent effect is felt by the patient. This may last a short time, but must never amount to positive discomfort. A great deal of value is attached to leaving a small amount of such antiseptic in the bladder just before leaving the patient. A good rule is to make this quantity a quarter or half the usual capacity. This procedure ordinarily allows the antiseptic, a prolonged opportunity to work upon the surface of a thoroughly cleansed mucous membrane.

The third aim of irrigation of the bladder in chronic cystitis is to soothe, stimulate and heal the diseased mucosa. The mechanical cleansing with the solvent of pus and the heat of the fluid, as a rule, provide the soothing qualities required while the stimulation and healing are directly afforded by the astringents and antiseptics usually employed.

Repetition of the irrigation is ordinarily indicated by a return of the symptoms in various degrees and in complex associations from case to case, viz: as to the act of urination, one should consider the frequency, the urgency, the tenesmus, the strangury, the retention, and the pain, and, as to the urine itself, one should observe the decomposition and the purulence. As a rule at first in chronic cases one irrigation per day, competently performed, is sufficient. The interval is then made every second, third, fourth, fifth, sixth or seventh day as the case requires. Usually, however, the smallest safe number of irrigations is two a week, that is every third day. In irrigating some bladders tenesmus follows mechanical evacuation. This may be due to the rapidity with which the fluid is withdrawn or to the mechanical irritation of the catheter within the bladder cavity or to some other departure from the rule of gentleness. It is well therefore, to test all other sizes and forms of catheter than the one first employed and to make the fluid pass more slowly from the bladder, to increase the gentleness with which the cleansing and antiseptic fluids are introduced, to employ feebler solutions of antiseptics and finally to leave in an ounce or two of fluid to promote comfort.

Failure to cleanse the bladder with a reasonable quantity of fluid may be due to deformity of it, such as retroprostatic pouches, sacculations, trabeculations and the like. It is good practice to introduce the finger into the rectum in order to ascertain whether elevation of the floor of the bladder may not facilitate the work. It is also well to try changing the posture of the patient occasionally even to the knee-chest position. The combined result of all these measures thus far enumerated, viz: those administered internally, and those applied locally should be a reasonably rapid decrease in the mucus, pus, and detritus, and neutrilization and clarification, of the urine and a distinct subsidence of the inflammation as shown by an absence of frequency, tenesmus, and pain on urination.

When these nonoperative measures have failed one must then consider the question of drainage of the bladder either by the indwelling catheter or by perineal section or by suprapubic cystotomy. The differences between the sexes in the matter of the indwelling catheter have already been fully explained and need no further comment here.

The object of this paper is not to compare operative or nonoperative treatment. Certain details of the perineal and suprapubic methods of draining the bladder, however, require attention because after the operation is over these become practically medicinal factors. The perineal route of draining the bladder requires, as a rule, a shorter confinement to bed, a shorter aftertreatment of the wound and less inconvenience to the patient, because after two or three days the sphincter muscle of the bladder has recovered its tone and leakage ceases except during urination. At first the patient must, of course, sit down to urinate exactly as a woman does, but as the perineal wound soon heals this rarely continues more than a few weeks. The suprapubic route on the other hand, permits an inspection of the entire cavity of the bladder under the eye of the operator in a degree much more thorough than the best cystoscopic examination can possibly reveal, thus stones pocketed in sacculations and pouches are removed and ulcerations, if present, directly treated and small tumors such as papillomata removed as the case may require. The aftertreatment of these wounds, however, is considerably more irritating to the patient than in the case of perineal operations, unless the special syphon drainage of Dawbarn is adopted to keep the bladder dry. No matter which method of draining the bladder is adopted the drain tube must not press upon the bladder, otherwise tenesmus will result, and one tube should not be left in place longer than forty-eight hours. Irrigation of the bladder should also be begun the day following the operation and carried out along the lines already laid down, viz.: the bladder must be thoroughly

cleansed with solvent solutions first and then the antiseptic and healing measures used.

The prognosis of cystitis may be summed up as follows: Excepting in those cases of cystitis in which the integrity of the mucous membrane, as such, is badly damaged, cystitis is a curable disease, especially if good judgment is followed in the matter of managing the acute stages and in the manner of carrying out the local measures in the subacute and chronic periods of the disease. At best it requires careful diagnosis and persevering treatment by the doctor, and patience and forbearance upon the part of the victim. One should not be too hasty in giving an entirely satisfactory prognosis. Many bladders will recover up to a certain degree and cannot possibly be brought to a better condition, probably because at certain points the integrity of the mucous membrane as such has been too badly damaged. This a competent cystoscopic examination will reveal so that the patient's doubts and fears may be allayed by a due knowledge of causes, effects, and conditions.

If what has been said in this paper as the result of no small amount of hard work and careful observation, will serve the general practitioner in the prognosis and treatment of his cystitis cases, the time and the labor devoted to preparing this monograph will have been abundantly repaid.

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HEREDITY IN DISEASE.*

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IN considering the question of heredity, let us turn our attention to some of the notable instances of transmitted family characteristics.

Rev. Timothy Edwards, of Connecticut, was the father of eleven children, the most notable of whom was Jonathan Edwards, theologian and president of Princeton College. Among the descendants of this family are more than three hundred college graduates, fourteen college presidents, one hundred college professors, one hundred lawyers, thirty judges, sixty physicians, one hundred clergymen, missionaries, and theological professors, and sixty-five authors.

Contrast with this the history of the notorious Juke family, of New York, whose record is one of imbecility, insanity, pauperism, and crime, and which cost the state, in trials, prisons, and almshouses more than a million dollars. Of twelve hundred known descendants, over three hundred were professional paupers, four hundred were physical wrecks, sixty were habitual thieves, one hundred and thirty were convicted criminals, seven of them murderers. Only twenty of them learned trades, and ten of these learned them in states' prisons.

Osler has drawn for us the picture of a tuberculosis tree, producing one victim in the first generation, two in the second, three in the third, two in the fourth, seven in the fifth, and three in the sixth—altogether eighteen victims in six generations. Similarly, Dr. Sanger Brown reports a family afflicted with Friedreich's ataxia, with one case in the first generation, three in the second, seven in the third, ten in the fourth, and three in the fifth —twenty-four cases in five generations.

Reference to statistics of mental diseases shows that in idiocy there is a neurotic inheritance in about 50 per cent. of cases, in circular insanity in about 60 per cent., in melancholia in about 50 per cent., and in mania in about 75 per cent., while in circular insanity and in melancholia there is frequently a direct inheritance of the same variety of mental disorder. Alcoholism is said to stand foremost after heredity as a single independent cause of insanity (18-20% of cases in males).

As to the etiology of some of the nervous diseases I will quote Dr. Archibald Church. In migraine, he says, the hereditary tendency is often strongly marked. It may sometimes extend through several generations, numbering dozens of cases in a single family tree. It seems capable of transmission by transformation, alternating with hysteria, epilepsy, and insanity.

Epilepsy appears frequently in succeeding generations, and may descend directly from parent to children, but is more likely to be propagated indirectly by way of collateral branches. The heredity is more often by transformation from other neuro-psychic diseases. Thus, hysteria, epilepsy, and idiocy may follow in successive generations. Epilepsy among cousins is more frequent than among brothers and sisters, where, however, various neuropathic equivalents are encountered.

Hysterics usually belong to neuropathic families.

Debilitating conditions in the antecedents of neurasthenics are very common. Gout, rheumatism, tuberculosis, syphilis, excesses, malaria, and all the cachexias in parents are likely to discount the stamina of offspring, and favor the early limitation of vigor and endurance demonstrated in neurasthenia.

In paralysis agitans a neuropathic heredity is commonly encountered. In one family, there were five recorded cases, several other members being affected with myoclonia.

The salient etiological feature of Huntington's diseases is its heredity. It has been traced through five generations, and in a given family marks more victims than any other disorder, sometimes affecting more than half the entire number.

In angioneurotic edema, direct heredity is

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often marked. In a series reported by Dr. Osler, the disease extended through five generations, and numbered twenty-two victims. The series reported by Milroy extended through six generations, and numbered twenty-two victims out of ninety-six individuals.

The tendency of Freidreich's disease to affect many members of a family, and to be transmitted from generation to generation, has given it the name of "family ataxia." The appearance of progressive muscular atrophy in several members of the same family, and in succeeding generations, stamps it as hereditary. Osler says of gout, that in from 50 to 60 per cent. of all cases, the disease existed in the parents or grandparents; and that in diabetes mellitus, heredity plays an important role, and Hebrews are especially prone to it.

Instances of family tendency toward atheroma, with resulting apoplexies and hemiplegias, are familiar to us all.

So much for the existence of heredity in certain diseases. Of what relative importance are these diseases? By referring to the vital statistics of the State of New York for a single month, we find that out of a total of one thousand three hundred and ninety-three deaths, one hundred and one, or nearly one in fourteen, died of pulmonary tuberculosis, and one hundred and twenty-five, or about one in eleven, died of diseases of the nervous system.

In a recent year, 32,434 patients were treated in our hospitals for the insane, or more than one to each two hundred and fifty of the state's population, to say nothing of the demented receiving home care.

In these days we are getting as rapidly as possible past the treatment of the late symptoms of disease, and are endeavoring rather to find and remove the cause. What a stupendous problem, then, is heredity, when so large a proportion of the ills of man are traceable to some inherited taint!

What then, *is* heredity, and what is it that is inherited? Gould tells us that, "Heredity is the law by which natural form, structure, and conditions, both of mind and body, are repeated in offspring or descendants," and that, "hereditary disease is one transmitted to the offspring by the parent." Very well, but when and how transmitted? Let us consider first the infectious diseases. Not many years ago, consumption was generally considered hereditary. Now it is not commonly so classed. Yet if we hold to the definition, the *infection* is very commonly transmitted to the offspring after birth, and sometimes through the placenta, even in intra-uterine life, the *susceptibility* only being transmitted through the germ cells. Thus we see that certain races and families are particularly susceptible to invasion by the tubercle bacillus, the negro and Indian races being notable examples.

We hear much about hereditary syphilis. In this case, susceptibility is not so marked, but how and when is the disease inherited? Colles' law has long been authority: "A child born of a mother who is without obvious venereal symptoms, and which without being exposed to any infection subsequent to its birth, shows this disease when a few weeks old, this child will infect the most healthy nurse, whether she suckle it, or merely handle it and dress it; and yet this child is never known to infect its own mother, even though she suckle it while it has venereal ulcers of the lip and tongue." The natural and common deduction of this accepted law is that the fetus, having been directly infected by its father, has furnished immunity to the mother without actually transmitting to her the disease. How much more in accordance with other observed phenomena is the theory that in these rare cases, at the time of conception, the husband directly infected the wife, and that during intra-uterine life, the mother infected the child, the symptoms of the disease in the mother being held in abeyance or overlooked.

I am not aware of any positive proof that the ovum or the fertilizing spermatozoon ever are transmitters of an infection, while proof is not wanting that the fetus is often infected by the mother during intra-uterine life.

So much for the infections. They may be hereditary according to the quoted definition, that is, they may be and are transmitted to the offspring by the parent after birth or during pregnancy.

Now, how about the long list of non-infectious diseases? If non-infectious, the hereditary influence from the father must be exerted through the germ cell, and that of the mother either through the germ cell or through more prolonged intra-uterine influence. Here it is necessary to pause and consider the relation of heredity and environment, using these words now in their popular sense.

Who shall say how much of a gouty family diathesis is perpetuated by the germ cell, and how much by an established family habit of overeating and overdrinking—or how much of a tendency to some of the milder neuroses is perpetuated by the germ cell, and how much by an established family habit of waste of nerve energy? Thus we have often the question—heredity or environment, which? But if "heredity is the law by which natural form, structure, and condition both of mind and body are repeated in offspring or descendants," then environment is a factor in heredity, it is a means by which conditions of mind and body are repeated in offspring. Environment, under normal circumstances, is always transmitted to the offspring by the parent, sometimes as a bearer of degeneracy and disease, sometimes as a bearer of physical, mental and moral strength and helpfulness.

To-day, all investigators of the phenomena and the problems of the origin and develop-

ment of species in the lower and higher orders of life go back to the teachings of Charles Darwin, who showed us how the higher forms of life have developed from the lower by the survival of the fittest in a ceaseless and relentless struggle for existence. Although some of his deductions have been attacked by his coworkers, and his whole process of reasoning by certain unscientific theologians, the Darwinian theory is to-day the foundation of biological research.

Before Darwin's time, Lamarck taught that acquired characteristics were inherited, and he has been supported by Brown-Sequard and others. Some of Brown-Sequard's experiments are as follows:

1. He found that it was possible to produce epilepsy in guinea pigs by injuring the spinal cord or sciatic nerve, and that the offspring of these epileptic parents themselves became epileptic.

2. He observed that ptosis produced in guinea pigs by division of the cervical sympathetic nerve was transmitted to offspring.

3. That exophthalmia was inherited by offspring of animals that had acquired that condition by injury to the restiform body.

4. That guinea pigs that had eaten off toes made gangrenous by division of the sciatic nerve bore offspring that lacked the corresponding toes.

The natural deduction from these experiments as applicable to man is that by right living and special effort the individual may develop characteristics transmissible to the next generation, and conversely, acquired degeneracy of the individual is likewise transmitted.

The German biologist, Weismann, and his followers claim to have refuted this theory of the transmissibility of acquired characteristics. Much very scientific work has been done by them with apparently positive results. Common application of the principle may be mentioned. Shepherds who have for centuries amputated the tails of all lambs must still repeat the process, for no bobtailed lambs are born; and Jews who have practiced circumcision for centuries still must circumcise.

The school of Lamarck would tell you that the habitual drunkard has acquired a lowered resistance which is transmitted through the germ cell to the offspring, making the descendants natural victims of the various neuroses.

The school of Weismann would tell you that the individual is a habitual drunkard because of an inherited tendency due to the blending in his being of varying unit characteristics, conveyed by the germ cells of the parents. He is a drunkard because his father, or great-grandfather, or great-uncle was neurotic, not neurotic because his father took to drink; or possibly he is a drunkard because he has inherited an environment of excess.

Some of the claims of the Lamarckian school seem incontrovertible, yet Weismann has doubtless done well to emphasize the limitations. Acquired characteristics are doubtless transmissible to posterity, but not to the extent that has been popularly supposed.

What, then, in the light of our present very meagre knowledge of the exact method of the transmission of personal characteristics, what are some of our duties to the individual?

Biologists have given much thought to the development of various forms of life, and have studied the evolution of the higher forms. Horticulturists have learned how to eradicate the lower forms of plant life and how to produce the higher, more beautiful, and more useful forms. Stockmen long since have learned how to breed cattle to meet a purpose. But the physician and the sociologist know not yet how, in this world of ours, the weak and dangerous man is to be eradicated, and how the strong and safe man is to be bred.

1. In the treatment of the diseased individual for his own sake, science during the last decades has made wonderful progress, as illustrated in the changed treatment of the tubercular and insane. It would seem that present methods leave little to be desired.

2. In the treatment of the individual for the sake of the State there is much room for improvement; in fact, the question seems hardly to have been considered. It is true that certain forms of moral degenerates are put away from society that they may not do violence to the person and property of others. We say to the man with smallpox, "You shall not infect your neighbor; you are not allowed to transmit to another a disease that causes sickness and sometimes death," yet we allow our degenerates to transmit to posterity conditions worse than death, as have the Juke family, or the families in Osler's or Sanger Brown's trees. Truly, it would have been well for old man Juke and for his descendants and for the State of New York if he had never been born, or, having been born, if some way could have been devised to prevent his scattering broadcast the seeds of wickedness and degeneracy lurking in his being.

Professor Karl Pearson, of the University of London, in a recent lecture in discussion of the Laboratory of Eugenics established at the university by Francis Galton, said: "Education for the criminal, fresh air for the tubercular, rest and food for the neurotic, these are excellent; they may bring control, sound lungs, and sanity to the individual, but they will not save the offspring from the need of like treatment nor from the danger of collapse when the time of strain comes. They cannot make a nation sound in mind and body, they merely screen degeneracy behind a throng of arrested degenerates. The philanthropist looks to hygiene, to education, and to general environment for the preservation of the race. It is the easy path, but it cannot achieve the desired result. There is

no hope of racial purification in any environment that does not mean selection of the germ. There is no sovereign remedy for degeneracy. Every method is curative which tends to decrease the fertility of the unfit and emphasize that of the fit."

How, then, may we do this? A large beginning is made when we realize that something must be done. The public is not ready for any very revolutionary legislation, and will not be until the leaders in medicine and sociology realize its need and have preached it long, perhaps for generations.

What may be, and what ought to be accomplished by legislation, time will decide. Let us imagine the state where for several generations every habitual drunkard, every habitual criminal, every insane and feeble-minded person, and every person afflicted with some of the other inherited taints, is colonized, with the separation of the sexes. A speedy eradication of a large proportion of the suffering that flesh is heir to would be acomplished.

But this is not yet. Meanwhile we must add our influence, here a little and there a little, teaching the gospel of "the survival of the fittest."

THE "NEUROPATHIC DIATHESIS" AS THE CONDITION OF HEADACHE AND OTHER FUNCTIONAL DISEASES.

By GEORGE M. GOULD, M.D.
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OLD fashioned tuners, before the days of John Sebastian Bach, used to chuck all the discords of the "untempered" pianoforte into the upper end of the scale and call it "The Devil"; when the pianist played for anybody but himself "the devil" was to be avoided entirely or touched most gingerly. Musicians soon learned a much wiser, more workmanlike, and harmonic way of tempering, and now the discords are scattered all through the scale, much to the benefit of player and hearer. Medicine also has its discordant part of "Devil," several of them in fact; unmedical "leaders" and "authorities" are stupidly ingenious in the sorry "science" of trying to put all the discords and assumed mysteries of "Neuropathic Tendency," "Diathesis," "Autotoxemia," "Neurasthenia," "Heredity," and the rest of the blunderings, into one corner of the pathologic keyboard; they then studiously avoid it, and dance over it, or about it, with ludicrous ignoring and dexterity. But the public do not like such medical music, and the quacks are reaping the rewards; leastwise there is surely no reward for the patient public, for the public patient, or for the impatient profession.

But the "Neurologist," or the ophthalmologist playing the neurologic game, cares little for the patient, the public, or the profession, and so cares less that faith-cure, osteopathy, the refracting optician, or unchristian unscience, have taken that scorned part of the keyboard called the devil, and are vigorously playing all their music in it. Every text-book on nervous and mental diseases takes especial delight in enlarging the devilish part of the keyboard, likewise every laboratory of pathology, every therapeutic nihilist, nearly every "leader" and professor of fashionable medicine. Now, as functional diseases are the remote origins of organic diseases, and as functional diseases cause almost all the suffering of the world, and as functional disease is nearly the sole basis of most medical practice, it follows that the modern medical scale is small indeed, while "the devil" is almost the whole of the keyboard. Well, the resultant "music" is mighty poor! The world is flinging its pennies to the man of the street organ, but it is likewise much minded to pay us only to make us "move on" out of its ear-range.

I have gathered a notebook full of the evidences of this fashion of so-called Medical Science to enlarge the diabolic part of the Medical Keyboard. Instead of quoting these, let me take the latest set of the fashion:

Before the Section on Nervous and Mental Diseases of the American Medical Association, meeting in June, 1907, Doctors Coggeshall and MacCoy of Boston read a paper on "Headache" (Published in the Association's *Journal,* January 4, 1908). This paper is noteworthy in many respects but chiefly in the fact that there is in it a much over qualified and grudging, yet finally an explicit admission of what for many weary years I have been so wearisomely contending—that "migraine" is caused by eyestrain. The words used are these:

> As a result of the conscientious study of the whole subject of headaches during the past fifteen years we have been forced to abandon the common conception of the disease with which we started out. We have come to regard the classical type of migraine as a headache due to the presence of a local irritation, practically invariably eyestrain, in an individual of markedly neuropathic diathesis, in which the immediate recurrence of the attacks may be due to the special irritability of the nervous system, caused by transient but frequently recurring conditions of toxemia, which in a less neurotic individual or one who was not subjected to the nervous wear and tear of the eyestrain, would be incapable of producing any such effects.

In other words the authors state that the fundamental conclusions of their study of 1,700 cases of headache is that a "neuropathic diathesis is an essential condition of almost all chronic headaches of the kind we are discussing."

How little the neurologic specialists will be mollified or convinced by the echoed and re-echoed, re-emphasized and re-repeated neuropathic diathesis, etc.—sops to Cerberus!—is illustrated by the fact that but two of the hearers ventured to join in the nonsensical "discussion" of the paper; one said "over-use of the eyes," while the other mumbled the old, "migraine not cured or curable by glasses," "Heredity," Edity, Edity—to "the devil" with migraine! The three-headed official ophthalmic, pathologic, and neu-

rologic Cerberus will yet growl, and bark (and bite) at the entrance, both of hell and of heaven, for many a long day and night to come before any Hercules will conquer him. The Sham Hercules will not make him wag his tail and lie down to sleep by any, *Good Doggie, Poor Doggie, Have a nice piece of meat!* Why?

Because, 1, It is poor clinical observation, nonverifiable assertion, contradicted by the vast majority of all cases, that "a neuropathic diathesis is an essential condition of the occurrence of headache, 'migraine,' etc." That is simply untrue. (I have certainly cured ten thousand cases of headache, migraine, etc., by glasses alone; when optician and patient obeyed I have as certainly not failed to cure in the vast majority of cases. Migraine is the easiest cured of all great diseases.) The truth is that the great body of such patients are the reverse of neuropathic. Neither their nerves nor their brains, nor their minds, are morbidly constituted, they have no pre-existing desires or tendencies toward neuroses, irritabilities, or unusual instabilities of the neurologic or cerebral mechanisms. They and their neural mechanisms fight against these, when plainly caused by real agencies beyond them, and their so-called "neurotic diatheses" are the violences of the efforts to withstand the injuries, to overcome disease, and to bring about health. Every clinical fact in such patients shows these maligned nervous systems to be engaged in a noble struggle for physiologic normalism, to neutralize a morbific external source of pathology. They did not and do not give away because of inherent weakness and disease; they cry out with pain against the injuries done them, and they seize upon every ingenious device to neutralize, compensate for, and undo the insults. Headache and "migraine" are almost always, if not absolutely always, the sore and hurt of the healing processes after the hurtings; it is the most morbid philosophy to call headache, etc., *per se* neuropathic, pathogenic, or demonstrations of preexisting disease of the nervous mechanisms. They are, on the contrary, perfect illustrations of the healing processes inherent in their own nature. The stupidity has long run into a wilful aspersion, at least into a silly indiscrimination, which sane intellects and sound physiology should have rapped over the knuckles a generation ago.

Because, 2, It is fatuous puerility to claim that a neuropathic diathesis underlies and conditions headache, migraine, etc., without stating or suggesting in what way such a "diathesis" or trend arose and how it acts. It would be just as enlightening and true to say, as the stranded internist indeed does say when it is impossible to give an understandable reason, that "circulation is at fault," or that "liver is bad," or to mumble "rheumatism," "latent gout," "malaria," "hysteria," "neurasthenia," and so on *ad infinitum.* It's just another way of hiding a lazy mystery under a foolish word. It is banishing the devil to the upper octaves.

Because, 3, It is shirking the duty of therapeusis; it is a method of ridding oneself of the consciousness of therapeutic impotence, of avoiding the obligation to find the cause, by calling an unknown thing by a meaningless word.

Because, 4, It is an opprobrium of medicine, tremendously successful in other fields. When, for instance, medicine has found it could not explain the origin, or do anything to cure the greater afflictions of humanity it gets the unlucky victims out of sight. In vast and expensive asylums it loads upon the community the keep and costly do-nothingness of the hideous numbers of epileptics, insane, blind, defectives, tramps, sponges, hopeless invalids, criminals, and incorrigibles. It cares not how many of these are caused by eyestrain, it only cares to be rid of responsibility for them, of the duty to seek out the cause, prevention and cure of these social and medical sins.

Because, 5, It glaringly ignores the great causes of disease, iterated and reiterated for a generation, easily discovered in the patient there before the doctor, who refuses to look for them, who refuses to see them when they are pointed out, who refuses to see their pathogenicity when perforce he acknowledges their presence. Take only a few of the most striking of such examples:

(*a*) *Lateral Spinal Curvature.*—It exists in at least 27 per cent. of all school children, and persists, unknown, untreated, scorned, throughout life in every adult who has acquired it. Is it a small matter, is it an affair of indifference, that there is a bending or kink in the column, the single support, which holds erect the entire body? What carpenter or architect allows his column, or his steel beam to be so kinked? Must it not weaken and make morbid the organism of the human body so strained, distorted, and nerve-wracked? Who cares, what neurologist or general physician examines the back, knows how to examine it, in twenty or twenty-five millions of the people of the United States? Because it exists in so many, because the ignorers will not try to learn how it originates, nor how it may be prevented, nor how it may be cured, because of these no-knowledges, they consent to ignore its plain effects, even that it has effects, and instead they cry "nerves," "diathesis," "neurasthenia," "toxemia," "hysteria," and the rest.

(*b*) *Ill-ventilation of Houses, Sleeping Rooms, etc.*—Except in the tuberculotic, the physician does not narrowly inquire about this, and if, rarely, he does inquire, he will be assured by the patients that the ventilation is carefully attended to; and yet not one in ten does attend to it, and nine in ten are weakened and the blood poorly oxygenated by impure air.

(c) *Over-consumption of Sugar,* candy, sugared foods, starchy and syrupy plasters for the inside of the stomach (called "breakfast foods"), etc., are the morbific realities underlying a lot of ignorances called neuropathies, diatheses, anemias, and all that. Who inquires?

(*d*) *Tobacco* is running a race with whisky in causing and in killing the "neuropathic." Its results are called by a dozen meaningless words.

(*e*) *Under-clothing and Over-clothing* of the body, in obedience to fashion, is an unrecognized, ignored source of disease, or of the beginnings of disease. If for 24 hours, in winter, men should dress their legs, arms, shoulders and chests as absurdly as women there would not be half enough physicians to doctor the sick.

(*f*) *Eyestrain.*—Messrs. Coggeshall and MacCoy are almost the only neurologists who think of it in the accounting. But even they scarcely allude to the impossibility of the patients of the world getting a proper pair of glasses, or of wearing them in a manner to bring about cures. That they testify to the cure of practically all migraine by glasses is an astounding fact, and shows that in Boston are infinitely better refractionists than elsewhere in the world. The testimony is glorious to the bravery of these Boston neurologists, to the skill of the Boston refractionists, to the expertness of the Boston opticians, to the good sense of the Boston patients. Nowhere else in the United States is such refraction done, nowhere else is such optical skill to be found, nowhere are such sensible patients. Elsewhere the diagnosis of the error of refraction is usually so incorrect that "the correcting lenses" do not correct, the optician's work is so wretched as to spoil the few correctly-prescribed glasses, the patients so careless that no good can come from the few at-one-time rightly-ordered and well-adjusted lenses. Elsewhere the oculists pay no attention to subnormal accommodation which is the only means of cure in many cases; elsewhere incurable "Ophthalmo-vascular Choke" exists in a certain proportion of cases which causes unrelievable "neurasthenia," "anemia," "autotoxemia," etc.; elsewhere there is a small proportion of hysterics who enjoy bad health and "neurasthenia," and who would not be rid of it for all the world's wealth and all its health.

Because, 6, According to the quotation made at the outset the neuropathy of the neuropathic patient, existing prior to the migraine or headache, and constituting its unexceptionable conditions and basis, is, at least often, due to eyestrain. What a game of now-you-see-it-and-now-you-don't! What a delicious instance of reasoning in a circle: 1. Eyestrain produces neuropathy: 2. Neuropathy is the condition of headache; 3. Headache is "practically invariably" caused by eyestrain! Anybody except a neurologist must laugh at that logic. And yet the logic is solemnly profoundly true—in a fashion. It is true that the childhood and life-long eyestrain may produce the condition miscalled neuropathic tendency, anemia, toxemia, neurasthenia, and the rest. The emphasis should have been laid on that awful fact for pages and pages, but it is only slipped in as a parenthetic suggestion of an interpolated and subordinate clause. It is true that the ill-health and lessened resisting power is through years caused by eyestrain; that should have been repeated and its variations played ten times instead of once vaguely inferred by a grace-note. It is true that this eyestrain-made "neuropathy" lessens the resisting power due to the always-present and increasing eyestrain. It is also true that while the patient still lives this vicious cycle of disease may be usually, and in the young always, cut short by correct spectacles. But why, except as a sop to cerberus, the interjection of the neuropathy as condition or cause?

Because, 7, The neuropathic-basis criers, the neurasthenia-anemia-toxemia exaggerators, have no suspicion that their muddle is psychologic not clinical. Their theories are due to the psychologic and pathologic necessities of their own minds, not to the commands of external clinical facts. Their clinical facts, indeed, do not usually exist, but there does exist a law of the mind in most people, especially in "medical" "leaders" which requires them to deny, at first, new medical truth, and curse the truth-finder. Then when compelled to do so, they yield, later, unwilling and grudging concessions, but always with admissions to old prejudices and acknowledgments to established errors. It is all a sort of psychic strabismus, a looking two ways at one instant. The squint could have been, and should have been prevented, but once callously and negligently established "tenotomy with advancement" is urgently needed upon those so pitifully and pitiably afflicted.

Moreover this delusion and illusion, this superstition of a malign heredity, of an unexplainable diathesis, of a neuropathy hidden by a wicked fate in the depths of the organism, is cruel, most cruel. And as it is for the most part untrue, it is a needless and gratuitous crime. If physicians had a right and righteous human kindness, if they loved their fellow men, they would not thus torture them and vastly multiply the number of sufferers. Because everywhere throughout the world there is already enough woe and death allotted by fate and wrong to mortals, without any such cowardly and impertinent addition. Everywhere, and all about us there are thousands secretly harboring in their harassed souls the fear, nay, the belief, in some hereditary taint, some latent insanity, some inobviable disease, some malignant coming fatality. The absurd emphasis of the silly and ludicrous theory of a universal "neuropathic diathesis," of a developing "malignant heredity," of a deep-seated morbid neurotic endowment, waiting to pounce down upon effort—this, in multitudes of breasts, is a concealed horror, already too intolerable, paralyzing resolve, and crushing hope. None knows much of anything about heredity, and those who are materialists and hence pessimists, know the least about its so-called laws. The best science confesses there is not a single one of such "laws" not contradicted every day by clinical experience. Let us comfort the sick not curse them. The neuropathic-diathesis and neurotic-inheritance theories are the unwarrantable blunders or crimes of the witless or unwitting cursers.

WHEN AND HOW SHALL WE USE CYCLOPLEGICS IN REFRACTION WORK?*

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THE subject of this paper may seem a trite one. It can hardly be that, inasmuch as opinions still differ widely regarding it, and as it is of the utmost practical importance, any contribution to its elucidation may well claim our earnest and dispassionate consideration.

The present remarks are based partly on a continuous experience of twenty-one years with cycloplegics, partly on a series of clinical experiments recently undertaken by Dr. J. B. Thomas and myself to ascertain systematically and in a large number of cases, the precise action and effectiveness of cycloplegics, especially homatropin. Dr. Thomas and I intend later to give a detailed description of these experiments, which are still in progress. I will here simply give a brief sketch of the method employed and our main conclusions so far as they bear on the present subject.

In each case the manifest correction was found before instilling homatropin, and the range of accommodation that the patient had when provided with this correction was determined. Then the homatropin was instilled every ten or fifteen minutes, the range of accommodation and the width and reaction of the pupils being determined at frequent intervals, until the maximum degree of cycloplegia was secured. The refraction was then determined subjectively and by skiascopy. One or two post-cycloplegic tests was made, not only to determine the glass that the patient would accept, but also to ascertain the behavior of the pupils and the patient's accommodation when he was brought to a condition equivalent to emmetropia. Subjoined is a sample record which shows how the work was done:

Fig. I.

Name, *E. A. R.* Age, *46* Date, *Jan. 28, 1908.*

Accepts *R. + 0.12 cyl. 90°* *L. — 0.25 cyl. 85°* Preparation, *2% Hom. (B. & W.)*

Time	Inst.	R. Eye			L. Eye			Glass Used	Remarks
		Pup.	R.	P.	Pup.	R.	P.		
12.03	*1*	*3.5 to 4.0*		*2.00*	*3.5 to 4.0*		*2.25*	*R+0.12 cyl. 90° L+0.25 cyl. 180°*	
.23	*2*	*6.0*			*6.0*				
.30		*7.0*			*7.0*				*Pup. reaction just 0.*
.34	*3*			*2.75*			*2.75*	*+1.50*	
.58			*2.00*	*2.75*		*2.00*	*2.75*	*+2.00*	
1.00	*4*	*7.5*	*2.50*	*3.25*	*7.5*	*2.50*	*3.25*	*+2.50*	
1.16			*2.50*	*3.00*		*2.50*	*3.00*	*+2.50*	*Exam. at 1.20 shows E. R. & L.*
Post-Cyclo. Exam.					Date, *Jan. 31, 1908.*				
		4.0		*2.25*	*4.0*		*2.40*	*0*	
				3.25			*3.37*	*+1.00*	

Duration Myd. Cycl., *Still present* Time Max. Cycl., *1 hr. 9 min.* Acc. Resid., *0.50 (at most)*
Still present on p.m. of 30th.

In this figure, "Inst." denotes number of instillations; "Pup." denotes the diameter of the pupil in mm.; while R denotes the far point and P the near point measured in dioptries. For reasons to be given in the forthcoming article, the measurements were made, not as usually done from the first principal point of the eye, but from the anterior focus of the eye, *i. e.*, a point 14 mm. in front of the cornea.

The test-object used was first a double dot or double line, afterward a fine, very black single line 3 mm. long and 0.2 mm. wide. This is far better than fine print. The fine line blurs at once when carried within the near point or beyond the far point.

The column "Glass used" denotes the correction used in making the tests for R and P. At the outset, generally the manifest correction for distance was used; later, as the cycloplegia advanced, this glass with a + spherical added. The added glass, however, was always kept as low as possible, *i. e.*, not in general so strong as to bring the near-point closer than 29 cm. (=3.50 D). A rod was used graduated in dioptries (like Prince's refraction scale), so that R and P could be read off directly. The true R and P could, of course, then be found by subtracting from their observed values the value in dioptries of the auxiliary glass. Thus if this was + 2.00, and R was 2.25 and P was 2.75, the true R would be 0.25, the true P 0.75, and the range of accommodation 0.50. In making the test the light should be good and should come from behind.

Some 250 cases have been examined in this way, although in not all of them has it been possible to carry out the entire program. In a still larger number of cases systematic measurements were made of the accommodation in eyes whose refraction was accurately known.

The results of these experiments, coupled with the experience of previous years, enable us to answer with fair assurance the following questions:

1. Is it not possible to form a fair enough estimate of the refraction without a cycloplegic?

2. Supposing that we cannot determine the total refraction without a cycloplegic, is it not sufficient in most cases to content ourselves with an approximate determination?

*Read before the Section on Ophthalmology, New York Academy of Medicine, February 17, 1908.

3. Is it necessary to use a cycloplegic except in children?

4. Is homatropin a satisfactory cycloplegic?

5. How are we to employ homatropin?

6. Is homatropin a safe agent?

PRECISE CORRECTION UNATTAINABLE WITHOUT CYCLOPLEGIA.

1. Is it not possible in most cases to form a fair enough estimate of the refraction without a cycloplegic?

My answer quite unequivocally is—No. This has been demonstrated so many times in my practice as to assume, for me, the character of a truism.

All measures designed to unmask a latent refractive error without using a cycloplegic, very often, in my experience, proved ineffectual, and, what is more to the purpose, I find I can rarely judge in a given case whether they are ineffectual or not. I cannot ascribe this inability on my part to carelessness in testing, nor to a failure to utilize the proper means of diagnosis, for I find that others who do utilize these means and who are skilled and experienced ophthalmologists are equally at fault.

Here where cases so often pass from one oculist to another, we see a good deal of each other's work and thus have occasion to revise the correction that others, admittedly competent and careful, have found without using a cycloplegic. Such correction proves often widely different from the true result obtained under cycloplegia.

I need not speak of the various means—skiascopy, the ophthalmometer, etc.—employed as useful aids to determine the approximate correction without a cycloplegic. They are helpful, but not decisive. I will speak of one only, because in my opinion it is quite delusive, and that is the supposed connection between esophoria and latent hyperopia. The presence of an esophoria, especially an esophoria for near points, and one that is accompanied by good prism-divergence (abduction) may afford a suspicion of there being a latent hyperopia, but that there is any quantitative relation between the amount of the esophoria and the amount of latent hyperopia is contradicted by careful measurements that I have made in a very great number of cases. Moreover, a large amount of latent hyperopia quite often exists with orthophoria or even with exophoria. Thus Harriet W., aged 21, with a total hyperopia of 3.50 D or 4.00 D and a latent hyperopia of 2.50 D, had, without any glass at all and also with her glasses, orthophoria for distance and exophoria for near.

NECESSITY OF DETERMINING PRECISE CORRECTION.

2. Supposing that we cannot determine the total refraction without a cycloplegic, is it not sufficient in most cases to content ourselves with an approximate determination?

Those who hold to this view aver that without a cycloplegic we can determine the astigmatism at all events, and that it is a matter of minor importance, whether the whole of the hyperopia is corrected or not. But to this view I cannot accede, and for the following reasons:

(a) In a great many cases the astigmatic correction found under the cycloplegic, and accepted afterward by the patient, was not discoverable—certainly not with any approach to accuracy—before the cycloplegic was used. I do not deny that it is generally possible without using a cycloplegic to form an approximate idea of the direction and amount of astigmatism if the latter is considerable, but when it comes to estimating our astigmatic correction to within 0.50 or 0.25 D and particularly when it is a question of low degree of astigmatism anyhow, I find a cycloplegic indispensable. I think we are pretty nearly all agreed that unless we do estimate and correct the astigmatism to within 0.50 or 0.25 D we shall in many cases fail to satisfy or adequately benefit our patients. Certainly I find it so in my own experience. Hence, the often approximate and nearly always uncertain correction that we get without a cycloplegic, will not answer.

(b) It not infrequently happens that the amount of latent hyperopia unmasked by a cycloplegic differs in the two eyes. Take, for example, the following case:

Martha F., aged 41.
Right eye accepts at its utmost+1.25+1.75 cyl. 90°
Left eye accepts at its utmost+0.50+0.75 cyl. 180°

Under homatropin
Right takes+2.50+2.00 cyl. 90°
Left takes+3.25+0.75 cyl. 25°

Or, she had in the right eye about 1.25 D of latent hyperopia and in the left 2.75 D. If I had given this patient her manifest correction or had added to the manifest correction any amount equal for the two eyes, I would certainly have had trouble, for the patient would either have had to accommodate so as to see well with the right glass, in which case the left eye would have been using 1.50 D too little accommodation; or, she would have accommodated to suit the left glass, in which case the right eye would be accommodating 1.50 D too much. In any event she could not have seen clearly with both eyes at the same time. As a matter of fact the prescription of

Right+1.75+2.00 cyl. 90°
Left+2.25+0.75 cyl. 25°

afforded complete satisfaction.

(c) If we limit ourselves to correcting the astigmatism and the manifest hyperopia we shall, in many cases, fail to relieve the symptoms.

(d) The induction of cycloplegia—not simply, be it noted, of mydriasis—adds enormously to the certainty of our skiascopic examination. Skiascopy remains the most accurate and most reliable of our objective tests of the refraction. It is a test which I, at least, find that I can not well do without. But to secure the best results from it we must have a real paralysis of the accommodation.

AGE AT WHICH CYCLOPLEGIA IS NECESSARY.

3. Is it necessary to use a cycloplegic except in children?

My answer, based on a considerable number of cases, is that it is even more necessary to use a cycloplegic in adults than in children, and particularly to use it at and after the age of forty. Again and again it has been my experience that the true refraction and particularly the precise amount of astigmatism, could not have been determined in patients between the ages of forty and forty-eight, unless a cycloplegic had been used. I speak now of a precise determination, and it is only with a precise determination that such patients are satisfied or get the amount of benefit that they ought to get from glasses. To show how an error may be latent at the presbyopic age, I append a table of some of my more striking findings taken at random from my cases.

Some Cases of Latent Refractive Error Occurring At and Above the Age of Forty.

No.	*Sex.*	*Age.*	*Accepts before Homatropin.*	*Under Homatropin.*	*Difference.*
1	F.	45	R.+0.50 cyl. 90°. L. No glass.	+3.00 sph.+0.50 cyl. 70°. +2.75 sph.+0.37 cyl. 20°.	+3.00 sph. +2.75 sph.+0.37 cyl. 20°.
2	F.	40	R.+0.75 cyl. 90°. L.+0.75 cyl. 90°.	+0.62 sph.+0.75 cyl. 90°. +0.87 sph.+0.75 cyl. 90°.	+0.62 sph. +0.87 sph.
3	M.	45	R.+0.50 cyl. 175°. L.+0.25 sph.+0.62 cyl. 70°.	+0.75 sph.+0.25 cyl. 175°. +1.00 sph.+0.62 cyl. 70°.	+0.50 sph.+0.25 cyl. 85°. +0.75 sph.
4	F.	42	R.—1.00 cyl. 150°. L.—1.00 cyl. 20°.	+0.75 cyl. 55°. +0.75 cyl. 105°.	+0.75 sph.+0.25 cyl. 150°. +0.75 sph.+0.25 cyl. 20°.
5	M.	41	R. No glass. L. No glass.	+1.25 sph. +1.25 sph.	+1.25 sph. +1.25 sph.
6	F.	42	R.+0.75 sph. or 1.00 sph. L.+0.75 sph. or 1.00 sph.	+1.75 sph. +1.75 sph.	+0.75 sph. +0.75 sph.
7	M.	43	R.+0.25 sph.+0.50 cyl. 85°. L.—0.25 sph.+1.50 cyl. 95°.	+1.25 sph.+0.25 cyl. 75°. —0.75 sph.+2.50 cyl. 90°.	+0.75 sph.+0.25 cyl. 175°. —0.50 sph.+1.00 cyl. 90°.
8	F.	49	R.+1.75 sph.+0.50 cyl. 160°. L.+2.00 sph.+0.50 cyl. 180°.	+2.50 sph.+0.50 cyl. 180°. +2.75 sph.+0.75 cyl. 180°.	+0.75 sph. +0.75 sph.+0.25 cyl. 180°.
9	M.	42	R.+0.75 sph. L.+0.75 sph.	+1.75 sph. +1.75 sph.+0.25 cyl. 140°.	1.00 sph. 1.00 sph.+0.25 cyl. 140°.
10	M.	41	R.+0.50 sph.+0.75 cyl. 90°. L. No glass.	+1.00 sph.+1.00 cyl. 80°. +1.25 sph.+1.00 cyl. 75°.	+0.50 sph.+0.25 cyl. 90°. +1.25 sph. +1.00 cyl. 75°.
11	F.	41	R.+1.25 sph.+1.75 cyl. 90°. L.+0.50 sph.+0.75 cyl. 180°.	+2.50 sph.+2.00 cyl. 90°. +3.25 sph.+0.75 cyl. 25°.	+1.25 sph.+0.25 cyl. 90°. +2.75 sph.
12	F.	47	R.+0.50 cyl. 120°. L. No glass.	+1.25 sph. +1.25 sph.	+0.75 sph.+0.50 cyl. 30°. +1.25 sph.
13	M.	45	R.+0.75 sph.+0.50 cyl. 180°. L.+0.50 sph.+0.75 cyl. 180°.	+1.25 sph.+0.75 cyl. 20°. +1.75 sph.+0.50 cyl. 180°.	+0.50 sph.+0.25 cyl. 180°. +1.00 sph.+0.25 cyl. 90°.
14	F.	42	R.—0.25 sph.+1.00 cyl. 5°. L.—0.25 sph.+1.25 cyl. 175°.	+1.00 sph.+1.00 cyl. 10°. +1.25 sph.+1.00 cyl. 180°.	+1.25 sph. +1.25 sph.+0.25 cyl. 85°.
15	M.	45	R.—0.50 sph.+1.00 cyl. 100°. L.—0.50 sph.+0.75 cyl. 15°.	+0.50 sph.+0.75 cyl. 90°. +0.25 sph.+1.00 cyl. 5°.	+0.75 sph.+0.25 cyl. 180°. +0.75 sph.+0.25 cyl. 15°.
16	F.	46	R. No glass. L.+0.50 cyl. 135°.	+1.00 sph.+0.25 cyl. 40°. +0.75 sph.+0.25 cyl. 140°.	+1.00 sph.+0.25 cyl. 40°. +0.50 sph.+0.25 cyl. 45°.
17	M.	44	R.—0.50 cyl. 20°. L.—0.25 cyl. 180°.	+0.75 sph.+0.50 cyl. 110°. +0.75 sph.+0.50 cyl. 80°.	+1.25 sph. +1.00 sph.+0.25 cyl. 90°.
18	F.	45	R.—1.00 cyl. 180.°. L.—1.75 cyl. 180°.	+0.25 sph.+1.25 cyl. 90°. —0.75 sph.+2.00 cyl. 95°.	+1.25 sph.+0.25 cyl. 90°. +1.00 sph.+0.25 cyl. 95°.
19	F.	40	R.+0.50 cyl. 90°. L.+0.25 cyl. 90°.	+0.75 sph.+0.50 cyl. 90°. +0.75 sph.+0.50 cyl. 90°.	+0.75 sph. +0.75 sph.+0.25 cyl. 90°.

ACTION OF HOMATROPIN.

4. Is homatropin a satisfactory cycloplegic?

In general terms—yes. In the great majority of cases the findings with it are satisfactory, certain, and represent a full relaxation of the accommodation. In a few instances they are not. This is generally evident from the changing character of the subjective findings, the disagreement between these and the objective test with skiascopy, and the persistence of a dioptry or so of accommodative power as measured by determining the difference between the near point and the far point when a convex glass is applied. In such cases atropin should be used. But even then, it is not often that the findings with atropin differ from those with homatropin, and in any case the difference is slight, usually not over 0.50 D of hyperopia. And even with atropin there may be, in these cases, a residuum of accommodative power left, just as there was with the homatropin.

These cases that do not yield readily to homatropin and to atropin seem to occur particularly in patients between forty and forty-five. They are, however, rare exceptions, and the rule is that homatropin, if properly used, is a satisfactory cycloplegic.

METHOD OF USING HOMATROPIN.

5. How are we to employ homatropin?

In the first place (a) as to *strength of solution.* I use a 2 per cent. solution of homatropin hydrobromid. A 1 per cent. solution is too weak; a 3 per cent. solution seems to have no advantage over the 2 per cent. and is more irritating. My experience with the use of homatropin and cocain discs is limited, but so far I have not seen that they possess any decided advantage over the solution. Their effect on the accommodation and particularly on the pupil seems to be quicker than that of the solution, but it takes as long to produce a complete relaxation of the accommodation, nor is it any more complete with the discs than with the drops.*

Second (b) as to the *number of instillations.* I have sometimes gotten on well with three, but usually find it more satisfactory to use five, and some cases require seven or even eight.

Third (c) as to *frequency.* I think the instillations should be made not closer together than six minutes, and not further apart than fifteen.

Fourth (d) as to method of *instillation.* It seems to me a matter of indifference whether the solution is dropped on the cornea, as Jackson recommends, or dropped into the conjunctival sac, provided we take care that the liquid in either case is not squeezed out immediately. Personally I proceed as follows: I ask the patient to look up, then pull the lower lid away from the eyeball and gently place a full drop of the solution in the little reservoir thus produced. Then, still holding the lid away from the eyeball, I direct the patient to look slowly down without squeezing. The cornea is thus gradually immersed in the solution, and the latter is not expelled as it often is when dropped on the cornea directly. In this way, I think, the best conditions for absorption are secured.

Fifth (e) as to the *time that it takes to produce complete cycloplegia.* Dr. Thomas's experiments and mine show what clincal experience had already proved to my mind, that we cannot expect complete cycloplegia in less than one hour after the first instillation. If we try to make the tests before the expiration of one hour, the results are apt to be varying and indecisive, and we simply tire our patient. Time and again it has been my experience that after a number of tests in which the patient's vision and acceptances seemed to vary from one minute to another, a rest of ten or twenty minutes coupled with another instillation gave uniform and satisfactory results. The best relaxation, in most cases, occurs between an hour and a quarter and an hour and three-quarters after the start of the instillation. Individual cases, however, vary greatly, and some do not relax completely in less than two hours. Hence, it is important in every case, before proceeding to the test with glasses, to satisfy ourselves that the patient's relaxation is complete by determining his near and far points as already described. It is quite as important not to let the period of maximum relaxation pass by before undertaking the examination.

One point I should like to insist on is that the effect of homatropin on the pupil is not a reliable criterion as to its effect on the accommodation. The pupil may dilate slowly and incompletely, and yet the accommodation may be quite perfectly relaxed. Still oftener it happens that the pupil dilates rapidly and *ad maximum,* yet there are still one or more dioptries of accommodation remaining. The tests that we have made on this point seem quite conclusive.

If our tests show a residuum of accommodation of more than 0.75 D, and, if in addition, the subjective tests with glasses are unsatisfactory or contradict the skiascopic finding, then we should persevere a little longer with the homatropin, and if the results are still unsatisfactory insist on the use of atropin. But, as previously stated, such cases are not often found.

POSSIBLE DANGERS OF CYCLOPLEGIA.

6. Is homatropin a dangerous remedy?

This is a claim that has been a good deal exploited by the optologists, opticists, refracting opticians, and other non-medical prescribers and venders of glasses. It has practically no foundation in fact. Once in a great while, homatropin (like cocain, euphthalmin, or any other mydriatic) will cause glaucoma, but, considering the very great frequency with which the drug is used, such cases are very rare. I myself have never seen a case, though I have used homatropin and seen it used by others thousands of times. I may add that Dr. D. W. Greene,* of Dayton, Ohio, reports using it in 910 eyes, all in men over sixty years of age, without having any trouble on this score.

Of course, the contingency is present, and no one would instill homatropin in a person at or past the middle age without first taking the tension and otherwise making sure that there was no suspicion of a glaucomatous tendency.

Other disagreeable by-effects—dryness of the throat, etc.—are usually trivial. Very rarely indeed delirium occurs, especially in children; this is probably due in most cases to contamination with atropin.

Homatropin, when used in the way indicated, produces an effect that is rather more prolonged than is generally stated. While most people can read within thirty-six hours after the instillation, it will be found that their accommodation is still subnormal, and it is often so seventy-two hours after the instillation. Moreover, as our experiments show, the accommodation may return at an unequal rate in the two eyes. This should be a reason for cautioning our patients against using their eyes for any trying near work within three days of the instillation. In some cases a marked dilatation of the pupils and some impairment of the accommodation persist for three or four days.

* In the comparative tests on this point, in order to eliminate the question of variability in the drug, I used the preparation of the same manufacturers (Buroughs and Wellcome) both for the solution and the discs.

* Ophthalmology, January, 1908, page 278.

SOME BY-RESULTS OF THE EXPERIMENTS.

Some interesting accessory facts have developed in the course of the investigations by Dr. Thomas and myself. The following may be mentioned:

(*a*) The importance of low degrees of astigmatism in impairing the definition. In testing the accommodation, the correction of 0.25 D of astigmatism seemed to enhance the accuracy of definition a great deal, so that the fine test-objects used could be recognized better and at closer range than without such a glass. The latter, in fact, seemed at times to be almost equivalent to adding a dioptry to the accommodation.

(*b*) The striking variations in the accommodative power shown in different people of the same age when tested in the ordinary way.

The following figure which is taken from our experiments shows this fact, and the wide variations in individual cases from Donders' curve. We are apt to regard the latter as representing an immutable standard, variations from which are necessarily pathological. This was not Donders' own experience,* nor is it ours, taken, as will be seen, from 167 cases, only a few of which we had reason to regard as anomalous. (To these, since the above was written, more than 135 cases have been added, which confirm in all essential points the findings already obtained).

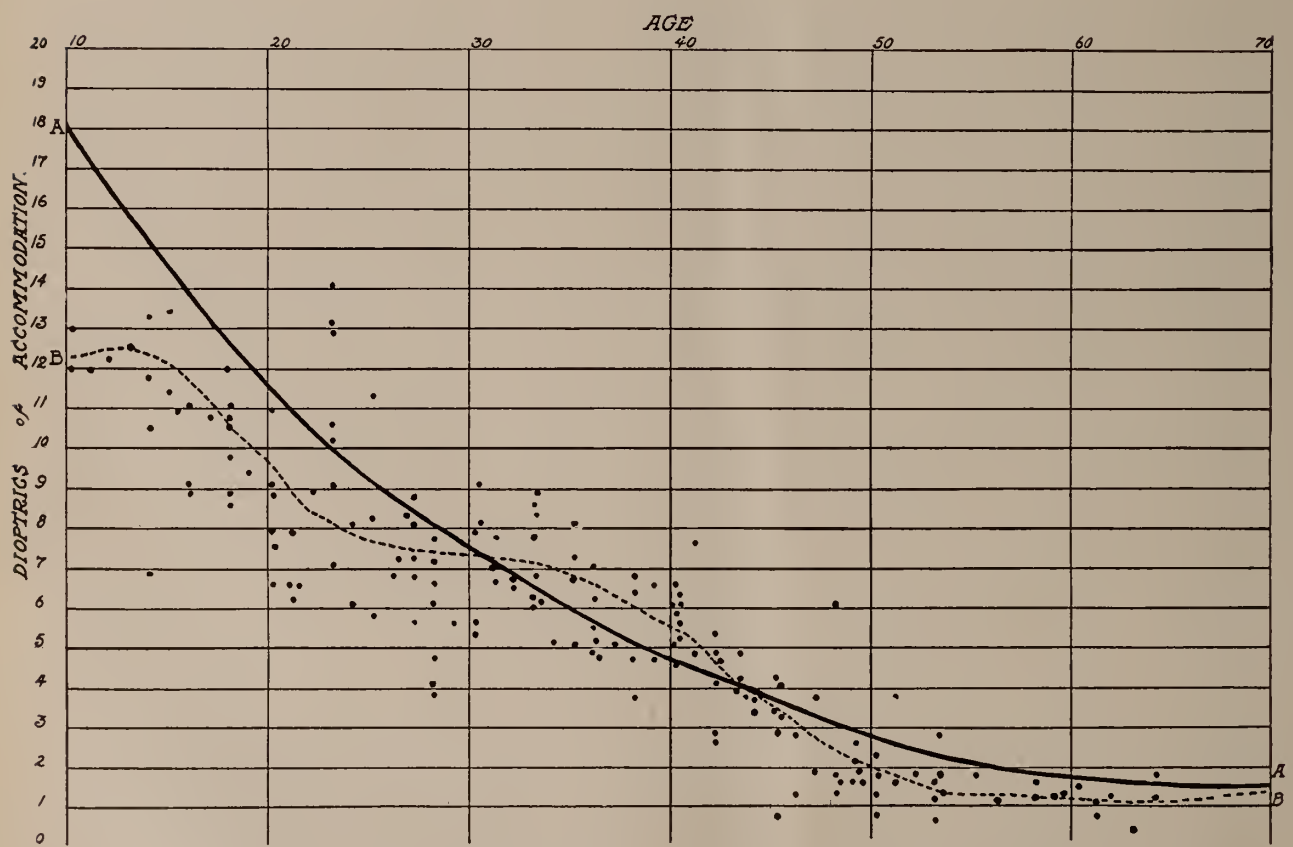
(*c*) Cases of unequal accommodative power, *i. e.*, those in which the near point of one eye was distinctly closer than that of the other were not very uncommon.† In such cases we may have to give a stronger glass for one eye than for the other for reading, although the glasses for distance are the same.

(*d*) The current idea that myopia is associated with weakness of accommodation found no corroboration in our experiments. On the contrary,

* See Accommodation and Refraction of the Eye, New Sydenham Soc. Ed. (1864), Fig. 107, p. 209.

† Cf. on all these points the article by E. Jackson, *Annals of Ophth.*, July, 1907, p. 419.

Fig. 2.



The figure shows the range of accommodation in dioptries at different ages in 167 subjects, when rendered emmetropic by glasses. Each subject is denoted by a separate dot. The heavy line, AA, shows the average range of accommodation according to Donders;* the dotted line, BB, the average range as it would seem to be according to our determinations. The near point in these experiments was measured from the anterior focus of the eye instead of from the first principal point as is usually done. This makes the range of accommodation relatively higher than is usually given; the difference being especially great when the near point is close to the eye.

* The main difference between the form of Donders' curve as usually plotted and that here shown is that in the latter AA shows, not the absolute near point, but the difference between the far and near points, *i. e.*, the range of accommodation. Thus plotted, Donders' curve does not reach the zero or base line even in advanced life, for up to seventy, according to Donders, there is a range of at least 1.50 D remaining.

some of the highest degrees of accommodative range were found in corrected myopia.

CONCLUSIONS.

1. A cycloplegic should be employed for determining the refraction in practically all cases, not glaucomatous, below 48 years of age and in some cases above this limit.

2. Homatropin in 2 per cent. solution, provided it is used with ordinary precaution, is a safe cycloplegic, and if properly used is effective in the vast majority of cases.

3. It should be repeatedly instilled and the examination made not less than an hour after the first instillation, nor until a test of the accommodation has shown that the latter is as completely abolished as possible.

4. The cases in which homatropin proves inefficient are few. They are marked by varying vision and varying acceptances, discrepancies between the subjective tests and the skiascopic findings, and the persistence of an undue amount of accommodation (more than one D) even after prolonged action and repeated instillations.

5. In such cases atropin should be used.

MEDICAL LIBRARIES FOR THE SMALLER CENTRES.*

By SMITH BAKER, M.D.,
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IN the nearly five hundred incorporated villages in the State of New York and in all but seven of its cities there is not a medical reference and circulating library yet to be found. While other kinds of libraries are everywhere springing up, it is still the common practice for each physician and surgeon to purchase his own books, subscribe for his own periodicals, and consequently to limit his professional reading closely to these alone. Such a course necessitates useless duplication of professional works and periodicals in each community, and not only wastes hard-earned funds unduly, but results in each one's being very inadequately provided for, especially the younger men who have the greater share of time and strength with which to make use of a large collection. Moreover, by such a method, or lack of method, the more expensive and more useful books of reference are often not to be found at all in private libraries, or if found, are in possession of the older, more prosperous men, who are thus at once placed at a corresponding advantage over their younger or less prosperous neighbors. For, as it still too often appears, there is not yet everywhere in the ranks of the profession that community of even literary interest which, if present, would make the libraries of individuals freely accessible to all who might need or desire their use without incurring undue obligation or other disagreeable experience.

*Read before the Medical Society of the State of New York, January 30, 1908.

Affirming, then, that the whole present custom is uneconomical, interfering and unwise, and that it likewise results in great disadvantage, not only to the younger men and women in the profession, but even more so to all who would keep comprehensively abreast of medical progress, it is seen also to be irreparably disadvantageous to those who aspire to prepare papers and get ready for scientific discussion, and otherwise contribute to the profit and enthusiasm of the professional cult. Undoubtedly it is somewhat largely owing to the want of books and an early habit of using them, that we have so frequently to note such arrests of professional development as untimely dropping off of early enthusiasm, falling into everyday intellectual complacence, shiftlessness, routinism, and obvious scientific stagnation and inefficiency where and when enterprise is most needed; and more than all, the admitted inability rightly to cope with quackery and ignorance, under whatever guise these may seek to attract and capture public attention. In fact, so damaging and interfering is all this that the present method whereby isolated and small groups of hard-working and in every way nobler struggling practitioners are inadequately provided with the higher, broader means of intellectual stimulus and most useful information, should be recognized at once and by everybody as absolutely effete, and consequently should be superseded by modern reference and circulating libraries, which in every other kind of professional life have proved useful and stimulating.

But this is by no means all, for it is easily observable that not only is the better prosperity of the profession itself thus involved, but that of the community as well; especially in connection with sources of infection and contagion, and the means and methods required by improved sanitation and hygiene. I venture to say that every unrecognized case of small-pox within the past few years has been largely owing to the fact that the attending physician did not have any one of the several rather expensive books for reference, which, if timely used, might not only have helped him out and thus saved his professional reputation, but also might have saved the community from untold misery and loss. It is not just to surmise that he would not have profited by such volumes had they been accessible to him, nor is it any fairer to say that he should have gotten them for himself beforehand. You and I do not know why he had not thus prepared himself —we may never know the story of incurred student debts, poor pay, the mortgage, the large incidental as well as fixed expenses, the barren field—all of which had, from time to time, quite necessarily made him say, "I need these volumes, but must wait." And yet, too, what folly for him not to have had all such necessary helps, when by a little forethought and better management on the part of himself and his neighboring practitioners there might have been easily accessible all such books when needed, and this

with really no greater outlay than that already made through purchasing each for himself duplicates of volumes, which, no matter how valuable or useful in their own place, actually proved not to be the ones needed just at the time of the emergency. That the present system, or no system, is again seen to be not only as wasteful as it is inefficient, but also fully as dangerous, comes to a certainty no matter how viewed.

Yet even this is not all. The day is coming, perhaps is closer at hand than we suspect, when the medical man, more than ever, must learn to know and practice the meaning of fraternity in its strongest, most comprehensive sense. Heretofore, the individual has played his part conspicuously alone, as best he might, and has eventually been counted great or small according to his so-called "success;" which in most of the smaller communities is rated according to the number of his clients or to the size of his bank account. As Dr. William H. Welch has recently said:* "The horizon of the average man's interest in medicine scarcely extends beyond the circumference of his own body or that of his family, and he measures the value of the medical art by its capacity to cure his cold, his rheumatism, his dyspepsia, his neurasthenia." And so this will continue to be.

But it must not be forgotten that the medical man is coming to be much more accurately estimated than ever before, and not alone for his value to individuals and families, but equally, or even more, for his actual scientific use to the community in which he resides. Sanitation, public and private; hygiene, bodily, mental and moral; prophylaxis, subjective and objective; pathology and symptomatology in accurate and comprehensive senses—all these can be most satisfactorily attended to, not so frequently by the men who are said to "enjoy the longest or biggest rides" in their several communities, as by those who have been, and still are, close and indefatigable students, and skillful users of all the means which progress places in their hands. The people are coming slowly but surely to see this, and to turn to the really greater men—to those who know and are capable of doing the right thing, in the right way, at the right time. Moreover, the comparative significance of all these important matters is henceforth more and more frequently to appear upon especial occasions when the community, and even the state, shall sternly require that the profession, as a whole, shall be at one in regard to the emergency in hand, and shall suffer no individual interest, real or potential, to stand in the way of efficient service. In such instances say, as the proper protection of a local water supply, it will not then look very well for a single medical politician or two, no matter how popular otherwise, to negative the influence of local experts simply because the balance of the profession is too indifferent, too incompetent, or too jealous to admit of its taking a united and effective stand.

It may be said, then, that the profession in the smaller counties as elsewhere, has necessarily increasing need to get close together. A consensus of opinion and practice cannot be centered anywhere better, nor be radiated from any point more truly influential, than from the scientific center, which, in accordance with all the better thinking of to-day, should be found closely allied with a local reference and circulating medical library, together with the stimulating enthusiasm and intelligence which this fosters.

It would seem at this late day to be a work of superogation, to offer these or any other reasons why such medical libraries are generally desirable, in order that the profession generally may become duly interested in their establishment and maintenance. Yet experience reveals that altogether too universally there is still an indifference and a lethargy with reference to this matter, that must, step by step, be overcome before any sort of practical extension of the library system can be counted on. For instance, a certain "Medical Library Association" was organized in one of our cities by good public-spirited men over a third of a century ago. For a few years it took a miscellaneous series of periodicals, and occasionally accessioned a few bound volumes, as it conveniently happened. But within the last dozen years the whole collection was discovered to be buried in dust, without any sort of care, and in fact was literally ordered out of its hiding place, as not being worth the room it occupied. At this juncture one who still had faith in library enterprises purchased the whole pile for ten dollars, had it cleaned up and stored, and within the last two years has seen it become the nucleus of a real library now numbering about twelve hundred volumes, to which more or less general interest is devoted, but for which the local profession, as a rule, has not as yet discovered any devotion worth while, to say nothing of enthusiasm, or the need of its daily use.

It may be supposed that this would prove to be the history of any such enterprise in many other places. Yet, what do the inspirers and promoters of all the better things in the profession repeatedly and most emphatically say to us? Referring for instance to Osler, we find him saying: "It is hard for me to speak of the value of libraries in terms which would not seem exaggerated. Books have been my delight these thirty years, and from them I have received incalculable benefits. To study the phenomena of disease without books is to sail the uncharted sea," and, he continues, "To be of real value, there must be a general and continuous use; the books must be available and their use attractive. What exsuccous attenuated offsprings books would be but for the pabulum furnished through the placental circulation of a library!"

And he might have added, "What exsuccous (dry of sap) practitioners are everywhere to be

* *The Journal of the American Medical Association*, January 4, 1908, page 2.

noted simply because of unfamiliarity with the benefits of just such a placental circulation." No wonder Dr. Osler backs up his views by such contributions as that of $1,000 to the building fund of the Ontario Library Association; and it will be a greater wonder still if a rapidly increasing number do not catch something of the spirit thus manifest both in word and deed.

Or, if we still have doubts along this line, hear what the accomplished scientist and *littérateur,* Dr. S. Weir Mitchell says: "I was asked the other day by two very intelligent laymen, to whom I was showing our medical library, why the profession needed such a vast collection of books, and whether such were not simply the graveyard of theories and the record of what was now useless. I replied that, while theories died, facts remained, and had their vital uses to-day, and might be quoted; therefore a great library was a great museum of facts which remained to us permanently. A medical library showed the history of the profession, which had its joys, its sorrows, and its romances, and upon its shelves might be found the record of what the profession had done in the past and the indications of what would be done in the future."

So, again, says our Dr. Jacobi: "A large library, besides being the proof of existing culture and accumulated intellectual labor, fulfills its destiny by giving information. Here the medical man with scanty means will find his text books and monographs to aid him in unravelling the obscurities of a difficult case on hand. . . . But what a library is most successful in is the inculcation in a great many of the habits of study and research."

Certainly, this is the prime reason, "the inculcation in a great many of the habits of study and research"—and this, while the men are young and have plenty of time. This is the reason why the better informed, the more public-spirited have recently awaked here and there to the incalculable importance of the medical reference and circulating library. There are now some two hundred and fifteen in the entire United States, possessing, all told, some one million twenty-three thousand two hundred and ninety-five volumes. These libraries are scattered all over the country, and New York State has about thirty of them. Yet how slow the progress! The first medical library in this country was founded at the College of Physicians in Philadelphia in 1731. About the time of the founding of the New York State Medical Society there seemed to be a wave of more or less enthusiasm in favor of local libraries. It was not until 1875 that the late Dr. James P. Chadwick conceived the notion that even Boston needed such an institution, and it was not until then that the Library of the Academy of Medicine in New York City was given its present status, and even more startling to contemplate, not until May, 1891, that the Legislature of our State founded the Medical Library located in Albany. The last one at present known, at Utica, has a real history of less than three years. That this veritable movement toward professional betterment and enhanced self-respect and usefulness is but in its infancy, need not, however, discourage anyone who can discover even a little insight, courage and enthusiasm to start with.

In fact there is not a circle of a half dozen practitioners anywhere who, if they will lay aside specious objections and enter rationally upon the undertaking, may not within a dozen years have a local medical reference and circulating library, that will not only be a supreme satisfaction to themselves, but be an inspirer of respect on the part of their constituencies. It only needs, and this should be emphasized, that all shall work together, and, instead of duplicating copies of works and periodicals shall expend a like sum and as much more as practicable for an increased number and variety. In many places these can be kept in connection with the present local library. Where there is none, different offices could be used in succession, until the number accumulated required especial quarters. But I repeat, usually the trouble will not be found to be a lack of funds, nor of a place for keeping the books and periodicals. The real hindrances will center about such things as a serious lack of interest and the intelligent enterprise required, and especially a blind conceit or jealousy, which degrades all concerned.

That, however, the library movement has come to stay, that libraries will more and more come to be the standard and convincing evidences of local professional dignity and enterprise, and that professional self-respect itself will more and more be fostered, and rightly, by devoted interest to its wide-spread development, no one can doubt who studies the trend of the better thought, both in city and country communities.

Hence it may again be urged that everything this organization can do to stimulate the inception and growth of medical reference and circulating libraries in all centers, large or small, should be ungrudgingly and persistently rendered. The idea itself needs advertising and encouraging. The State Library at Albany should be encouraged to stand in every helpful relation to these enterprises. Co-operation, as instituted and practiced in Syracuse and other places, should be entered upon and adaptively maintained. As the state itself shall more and more demand responsible and valuable service at the hands of the profession, it will be nothing more than in accordance with its already well-established polity that it shall substantially recognize such services by extending all such useful aids as may be within its power.

"It is as important to know what kind of a patient the disease has as to know what kind of a disease the patient has."

THE EFFECT OF ALCOHOL UPON SECRETION AND DIGESTION.*

By HOLMES C. JACKSON, Ph.D.
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THERE is no substance taken into the gastro-intestinal canal which exerts more varied and seemingly ambiguous effects upon the complex mechanism of digestion than alcohol. On this account it becomes most difficult to come to a clear and concise conception of the general action of alcohol and alcoholic beverages upon the sum total of complicated chemical processes and reflex activity which constitute gastro-intestinal digestion. To arrive at any just conclusion in the matter we must study each individual process connected with digestion and the action which alcohol and alcoholic liquors exert upon it.

The general subject of the influence of alcohol on the gastric mechanism of digestion may be divided as follows: 1. The effect upon the proteolytic activity of pepsin-hydrochloric acid *in vitro* and *in vivo*. 2. The effect upon the secretion of pepsin and of hydrochloric acid. 3. The effect upon motility and absorption.

In any consideration of the first phase of this topic, one must sharply differentiate between the effects which have been observed in connection with the action of alcohol upon proteolysis in experiments *in vitro* and those carried out upon the living animal. Only a superficial examination of the conditions which exist in the two cases will be necessary to show how different must be results. Of the many differences which might be pointed out, the two which are most evident may be mentioned. In the beaker, digestion is invariably slower than in the gastro-intestinal tract. In the latter instance the products of enzymotic hydrolysis are removed by absorption as soon as they are formed, thus eliminating one inhibitory factor which must exist in the beaker where no absorption can occur. Again in the case of alcoholic experiments *in vitro,* this substance remains present throughout the whole experiment in the same strength as at the outset. This naturally does not agree with the condition in the normal stomach, as it is well known that the alcohol becomes rapidly absorbed, and thus its direct influence is removed from the sphere of activity. Hence, while it must be admitted that valuable evidence may be obtained along this line of investigation, any deductions which are drawn from experiments *in vitro* are to be viewed solely in the light of confirmatory evidence.

Experiments upon the effect of alcohol and alcoholic beverages upon the proteolytic activity of the gastric juice *in vitro* have been performed by many investigators. We can only examine some of the more important contributions. The most exhaustive and complete series of experiments were those carried out by Chittenden and Mendel.[1] Their results indicate that with strong alcoholic beverages, such as whiskey, brandy, rum and gin, containing about 50 per cent. alcohol and a relatively small amount of solid matter, the inhibitory effect noticed was directly proportional to their alcoholic content, and to the alcoholic content present in the digestion. The small amount of higher alcohols or fusel oils present exerted no deleterious effect. Wines, as a class, have little or no inhibitory effect upon the proteolysis. In small amounts they may increase the rate of digestion; in large quantities, however, the retarding effect is not in proportion to the amount of alcohol which they contain, but rather to the character and content of their solids. Thus Buchner[2] showed that a great difference existed in this regard between the clarets and other dry wines and the white wines. The former inhibited the activity of pepsin to a very much greater extent than the latter. Malt liquors in small quantities are without influence on the action of the pepsin; in larger amounts, however, they cause a very marked retardation of peptic activity which is out of all proportion to the amount of alcohol which they contain, but rather in parallelism to the quantity of extractive material.

In general therefore it may be said that with liquors containing less than 10 per cent. of alcohol, any marked deleterious effect which may be exhibited is to be ascribed entirely to the character of the substances dissolved in the alcoholic fluid.

Another fact which has been brought out in this type of experiment is that the character of the effect induced by a given percentage of alcohol varies according to the amount of pepsin present rather than to the strength of acidity. Thus all experimenters have noticed that in digestions with a weak peptic activity, smaller percentages of alcohol caused a greater inhibition of proteolytic power than if the amount of pepsin was large. This rather important fact must be borne in mind when alcohol is administered in pathological conditions where pepsin secretion is diminished.

In attempting to explain the action of alcohol and alcoholic liquors upon the purely chemical side of digestion we may conclude that as the nature of pepsin is closely allied to the proteins strong alcohol which causes the latter to become less soluble would effect the enzyme in the same manner. In this way the pepsin would be rendered less active. With weak solution of alcohol this action would not occur. Again the difference observed in regard to beverages containing a large content of solid matter such as the malt liquors is undoubtedly due to the presence of substances which influence the activity of the enzyme; thus, for example, tannin by combining with the proteins undergoing digestion, or perhaps the enzyme itself, forms more or less insoluble compounds relatively more resistant to the action of the pepsin and thus tending to diminsh the rapidity of the digestion.

In order that we may understand thorough-

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ly the ways by which alcohol may influence the secretion of the gastric juice, it will be perhaps beneficial to sum up roughly the present conception of the manner by which the gastric juice is normally secreted. In the first place as the result of the work of Pawlow,[3] it has been shown that the presence of food in the mouth sets up a reflex, the efferent arc of which is formed by the vagi; through these nerves under appropriate stimulation impulses pass down to the gastric secretory cells throwing them into activity. This type of secretion, occurring as it does without the presence of food in the stomach, has been termed psychic. In the production of a secretion of this character, the flavor of the food-stuffs and particularly the avidity with which the animals eat their food, or their appetite, plays an all important part. Secondly, certain foods of themselves do not cause a secretion of gastric juice when placed in the stomach. Of these may be mentioned bread, white of egg, fats, etc. Others, such as meat, gelatin, meat extracts and soup set up a secretion of juice which is apparently independent of nervous influences. The mechanism of this type of secretion is explained by the secretogogue-hormone theory. And lastly, certain substances, of which alcohol seems to form one, act directly upon the secretory cells causing them to pour out gastric juice. It must be remembered that in the gastric glands there are two types of cells, namely, the chief cells which form the pepsin and the border cells concerned in the production of the HCl. Ordinarily both of these kinds of cells are coincidently thrown into activity, but it will be shown shortly that either may secrete without the other becoming active.

Experiments which have been conducted with the view to determining the effect of alcohol upon the secretion of gastric juice have been performed upon animals either with a simple gastric fistula or with a blind pouch stomach after the method of Pawlow.[3] In the case of the simple fistula the animals are fed with food of a definite character and amount and from time to time a certain amount of the stomach contents are withdrawn through the fistula and analyzed. In this way the course of the digestion may be followed. In the blind pouch experiments the food in the main stomach causes a formation of gastric juice in the small pouch and the secretion in the latter may be examined as to amount and character. This latter form of experimentation, though better in some ways for certain types of experiments, does not so truly simulate the condition of actual digestion as does the first mentioned. Under both of these experimental conditions, however, the influence of the psychic secretion is present. If it is wished to exclude this factor, the food must be placed in the stomach through the fistula without the knowledge of the animal.

Almost numberless experiments have been carried out along these various lines, but a few of the most important can be mentioned. At the outset, it must be remembered that the alcohol which is ingested in these experiments is rapidly absorbed, so that under ordinary conditions one-half hour serves as sufficient time to allow the removal of all traces from a normal stomach. With this in mind Gluzinski's[4] results are especially interesting. He divides the course of digestion with alcohol into two stages. The first, during which the alcohol is present in the stomach and by its presence causes changes to occur; and a second stage, after the alcohol has completely disappeared. During the first phase increasing percentages of alcohol cause little change in the amount of hydrochloric acid, but the pepsin secretion is diminished. During the second phase the volume of the secretion is markedly augmented concomitantly with an increase in the percentage of hydrochloric acid until the latter reaches an amount two to three times that of the control. The pepsin does not show the same augmentation. This secretion in the second phase lasts for some time after the food has left the stomach and passed into the pylorus. This investigator states that the small amount of pepsin is more than compensated for by the excess of secretion and the hydrochloric acid present. Blumeneau's[5] results are consistently confirmatory. In this connection and as explanatory of this difference in the effect of alcohol upon the formation of HCl and of pepsin, may be mentioned the work of Schiff[6] and of Radzikowski.[7] Schiff, as the result of a long series of experiments, has advanced the theory that certain substances possess the power of causing the production of pepsin *de novo* in the central cells of the gastric mucosa. He terms these "pepsin excitants" or peptogens. On the other hand there exists a further class of compounds, the introduction of which into the stomach originates a profuse secretion of an acid fluid which may not contain any pepsin. He calls these "juice-excitants." To the former class belong meat extracts, soups, gelatine, bread, dextrins, etc., and it will be noticed that these peptogens are about the same as those substances which Pawlow found to set up an energetic secretion of gastric juice when placed in the stomach without the knowledge of the animal. In the endeavor to find a substance which might act as a true "juice excitant" without causing the formation of pepsin, Radzikowski made some experiments with alcohol. His results indicate that the introduction of the alcohol into the rectum or any part of the gastro-intestinal canal is sufficient to initiate a secretion which was most pronounced, however, the nearer the point of injection to the stomach. This fact was first noticed by Chittenden, Mendel and Jackson,[8] and the mechanism of the process was studied with considerable detail by Wallace and Jackson.[9] Radzikowski also showed that the gastric juice formed in this way was quite strongly acid, but was without proteolytic power. Alcohol will cause pepsin to be elimi-

nated if it is already preformed in the central cells, but will not set up a new formation of pepsin. These results have been confirmed by Pekelharing,[10] Spiro,[11] and by Frouin and Molinier,[12] although the latter investigators believe that the process is dependent upon some nervous mechanism. Since Gréhant[13] has indicated that the alcohol injected into the blood is secreted into the stomach it is more probable that the substance in passing through the cells stimulates them in the same manner as it does when it is absorbed. These considerations explain the results obtained by many observers that alcohol would cause a quite marked secretion of gastric juice, but that, at the same time, the rate of digestion was not augmented and even often diminshed. Many investigations have been carried out with reference to the effect of the ingestion of the various alcoholic beverages upon gastric digestion *in vivo*. The work of Chittenden, Mendel and Jackson[8] may be taken as an example and their findings agree well with the results of other investigators. These experiments were conducted upon animals with gastric fistula of the simple type. The meat was fed to the animals so that the factor of psychic secretion was also present, although the alcoholic fluids themselves were introduced into the stomach through the cannula. The results indicate in the first place that the presence of alcoholic liquors and especially the malted beverages tends to increase somewhat the time or rate of digestion. This is probably to be explained by the fact noted by Gluzinski that the motility of the stomach is diminshed in a moderate degree by the presence of alcohol. Little or no change could be noticed in the production of hydrochloric acid. The alcohol left the stomach with surprising rapidity—its complete absorption occurring in from 20 to 30 minutes after ingestion. During the first half hour which corresponds to the time when the alcohol was present in the stomach, the acidity usually reached 50 per cent. of the maximum attained during the digestion. In experiments carried out upon animals in which the pylorus and cardiac openings were ligated and alcoholic beverages introduced into the stomach, the results indicated a marked increase in the production of the acid and fluid over the normal. The juice thus formed was at all times proteolytic, but according to the work of Radzikowski, the pepsin must have been present preformed in the gastric cells. These authors conclude that the short time during which the alcohol remains in the stomach, does not allow any marked inhibitory activity to show itself, thus indicating that the results of the experiments conducted *in vitro* could not effect the conditions in the living stomach. There occurred an augmentation in the secretion of gastric juice in experiments with ligated pylorus. This same effect undoubtedly occurred in the gastric digestion with meat and the juice must have contained at least normal amounts of pepsin since the time of digestion was only slightly prolonged, if at all, over that of the normal. Finally Kast,[14] in experiments performed upon a patient with gastric fistula with resection of œsophagus, reports that with 10 per cent. alcohol of strengths less than this no noticeable effect on secretion could be observed. Above this with increasing amounts the quantity and percentage of HCl in the gastric juice is not affected, but there occurs a marked reduction in the pepsin content.

This cursory review of the more important recent work indicates the general trend of opinion; we may conclude that with weak strengths (10 per cent.) of alcohol during the period of the first half hour after ingestion and while the alcohol is still in the stomach, there occurs little change in the amount or percentage of hydrochloric secretion in comparison to the normal. During the following alcohol-free period lasting to the end of digestion there takes place a marked increase in the amount of fluid secreted and in the percentage of hydrochloric acid formed. If pepsin is present preformed this is washed out of the cells with the secretion. The alcohol does not cause a formation of pepsin *de novo*.

In attempting to explain the two phases of digestion noticed by Gluzinski we must consider that the first stage does, in a way, correspond to the condition obtained in experiments *in vitro* and that during this time an inhibition with high percentages of alcohol will take place. If the alcohol enters an empty stomach, then as shown by Sawriew,[15] there is set up a tremendous secretion of mucus sometimes reaching a hundred times the normal amount. This author believes this to be a physiological reaction or process for combating the irritating effect of the strong alcohol. This secretion only lasts until the alcohol is removed by absorption. The second phase in which the digestion is accelerated must be ascribed to the effect produced by the alcohol during or after absorption. Here the alcohol acts somewhat specifically upon the gastric cells and either stimulates the border cells directly or else functionates as a secretogogue in causing the formation of a hormone or gastric secretin. This, after it reaches the blood, stimulates the cells to greater activity. The result is the same in both cases, except the mechanism which causes it differs in the two instances. As regards the effect of alcohol upon the motility and absorption little direct evidence has been presented. Kast, in the work mentioned above, showed that strengths of alcohol less than 20 per cent. favor motility and absorption. In this latter statement Klemperer[16] adds that higher percentages act in the reverse manner. In this connection must be considered the effect that the alcohol exerts upon the blood supply to the stomach and hence upon absorption. In small amounts and percentages there takes place a marked vaso-dilation which causes the mucous coat to become reddened and hyperemic; with increasing percentages on the other hand a reverse vaso-constriction is set up. When the alcohol reaches 60 to 75 per cent. the mucous se-

cretion mentioned above would set in and this in itself would tend to markedly inhibit the passage of material into the circulation. The paralyzing effect of the alcohol upon the nerve conduction is so well known that it hardly needs mention. This factor would lessen to a considerable extent the power of motility.

It becomes evident therefore that the action of alcohol and alcoholic drinks upon the secretion of gastric juice and upon gastric digestion is a decidedly complex one. We may detail it as follows: Alcohol or flavored alcoholic beverages exert their initial effect while in the mouth, originating a reflex or psychic stimulation which causes a secretion of gastric juice. Undoubtedly in this way they are beneficial to digestion. As they pass into the stomach and before absorption, the weaker strengths apparently exert no influence on the rapidity of digestion except that the food remains a trifle longer in the stomach. This is perhaps due to the effect which the alcohol exerts upon the nerve endings and hence upon the musculature of the stomach, reducing its power of motility. The higher strengths of alcohol show a distinctly inhibitory effect upon the course and velocity of digestion; they undoubtedly react upon the pepsin tending to lessen its activity. Absorption of the alcohol begins soon after its introduction into the stomach and its direct influence is gradually removed. When absorption commences the alcohol causes the border or acid-forming cells to pour out a rather copious flow of juice, which is, however, deficient in proteolytic power unless the enzyme or its zymogen is present preformed in the cells. No new formation of enzyme occurs. This process continues during the absorption of the alcohol, and as long as the alcohol remains circulating in the blood and thus coming into contact with the gastric cells. Alcohol and alcoholic liquors with a high percentage and malt liquors do not react so positively. The inhibitory effects of the solids contained in the beverages is quite pronounced. The secretion caused by strong alcohol 60 per cent. or over is very thick and contains large quantities of mucus which covers the mucous lining of the stomach as a protection and markedly interferes with absorption.

In general therefore the inhibitory factors are more or less completely compensated for by the distinctly advantageous action of alcohol upon digestion. As a whole the process may be said to be benefited. This of course is only true of weaker alcohol and alcoholic beverages. The stronger alcoholic and malt liquors especially, in even moderate amounts, are distinctly inhibitory and disadvantageous to the rapidity of the course of digestion. Again this general statement must only be considered to hold good in explaining the effect of a single administration of the alcohol. Other factors must be considered when the ingestion occurs at repeated intervals.

On account of the rapid absorption of the alcohol from the stomach this substance must not be considered as exerting any direct influence upon the chemical processes which are going on in the intestine. Whatever the effect which is brought about, it must either be through a reflex originated in the stomach or by means of its presence in the circulating blood. In this latter way the absorbed alcohol may affect the cells of the pancreas and liver and thus alter the character of the secretions of these organs. A secondary effect which is particularly in evidence in the case of dry wines containing much tannin shows itself in the fact that the tannin combines wth the proteins of the food to form more insoluble compounds which are more difficult of digestion. In the case of malt liquors, the large amounts of solids ingested and passed into the intestine exert a distinctly inhibitory effect upon intestinal digestion.

A relatively small number of experimenters have busied themselves with the effect of alcohol on pancreatic digestion. The work of Chittenden and Mendel[1] was one of the first to appear concerning the action of alcoholic beverages upon tryptic activity *in vitro*. They found pancreatic digestion much more sensitive to alcohol than was the case with pepsin. Small percentages inhibited the proteolysis to a marked degree. Again the retardation varies with the different liquors and is out of all proportion to the alcohol present in the beverage. The solid matter of the wines and liquors exerts a markedly inhibitory activity irrespective of the alcohol, and the authors consider that it is due in great part to the large amount of acids and acid salts which go to make up such a large percentage of the insoluble residue. Fleig[17] injected alcohol and alcoholic extracts of the intestinal mucosa into the duodenum of dogs with temporary pancreatic fistulæ and noticed an increase in the volume of secretion. He believes that the substance causing the stimulation is different from the secretin of Starling. Kuwszinski,[18] also working with dogs possessing permanent fistula, gave alcohol per os and noticed that the pancreas was stimulated to activity. The most complete and careful investigation of the whole subject was carried out by Gizelt[19] in Popielski's laboratory. Popielski believes in the nervous character of the factors causing pancreatic secretion and consequently his pupil Gizelt explains his own results with a bias in this direction. This investigation showed that alcohol injected into the stomach or any part of the large or small intestine sets up a distinct secretion of pancreatic juice, which in volume was sometimes five times that of the control. The height of secretion was reached in about one hour after administration and the duration increased with the strength of the alcohol. In the endeavor to explain the mechanism of this stimulation the author cut the vagi after previously determining the rate of flow of the juice; subsequent injection of alcohol failed to set up any secretion although the introduction of dilute hydrochloric acid into the duodenum gave the usual positive response.

As the result of a series of other observations, the author concludes that the secretory mechanism, in this instance, consists in the absorption of the alcohol into the blood which carries it to the secretory center in the medulla which becomes stimulated. Secretory impulses then pass down the vagi to the pancreas causing the cells to secrete. It is somewhat questionable whether the actual mechanism is as complicated as this and an unbiased consideration of his results might bring the process more into line with the hormone theory of Bayliss and Starling.

Gizelt next studied the effect of the injection of alcohol into the large intestine in relation to the character of the pancreatic juice with especial reference to the digestive strength of the three specific enzymes. In general the results indicate that the injection causes an increased flow of juice but that the digestive power was quite markedly diminished in the cases of all the three enzymes.

Experiments carried out to show the effect of alcohol upon the activity of the pancreatic secretion *in vitro* gave some very interesting findings. As regards protein digestion, the presene of only 5 per cent. alcohol sufficed to inhibit the activity of the trypsin, while if the enzymes were weak or present in small quantities even less alcohol caused an absolute stoppage of zymolysis. The same effects were noticed concerning the amylolytic hydrolysis of starch by amolypsin.

A decided difference was observed in relation to the digestion of fat by pancreatic lipase. Here the lipolysis was distinctly favored by the alcohol even if the percentage of the latter in the solution reached 90 per cent. As a possible explanation of this difference the author suggested the solvent action of the alcohol upon the fats as favoring the hydrolysis. He excluded this, however, by showing that the ordinary fat solvents did not act in a similar way. Since alcohol, if allowed to act upon pancreatic juice drawn directly from the gland and hence only containing the antecedent of the enzyme or zymogen, increases markedly the lipolytic power of the secretion, the deduction is drawn that the beneficial effect of the alcohol lies in the ability of the latter to transform the zymogen into enzyme; an effect similar to the action of the enterokinase in transforming the trypsinogen into trypsin. Finally Seegen[20] studied the effect of alcohol *in vitro* upon the transformation of glycogen into sugar by means of glycerine extracts of the pancreas. He noticed that 66 per cent. alcoholic strength inhibited the production of the sugar to about the extent of one-third to one-half of the control figures.

In general, then, the effect of the alcohol circulating in the blood is markedly disadvantageous, and the pancreatic juice while copious is distinctly lacking in enzymotic power.

The question as to the action of alcohol or alcoholic drinks upon the chemical changes taking place in the liver possesses especial importance in view of the well-known changes which frequently occur in this organ after continued use of intoxicating liquors. Many attempts have been made to study the pathological chemistry of cirrhosis of the liver but all of them have been without result in as far as the production of pathological processes in animals which might even be said to simulate hepatic cirrhosis. A mass of literature has developed and some few papers report the effect of alcoholic ingestion upon the secretion of bile. Brauer[21] makes the statement in opposition to Weintraud[22] that alcohol when given per os appears in the bile much sooner than in the urine. This seems reasonable, since in all probability alcohol, carried to the liver by the portal vein, is removed by this organ in much the same manner as when an excess of sugar or toxic compounds appear in the portal circulation. Brauer observed a change in the hepatic parenchyma as a result of the passage of the alcohol into the bile ducts. The cells become altered as if the result of an irritation, and albumincholia occurred. Sugar could not be detected in the bile at this time. He believes that the damage done to the hepatic parenchyma with the concomitant albumincholia is analagous to the injury produced by toxins upon the renal epithelium causing albuminuria. In fact, epithelium cylinders are found in the bile along with the albumin. A prolonged intermittent irritation of the acute type would undoubtedly set up chronic changes which would lead ultimately to the production of a proliferation of a connective tissue with the resultant cirrhosis. Salant,[23] however, as the result of certain experiments similar in character to Brauer, reports negative findings as to the presence of albumin in the bile. This observer does not mention his histological findings, so the irritation in his cases may not have been so severe as with Brauer. This phase of the matter remains undecided. Salant[24] studied the effect of alcohol injected into the blood or introduced into the gastro-intestinal canal, upon the flow and character of the bile. Intravenous injections gave a rather slight decrease in the volume of the secretion and the solid content was also somewhat diminished. On the other hand, alcohol thrown into the stomach or intestines set up a marked augmentation of the flow of bile. In eleven experiments the increase varied from 50 to 365 per cent., apparently with no reference to the place of injection or strength of alcohol employed. The total solids were in most of the experiments increased in absolute as well as relative amounts. Upon the whole the results are not very definite and are somewhat ambiguous.

In another paper Salant[25] discusses the influence of alcohol on the metabolism of hepatic glycogen. This question had previously been studied by Nebelthau[26] and Krinkoff,[27] who arrived at discordant results. Salant shows that alcohol does not act as a food in the sense of favoring the accumulation of glycogen in the livers of fasting animals; nor was there exhibited any sparing effect upon the fats and carbonhydrates. In fact, certain results seemed to indicate that the alcohol accelerated the transformation of

the glycogen. Upon a further and detailed study of the question the author concludes that large quantities of alcohol may hasten the process by which glycogen is made to disappear from the liver. This action is only exerted after the stage of intoxication has been passed.

It can thus readily be seen that the influence of alcohol upon the pancreas and liver is somewhat circumscribed. At no time, under normal conditions, does the alcohol reach the intestines in percentage strength sufficient to exert any effect upon the chemical processes going on there in connection with digestion. Its sole activity must be directed in setting up changes in the organs themselves as a result of the cells becoming bathed in the alcohol-containing blood. This direct effect upon the cells is not beneficial. The results of investigation point decisively to the fact that even though stimulation of cellular activity may ensue, the products are abnormal and in the case of the liver leads to a luxus consumption of glycogen.

As the result of this somewhat hurried presentation and discussion of this general topic one sees immediately the cause for the great differences in the views held by many persons upon the question as to the physiological value or necessity of alcohol and its beneficial or deleterious effects. I hesitate to draw any conclusions from the work here presented. One fact, however, stands clearly defined; whereas a single dose of a small amount of alcohol may result in a general betterment of the digestive mechanism, continued doses, of even these same quantities, causing, as they do, excessive stimulation and wasteful expense on the part of the organism, finally react with the production of hyposecretion. Concerning the ingestion of moderate or large quantities in single or repeated doses the effect is unambiguous. All the results point to a deleterious influence from whatever standpoint of digestion we view the question. I repeat that time will not permit me to enter into a discussion of the pathological effects which are produced by the repeated employment of alcohol in large amounts. Most of the work reported along these lines is histological in character, and as I have already indicated attempts to produce pathological conditions in animals similar to those in man have been fruitless. In most of the cases reported whether from animal experimentation or clinical observations, the results indicate that the initial hypersecretion is always followed by hyposecretion after prolonged and repeated doses. Histopathological changes then begin to make themselves evident.

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ESOPHAGOSCOPY AND BRONCHOSCOPY, WITH REPORTS OF SIX CASES.*

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THE purpose in bringing this subject before a general medical society, such as this, is to call the attention of the general practitioner to a new method of great practical value in the more accurate diagnosis and treatment of diseases of the larynx, the trachea and bronchus, of the esophagus and stomach.

The art of bronchoscopy, esophagoscopy, and gastroscopy is in its infancy, but enough experience has been gained by many observers to make certain that endoscopy will do for the bronchus and the lung, the esophagus and the stomach, what the ophthalmoscope and the laryngoscope have done for the fundus of the eye and the larynx, bring them into the realm of organs to be examined directly by the sense of sight. Much experience will be required to interpret correctly the findings, because an entirely new field is being opened up.

One hundred years ago, in 1807, Bozini examined the upper end of the esophagus, and from that day to this, with many long interims of inactivity, there have been many efforts made and much thought directed to the invention of instruments that would permit of the visual examination of the esophagus. This is natural when one considers the frequency with which foreign bodies become lodged in both the food

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and air tracts, and the great fatality that follows their retention.

I shall give but a very brief sketch of the development of this art which is now become a practical one, thanks to the untiring zeal of many men in different lands during the past century.

Practically no advance from Bozini's attempt was made until Garcia, in 1856, discovered the laryngoscope. Shortly after, in 1861, Stoerck used the laryngeal mirror in examining the esophagus, the latter being held open by a speculum. In 1868, Bevan in England described an esophagoscope consisting of a straight tube four inches long and three-fourths of an inch in diameter, using a mirror with reflected light for inspection. In this same year, Kussmaul diagnosed a thoracic carcinoma, using a rigid tube. In 1881, McKenzie, using a modification of Bevan's tube, did considerable work along this line and much of it of distinct value. In 1881, Mikulicz designed an esophagoscope with an optical apparatus with prisms that could be inserted into the tube and by which he was able to inspect the esophagus throughout the entire length; he also entered the stomach and examined it, though in a very unsatisfactory manner. Had these early workers the assistance of modern methods of illumination and of anesthesia, esophagoscopy would have been an established art, certainly as far back as 1881, when Mikulicz recognized the need of some form of direct illumination, which was not at that time available.

In 1897, Kirstein described under the name of "Autoscopy" direct laryngoscopy and tracheoscopy, using an electric head lamp to throw the light directly down into the larynx and trachea, through a spatula inserted down to the base of the tongue between it and the epiglottis, by pressure forward drawing the epiglottis up and making direct inspection of the interior of the larynx possible in many, though not in all cases.

Kirstein's work, his head lamp doing away with reflected light, and his tube spatula, was the greatest advance made up to this time, in direct examination of the larynx and trachea. In this same year, Killian, of Freiburg, Germany, using Kirstein's head lamp and lengthening his spatula, so that he introduced it beyond the epiglottis into the larynx and even between the cords into the trachea, paved the way for the next advance which was by himself, viz., the introduction of tubes of various lengths and calibres down through the trachea and bronchus even to the third division. In this year Killian removed a foreign body from the bronchus by this direct method.

Esophagoscopy by this same method became at once a feasible and practical thing, and esophagoscopy and bronchoscopy from this time on went hand in hand.

In 1902, five years ago, Einhorn of New York, devised an esophagoscope having an auxiliary tube in the wall of the main tube for the passage of a light carrier to the distal end.

This was a radical departure, all previous methods of illumination having the light at the proximal end. In 1905, Chevalier Jackson, of Pittsburg, took the Einhorn tube and added to it another auxiliary tube to be used for drainage and suction of secretions. The principle of the light at the distal end he adopted in his bronchoscopes. In 1906, Jackson described his gastroscope, which is simply an elongated esophagoscope, and reported fourteen cases in which he had obtained results of value from gastroscopy, one of them being a case of extraction of foreign body from the stomach.

In 1907, Chevalier Jackson published the only book on this subject in the English language, entitled, "Tracheo-Bronchoscopy, Esophagoscopy and Gastroscopy," a book invaluable to one interested in the history, development and technic of this art.

In giving the brief outline of the development of this subject, a few names only have been mentioned, but there have been many original workers, and in addition to those given should especially be named Rosenheim, Von Hacker, Von Schrotter, Starck, in Germany and Austria, where most of the work had been developed, and in this country, Coolidge and Mosher, of Boston, Ingals, of Chicago, and Mayer, of New York.

As will have been observed, there are two methods of illuminating the tubes, viz., (1) that used by Killian, in which the light is either on the forehead, or the Caspar lamp is attached to the proximal end of the tube, the light being thrown down the full length of the tube, and (2) that used by Jackson, originally devised by Einhorn, the light here being from a small electric lamp at the distal end of the tube and near the object to be illuminated. There are advantages in both methods, though Jackson's appears to me to have the greatest advantage, though my personal experience is so limited that I am not a competent judge. I have seen both Killian and Jackson working on the living subject and both have the technic so perfectly developed that one could not see that either, in a master's hand, was an improvement over the other.

The instruments with which I have worked are Jackson's. The current is furnished by a dry-cell battery. The instruments which are here shown consist of a separable spatula for the direct examination of the larynx and trachea, two tubes for lower bronchoscopy and tracheoscopy, two for upper bronchoscopy, two esophagoscopic tubes for the examination of the esophagus, and one gastroscopic tube for the examination of the stomach.

The esophagoscopic tubes may be used for gastroscopic work on children. The tubes for esophagus and stomach are provided with two small auxiliary tubes, one for the passage of the light carrier and one for the suction of secretions from the distal end of the tube, leaving the field of vision clear. A suction pump is necessary, as well as suction tubes for introduction

down the main tube, as are many cotton or gauze carriers for mopping secretions, forceps for removing foreign bodies, sections of tumors, probes, hooks, and other accessory instruments.

The greater the variety of sizes of tubes for different cases the better. Killian advises eighteen different sizes of tubes. A recent model made by his assistant, Brüning, allows the tube to be lengthened or shortened at will. Improvements and modifications are being constantly made.

For direct laryngoscopy and tracheoscopy of adults, local anesthesia, the patient in the sitting position may be sufficient, and even bronchoscopy may be done in favorable cases under cocaine. As a rule, however, in operative cases and for the removal of foreign bodies, both in adults and children, general anesthesia is required, the patient lying on the table with overhanging head supported by an assistant. In esophagoscopy and gastroscopy deep general anesthesia is advisable.

Case I.—Penny imbedded in posterior wall of esophagus at cardiac end. Donald C., age 5 years. Foreign body present four and a half years. Removed under esophagoscopy, November 6, 1907.

Upper bronchoscopy consists in passing the bronchoscope through the mouth, larynx, and trachea into the bronchus, while lower bronchoscopy consists in passing the tube through a tracheotomy opening down to the bronchus. My clinical experience is based on the following six cases:

Case I.—Foreign body in the esophagus of a child. Donald C., age five years, residing in Cortland, N. Y., was brought to me by his parents on October 11, 1907, to have bougies passed to dilate a stricture of the esophagus which he was supposed to have had from birth.

He had considerable difficulty in keeping down milk from birth, throwing up a great deal from early infancy. Between six months and two years of age had two or three attacks of bronchitis, and wheezed a great deal of the time, the doctor regarding it as asthmatic trouble. At two years had a severe attack of dysentery. The following winter coughed and wheezed considerably, chest filling up when he ate and relieved on regurgitating his food. At about two and a half years he began having severe pain in the stomach, at times lasting several hours. Months would elapse without these attacks, and again they would continue for several weeks. Had been treated for stomach trouble up to this time.

One consultant said there was a narrowing of the pyloric end of the stomach and suggested gastro-jejunostomy. Following this he was treated for a year for chronic gastritis.

When four years of age he could tell about his swallowing, knowing as soon as he swallowed whether or not the food would be kept down, or regurgitated. He could at times get down cereals and these would often apparently enter the stomach. Could keep down liquids provided he drank them before eating any semi-solid food. Sometimes he would go three or four days without retaining even a drink of water, perhaps he would throw up a piece of food he had eaten several days previous, when he would get relief and could drink nearly a quart of milk or other liquid. Was constantly hungry, asking at times every five minutes for something to eat.

A few weeks before bringing the boy to me the parents had taken him to a well-known physician in Buffalo, who made a very careful examination of him, including a chemical examination of the regurgitated food, which he said had not entered the stomach, but had evidently been retained in a pouch. His diagnosis was a congenital stricture of the esophagus, and he advised that he be placed in the care of a laryngologist for the passage of esophageal bougies, which was the reason for his being brought to me. A congenital stricture or narrowing of the esophagus, near the cardiac end of the stomach had been the almost unanimous diagnosis of the greater number of physicians who attended him or who saw him in consultation at home or in neighboring cities.

He was undersized, rather listless and peevish, but in fairly good flesh, teeth badly decayed, nothing abnormal about the throat. I gave him a graham cracker which he readily ate with half a glass of water, and at once began to wheeze. Within two or three minutes he asked for a basin when the food was regurgitated, not vomited, and the wheezing ceased.

My diagnosis was a stricture at the lower end of the esophagus with a dilatation or pouch above it, and advised that a radiograph be taken after bismuth and milk were swallowed in order to localize, if possible, the stricture and dilatation, feeling it would be a very hazardous thing to pass bougies without more definite knowledge. That afternoon Dr. C. E. Coon made an examination with the X-ray. We first gave him four ounces of milk containing one ounce each of subnitrate of bismuth and gum acacia. He sipped this, taking twenty minutes to do it, but said it was all going down, and it was retained.

On developing the plate a round body the size of a ten-cent piece or penny was revealed opposite the fourth or fifth dorsal vertebra. The parents were appraised of this and they returned with the child on October 16, (five days later) when a lateral exposure was made to make sure the foreign body was a round flat body and not a spherical one such as a marble. This skiagraph showed it to be a flat body, apparently lying or in against the posterior wall of the gullet. The child was put under ether, and under the guidance of the fluoroscope, I introduced into the esophagus a long Mosher's alligator forceps encased in a soft rubber tubing, the child being in the recumbent position with down-hanging head. The fluoroscope showed plainly the progress of the forceps, and when it reached the foreign body the tubing was pulled off leaving the jaws of the forceps free. The distance from the teeth to the coin was eight and one-half inches, or about one inch from the cardiac end of the stomach. The forceps was opened when down to the coin, but notwithstanding

repeated attempts carefully made, the foreign body could neither be grasped nor felt.

We concluded, as we had at first feared might be the case, that the coin was probably encysted in the posterior wall of the esophagus. The child remained one night at the hospital, and the next morning returned home in good condition. I now ordered a set of Jackson's esophagoscopes and bronchoscopes and during the next three weeks familiarized myself with their use as well as I could.

On November 6th, the child entered the Women's and Children's Hospital. No food or liquids were allowed for eighteen hours prior to the operation. Atropin 1-150 grain was given, and ether administered by Dr. J. J. Buettner. I was assisted by Drs. Dutcher, Bogart and Coon. The child was placed in the dorsal position, with head hanging over the table, mouth held open with Ferguson's mouth gag. The esophagoscope 40 mm. long by 7 mm. was then introduced and a careful inspection of the gullet made, gradually extending the tube downward toward the cardia. The wall of the esophagus, pinkish in color was beautifully illuminated, and at the lower end, about seven inches from the teeth entered a distinctly enlarged cavity.

After more than an hour's searching, and using the probe to feel any metallic substance, but without result, I introduced through the tube a right-angled curette or spud-like instrument, which I had had made for the purpose, and gently curetted or scraped the posterior wall of the esophagus at a distance of about eight and one-half inches from the teeth, corresponding with the location we had made on the previous fluoroscopic examination. This was done very gently and carefully. On removing the spud and drying the surface of the few drops of blood, the edge of a coin was clearly seen. The long tube forceps was now introduced and on the second introduction, the forceps caught the coin firmly, and penny, forceps, and tube were all removed together. The child reacted well from the operation and was perfectly well the next morning, returning home in four days.

He made an uneventful recovery, not regurgitating any food after the second or third day, though ten days after operation he had an attack of acute indigestion. On December 10th, five weeks after the operation, the mother writes that he is doing splendidly, ate a soft boiled egg the previous day, is never hungry and rarely eats between meals, and he says there is more room now for his food. Whether a permanent stricture at the cardiac end of the stomach will remain, time alone will tell, but it is quite possible that as time goes on the thickening may gradually lessen and disappear, and the dilation or pouch become obliterated.

The penny had become absorbed to such an extent, that it lost 25 per cent. in weight, is thinner than a ten-cent piece, not more than two-thirds of its normal thickness, and in diameter is midway between a ten-cent piece and a penny. It had lodged in the posterior wall of the cardiac end of the esophagus probably when the child was six months old, possibly earlier, and had become imbedded or encysted, and had been there for at least four and a half years. At the rate of absorption that had been going on, had the child lived, the penny might have been absorbed in twenty years. The X-ray was of the greatest value, in fact without it, it is probable the cause of the obstruction would not have been revealed because the esophagoscope failed to discover it until the wall covering was curetted.

CASE II.—Foreign Body in the Trachea of an Eight-Months' Old Baby.

Dr. Hotaling called me in consultation on December 10, 1907, to see Baby K., age eight months, with a view to possible intubation. He had been called one week previous to see the baby for what appeared to be a slight cold, no hoarseness, no dyspnea, no fever, but a slight rattling in the trachea. The child seemingly began to improve and he was not called again for a week when he found the baby with well-marked laryngeal dyspnea, gastric and episternal recessions, some hoarseness on crying, no fever, no false membrane in throat or nose.

He called me to see the case at this visit and I found it as described. No pseudo-membrane was visible, and a laryngoscopic examination failed to show any exudate. A peculiar click in the breathing suggested a foreign body and on questioning, it developed that a week prior to Dr. Hotaling's first visit the baby had been given a piece of bread soaked in fish gravy to suck, and had immediately had a fit of suffocation, lasting several minutes, but relieved after slapping it on the back, etc. Nothing further was thought of it and the incident had been forgotten. Our diagnosis was a foreign body, probably a fish bone, lodged in the trachea or larynx. It could not be seen by the laryngeal mirror, nor in fact could the vocal cords. The dyspnea was not urgent, steam was prescribed, and arrangements made to have an X-ray picture made in the morning. Conditions were the same the next morning, a radiograph was made by Dr. Coon and nothing discovered. But the child was sent to the Women's and Children's Hospital where it remained under observation two days. A culture was negative. The dyspnea if anything lessened under steam inhalations, but satisfied that the dyspnea was due to either the presence of a foreign body or an enlarged thymus, the parents consented to a direct laryngoscopic examination under chloroform, to determine the cause and remove the foreign body if discovered.

Preparations for a possible tracheotomy were made, the child was given chloroform, and after much difficulty because of the age of the child, eight months, and its undersize, weighing less than sixteen pounds, direct laryngoscopy was made, and a splendid view, of the larynx, both vocal cords and trachea was obtained through the separable speculum. Several times during the examination it seemed that an immediate tracheotomy would be required, because of the threatening dyspnea. Located about an inch below the cords in the trachea, was clearly seen, a foreign body, seemingly attached to the right side of the trachea, but looking more like a piece of loose cartilage than a fish bone. Half a dozen physicians who were present, looking through the speculum, were able to see it perfectly. The chink of the glottis was so small that I was unable to pass even the smallest sized bronchoscopic tube between the cords into the trachea, though I made the attempt several times. However, I was able to pass and did pass several times, a pair of tubular forceps (Moshers' alligator forceps) through the speculum between the vocal cords and into the trachea, but failed to grasp the foreign body. While making one of these attempts to remove the body through the mouth, the breathing became so bad that it was necessary to desist and do an immediate tracheotomy. After opening the trachea, the breathing became good but the foreign body could not be found until introducing through the wound the small tracheoscopic tube, it was discovered and removed, and proved to be the fin of a fish.

A tracheal canula was inserted and worn for five days, at the end of which time it was removed and the wound closed on the ninth day.

It has been my fortune to have opened the trachea of twelve children under three years of age because of foreign bodies in the larynx, the trachea and the bronchus. In each case the diagnosis was made entirely from the history and the symptoms, and in no case did the X-ray reveal a foreign body; in some cases the X-ray not having been used, in others it was, but the substances did not give a shadow.

The foreign bodies were found and removed in eleven of the twelve, all the children in whom the foreign body was found, recovering, in the case in which it was not found, the child died. In no one but the case reported in this paper

was the foreign body seen before the windpipe was opened, and that this was done in this case, the youngest of them all, speaks volumes for this new direct method. Killian says the youngest child upon whom direct laryngoscopy or tracheoscopy has been done is eight months, the age of this baby.

Removal of Papilloma from Larynx.

Case III.—This boy, G. J., aged 19, had been hoarse from infancy. On examination he had multiple papilloma involving both vocal cords. These I attempted to remove in the ordinary way under cocaine, but never could completely remove them. Under cocaine anesthesia, I attempted their removal by direct laryngoscopy, but he was so sensitive it was not possible to sufficiently anesthetize the parts to allow of instrumentation. Under other anesthesia, however, and using the direct method I was able very readily to remove all of the papillomata, and finishing this, made an examination of both bronchi down to the last subdivision, finding them normal.

Case IV.—Miss M. S., age 14, rather anemic and of a marked neurotic temperament, was referred to me because of inability to swallow solid food. The statement was made that no solid food had been swallowed for two months. She complained of no pain, no other symptoms beyond nasal obstruction. The tonsils were enlarged and there was a large mass of adenoids. These I removed with great relief to the breathing, but with no change in the difficult deglutition. Two months later, thinking that it was probably a hysterical neurosis, yet being uncertain, I advised an esophagoscopic examination. This was done under ether at St. Joseph's Hospital on December 24th. Nothing abnormal was discovered, no obstruction, no ulceration, but half-way down the esophagus there was a very decided fluttering of the anterior wall of the esophagus against the esophagoscope. This was synchronous with the heart beat, and so loud that it could be heard outside of the body. On passing this particular point the fluttering ceased, and beyond this there was nothing abnormal, and I do not know that this was an abnormality of pathologic significance. I examined the stomach in this case for the sake of experience, but found nothing of note. I concluded it was a case of hysterical dysphagia in a highly neurotic young girl.

It is now four weeks since the examination, and she has had no trouble whatever in swallowing solid food as well as liquids, and says that she is entirely cured.

Case V.—This case was a Polish girl of 20 years, who was brought to the Women's and Children's Hospital in the middle of the night on December 18th with a history of having swallowed a pin several hours earlier. She felt that it was still lodged in her throat and complained of some dyspnea. She stated that a physician had made many attempts to examine and remove it with instruments.

On examination with the ordinary reflected light the pin could not be seen but there was a great deal of swelling of the right arytenoid.

A radiograph was made by Dr. Burch, but he was in doubt as to whether a foreign body appeared on the plate or not. I examined her under cocaine anesthesia, using the separable speculum, and found nothing more than the great swelling of the arytenoids. No pin could be seen either in the pharynx or in the upper end of the esophagus, and I concluded the sensation as of a foreign body was due to the swelling which followed its presence, and possibly due to the efforts at extraction, and that the foreign body had been expelled without her knowledge.

She remained in the hospital four days at the end of which time all swelling had entirely disappeared, as well as all sensation of a foreign body, and she was discharged.

Stricture of the Bronchus.

Case VI.—I was called on January 10, 1908, in consultation with Dr. Mulherin, to see Mrs. E., age 55 years, because of a dyspnea of obscure origin. The appointment was for three o'clock, but at one, an urgent telephone message came from the family, to come at once as the patient was dying. I reached there as quickly as possible and found Dr. Mulherin had preceded me by a few minutes. She was just recovering from an acute attack of dyspnea. Her forehead was clammy, covered with cold perspiration, hands cold, lips bluish, and breathing labored, but not alarmingly severe as she was now recovering from what had been a very severe attack of suffocation. The voice was clear. Dr. Mulherin had seen her in several similar attacks during the past year, and said they were relieved on the expulsion, by coughing, of a dark-grayish, thick, and tenacious mucupurulent discharge, the expulsion of which was made easier by the inhalation of steam, applications of heat externally, and the swallowing of vaseline. She had been having these attacks every few days for the past two months, and at longer intervals with less severity for eighteen months. A laryngoscopic examination showed no laryngeal obstruction, no abductor paralysis, and the trachea, as far as could be seen, was not obstructed. The difficulty was apparently at the bifurcation of the trachea, or in the mediastinum. There was a fullness of the right lobe of the thyroid with distinct pulsation, some dullness over the upper part of the chest on both sides in front. No bruit could be detected. The diagnosis of mediastinal pressure upon the lower end of the trachea or bronchi, or of some intra-tracheal or intra-bronchial obstruction was made, and she was sent to St. Joseph's Hospital for further observation and care. Here she came under the care of Dr. Elsner, on the medical side, and myself. Dr. Coon made several skiagraphs, some of which were unsatisfactory, but he thought he was able to detect a dilatation of the innominate. Dr. Elsner's opinion was that a mediastinal tumor was causing the dyspnea.

After entering the hospital she had no severe attacks of dyspnea, though the breathing was labored at all times, more on exertion, but when quiet was not very troublesome. Inhalations of steam were prescribed every two hours.

A bronchoscopic examination was made under ether on January 18th. The separable spatula was introduced down to the larynx, which was free from obstruction, the bronchoscopic tube was then inserted between the cords, discovering no obstruction here until the bifurcation was reached. At the bifurcation of the trachea, as detected both by the eye and the probe, was a mass of cicatrical tissue which extended into the right bronchus on the right side and seemingly narrowed the left bronchial opening to a narrow slit, through which the large bronchoscopic tube could not pass. An inch below the bifurcation in the right bronchus there was a web of cicatrical tissue encircling the circumference of the bronchus and narrowing the caliber of the tube at least a half. The large bronchoscope was removed and a smaller one inserted and passed through the narrow opening into the left bronchus.

I was able to demonstrate the bronchial strictures and the cicatricial tissue at the bifurcation to the eight or ten physicians who were present, and who were able to recognize the conditions as clearly as I could. It is possible the left bronchus was narrowed by external pressure as well as by the scar tissue. The diagnosis was syphilitic stricture of both bronchi with probably some glandular thickening in the mediastinum which might account for the shadows as seen in the radiograph. I was not aware that I had seen this patient before, but learned at the time of the examination that I had treated her at the dispensary some years previous for some throat affection, the nature of which I had no recollection.

After the examination I looked up the dispensary records and found I had treated her five years ago for

a tertiary syphilitic ulcer on the posterior wall of the naso-pharynx, and which had promptly healed under the iodids.

The patient is now on large doses of the iodids and mercurial inunctions, steam inhalations being continued, and it will be possible, I think, to remove the web in the right bronchus with a cutting forceps.

Gustav Killian, of Germany, who is the father of bronchoscopy, had, himself, up to last June removed 35 foreign bodies from the bronchus, the trachea, larynx and esophagus by this method. There have been altogether more than 200 foreign bodies removed from the lower air passages by this direct method.

Of 159 cases of foreign bodies lodged in the deeper air passages collected by Killian, but 21, or 13 per cent. died, and of these, two resulted from cocaine, in two the foreign body could not be removed on account of bronchial stenosis, and one died of suffocation, leaving but 16, or less than 10 per cent. on which death resulted from failure of this method. The character of the foreign bodies was as various as foreign bodies can be, and included needles, pebbles, collar buttons, tacks, screws, nails, pieces of bone, tin whistle, beans, fruit stone and pits, false teeth, nuts, nut-shells and many safety pins, both open and shut. Many of them were recent, while others were imbedded or encysted. They were lodged in the trachea, in the bronchus, or even in the smaller bronchial subdivisions.

The X-ray is most valuable in establishing the presence and the location of the foreign body, but in more than half the cases, unfortunately, owing to their character, the X-ray will not show the presence of the foreign substance. The radiograph may show it when the fluoroscope fails.

Not for foreign bodies alone is this method useful. In diagnosis and treating laryngeal tumors, tracheal ulcer, discovering cause and location of pressure on trachea or bronchus, as by goitre, mediastinal tumors, etc., in the future perhaps treating tuberculous lesions, locating lung abscesses, and in many other ways has this new and wonderful art a great future.

In esophagoscopy, the accurate diagnosis and treatment of diseases of the esophagus becomes possible. The causes of painful and difficult deglutition, the etiology, diagnosis and localization of esophageal obstructions and strictures, is taken out of the realm of things to be felt and placed in the class of things to be seen by the eye.

In the treatment of foreign bodies in the esophagus, probes and coin catcher are instruments happily to be discarded. They have caused the death of many persons, and now that we do not have to work in the dark, are too dangerous to use. The esophageal bougie, especially the metallic one, will soon be an instrument to be used only for dilating strictures which have first been localized and their nature determined.

The esophagus is one of the most sensitive organs in the body and cannot be ruptured without causing death, and the wounding of it by foreign bodies or instruments is frequently followed by abscess and death. Esophagotomy will still have to be done in the removal of certain foreign bodies, too large, too sharp, and too ragged to allow of their being drawn out of the esophagus, because of the danger of rupturing the wall; but before determining that esophagotomy is required, esophagoscopy should first be done to localize and discover the nature of the foreign body. Killian in one case found he had a vulcanite tooth plate with several teeth lodged at the cardiac end of the esophagus. It was too large to be drawn out, so he passed a galvano-cautery wire loop down beyond the plate, snared it, turned on the current and cut the plate in two pieces, removing it without any cutting whatever.

Through his gastroscope, Jackson has diagnosed gastric ulcers, papilloma and carcinoma, has removed, with cutting forceps, sections for microscopical examination, and has demonstrated that two-thirds to three-fourths of the stomach wall is directly open to inspection by the eye, that in many cases, the pylorus is capable of direct examination.

THE PURSE-STRING SUTURE. ITS RIGHT AND WRONG APPLICATION IN APPENDECTOMY.

By J. FIELDING BLACK, M.D.

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IT is not my purpose, in this communication, to decry other people's methods of doing an appendectomy, nor to uphold and advance the method I am about to describe as being the best and only way.

I constantly hear medical men asking why there is not a universal method of dealing with the appendix, and a universal way of making the abdominal incision, instead of forever quibbling and squabbling over this, that, and the other method of doing the operation.

At the last meeting of the American Medical Association at Atlantic City, one man made a remark to that effect during the discussion on one of the papers.

It is childish in the extreme to make such suggestions.

The greater the number and variety of ways and means, the better off we are.

No two cases of appendicitis have an intra-abdominal condition exactly alike in all details. On the contrary they may be so dissimilar in many respects, as to require two operations so unlike that one could scarcely realize they have the same object and end in view.

The more tricks a conjurer has up his sleeve, the more successful will he be. And so it is with a surgeon, for the more operations he has up his sleeve the better will it be for his patients.

The operation should be chosen that will best

suit the case in hand, and therefore it is imperative to be familiar with all the best methods in vogue.

Not a few deaths have recently been reported as a result of bleeding from the appendicular stump, following the purse-string suture, which is a terrible disaster to fall on any of us, more especially when a healthy appendix was removed as a minor part of a more serious intra-abdominal operation, as reported recently by an able surgeon. I have not been so unfortunate, but I have had two or three hemorrhages following appendectomy by the purse-string method, as it is at present performed and described in text-books.

The simple ligature method as advanced by Wyeth in his paper, read at the last meeting of the American Medical Association, has distinct advantages, principally in that hemorrhage is absolutely avoided, and this technic should be used in all interval cases, and in acute cases where the base of the appendix is resistant enough to sustain the ligature after it is tied firmly.

Fig. 1.

Some men say they use the simple ligature in all cases, but in my experience this would be impossible, for I have frequently seen appendices gangrenous, or so friable right down to the base, and in some cases into the cecum itself, that a ligature would be of no avail and would cut through all the coats, and a fecal fistula result, if not death from septic peritonitis. In these cases some form of suture must be applied well back in the cecum, as far from the diseased tissue as practicable. It is not to be wondered at that hemorrhage results from the stump of the amputated appendix when the purse-string suture is applied as I myself formerly applied, and as I see it done by other surgeons, and as described in all the works in surgery that I have been able to refer to. Even large volumes devoted to the subject of appendicitis exclusively

Fig. 2.

by well-known authors describe and illustrate a purse-string suture (under the name of Dawbarn's method), the technic of which being followed, will surely, sooner or later, lead to dangerous and alarming hemorrhage.

In 50 per cent. of the cases the appendicular artery courses in or on the wall of the appendix. When the main artery is in the meso-appendix, the latter being tied off separately, there is not much danger from bleeding by any good method. But when the vessel is in the appendix wall, or when the organ receives most of its blood supply from vessels branching over from the cecum, as occurs in a certain percentage of cases, then we may expect bleeding from the cut edge of the base of the appendix into the interior of the cecum, when amputated and turned in, according to the usual way of applying the purse-string suture. Many operators do not even penetrate all the coats, and some I have seen aim only to pick up the peritoneum.

Fig. 1 shows a purse-string suture improperly and dangerously applied around the base of

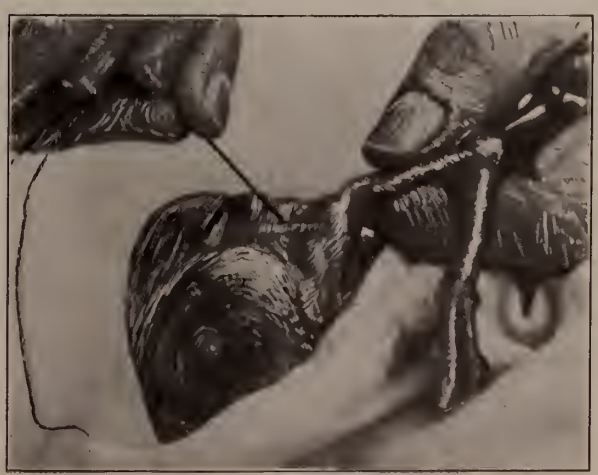

Fig. 3.

FIG. 4.

an appendix, as the operation is usually performed. If a little careful thought is given the subject it will be seen that that portion of the appendicular or cecal wall that is under the loop of suture (a) will, when the stump is inverted and the suture tied, be hanging loose in the cecum, and should a vessel be in this tissue there is nothing in the world to prevent it from bleeding. And so it is with those portions of the wall under all the loops, and there may be four to eight. The only portion of the wall of the cecum, or base of the appendix, as the case may be, that will be strangulated when the stump is inverted and the suture tied, is that portion represented in the illustration at (b) Fig. 1. In other words the only portion of the suture that will be of any avail in arresting hemorrhage after inversion is that portion that goes under the wall during the process of insertion.

Fig. 2 is the same specimen as Fig. 1, with the appendix inverted and the cecum turned inside out. The suture has not been drawn up tight, but when it is, it can easily be seen that the portions of the wall at (a) will not be strangulated, which is the part represented in Fig. 1 at (a). The only portions that will be included in the suture are those under the loops (b), which are represented in Fig. 1 at (b).

Fig. 3 represents the proper way to start the application of the suture. The needle is held perpendicularly to the cecal wall at the base of the appendix, and passed well through into the lumen of the gut. The point is brought round and made to emerge undermining one-quarter of the circumference of the base of the cone to be inverted. The needle is drawn out, and immediately reinserted as near as it is possible to do so, to the point of exit (see Fig. 4), undermining another quarter, and so when finished four long loops will be within the cecum. It is important to place one of these loops under the site of the attachment or the mesa-appendix, rather than to allow the needle to emerge at this position, and by so doing make sure of including any vessels that may be here present within the suture's grasp.

Fig. 4 shows the needle transfixing the base at this site. In this photograph can be seen a small black spot (being pointed at by a scissors blade), this one, along with three others, is the only portion of the suture that will be seen on the cecal wall after the insertion. The minute pieces of tissue under these spots are the only places where bleeding could occur, and it certainly could not be serious, if ever recognized.

The four quarters undermined by the needle will, after inversion and tying of the suture, be completely strangulated. Hence a minimum of tissue is excluded and a maximum of tissue is included in this purse-string suture.

Fig. 5 is the same as Fig. 4, the appendix being inverted and the cecum being turned inside out. It can at once be seen that the base of the organ is almost completely surrounded by a ligature, so that hemorrhage is next to impossible. There need be no fear of causing leakage by going through all the coats into the lumen of the gut, but you will rest better at night if you place a few Lembert sutures over the site of the first.

Contrary to the views of some authorities, I believe silk to be the best material to use, if a fecal fistula is feared. Also in the presence of pus I use silk, otherwise an absorbable suture material should be employed. This suture does not "run up" as easily as some other forms of purse-string suture, so that care must be taken thoroughly to invert the stump before beginning to tighten the ligature.

FIG. 5.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

By JAMES J. WALSH, M.D.
NEW YORK.

John Stearns.

(*Continued.*)

The position of Secretary of the Medical Society of New York State gave Dr. Stearns a wide acquaintanceship, and his executive ability attracted attention. He was elected to the New York State Senate, and served for four years. After his term he continued to reside and engage in practice in Albany. Here he proved very successful. In 1817 he was elected president of the New York State Medical Society, and was re-elected for the three successive years, until 1820, an honor that has never been conferred on any president since. Toward the end of his term as president of the State Medical Society, Dr. Stearns removed to New York, where he became prominent as a practitioner and consultant, and contributed a number of articles to the medical periodicals of the day.

When the New York Academy of Medicine was organized in 1846, it felt that its first president should be a man distinguished not only in the profession, but also in public life and known to all the State for liberality and uprightness of character. Dr. Stearns, accordingly, was chosen to the office. At the time he was over seventy-five years of age, but he was still not only possessed of vigorous mentality, but was also active in the pursuit of his professional duties.

His address before the Academy, when taking the position of president, contains some striking sentences that deserve to be quoted. He said: "Let no imposter obtain admission within its sacred walls. Let the inscriptions on your portals be 'Esto perpetua' (Mayest thou last forever). Remember the academy is consecrated to health, to happiness and to harmony, which I trust will always be its prominent characteristics, and may it be the nursery of thousands and tens of thousands, and rise like the sun in all its meridian glory to shed its scientific rays over the whole world." The closing sentences of the address are: "Could I be assured of the uninterrupted, enduring prosperity of the academy in disseminating health, happiness, and sustaining the principles of life, I should die in peace with effusions of gratitude and praise to Almighty God for his permanent blessings upon our labors."

Only a little more than a year after taking the chair of president of the academy, Dr. Stearns became a martyr to his desire for medical knowledge. His death was the result of a dissection wound, received while performing an autopsy on an interesting case whose condition the enthusiastic old physician wished to investigate very carefully, because it had proved so puzzling during life. At the time of his death he was in his seventy-ninth year, and his obsequies were attended by many of the most prominent people of the city. His private life had furnished the example of a good citizen, an unselfish gentleman, a trusty friend and an honorable professional man.

Dr. Stearns' principal contribution to medicine was an article, published in 1807, in the eleventh volume of the *New York Repository*. It contained his observation on the use of ergot in obstetrics. Dr. Stearns was the first in this country to direct attention to the value of this drug, and his reputation as a thoroughgoing conservative practitioner tempted many physicians to employ it sooner than would otherwise have been the case, and so led to the speedy introduction of the drug into American practice. His observations with regard to it are entirely original, and are of distinct value, even at the present time, for they show that he realized the necessity for using it carefully and with proper regard to the conditions of the pelvic outlet in the particular case. At that time the substance was used as a powder rather than in any extract form, and Dr. Stearns speaks of it by its principal therapeutic activity as *Pulvis parturiens*.

SAMUEL LATHAM MITCHELL.

Dr. Samuel Latham Mitchell, the seventh president of the State Medical Society, who was elected in 1821, and served for two terms, was one of the most learned of his generation, not only in medicine, but in all branches of science, and may indeed be considered as one of the leading scientists in America during his time. In the days when there was practically no specialism, he seems to have known everything and to have written about nearly everything. Most of his views are much more modern than might be expected, and his scientific abilities were acknowledged in Europe, many of his papers being printed in the *London Philosophical Magazine*. Withal, he was a very practical man. He accompanied Fulton on the first voyage of his steamboat, and was one of the founders of West Point, and a successful politician, of the better class, serving a term eventually in the United States Senate.

Dr. Mitchell was born in North Hempstead, formerly Plandome, Queens County, L. I., New York, on August 20, 1764. In this village his father, Robert Mitchell, of English descent, was an industrious farmer, of the Society of Friends. The father died in 1789, leaving behind him six sons and two daughters, most of whom he lived to see respectably settled for life. Samuel was the third son, remarkable for those habits of observation and reflection which were destined to elevate him

to an enviable distinction among his contemporaries; and fortunately for mankind, his talents and laudable ambition met a discerning and liberal patron in his maternal uncle, Dr. Samuel Latham, a skilful and intelligent medical practitioner in his native village. Young Mitchell received his classical education under the learned and accomplished Dr. Leonard Cutting; the elementary principles of medicine under his uncle Latham; and completed his professional studies in New York, with the erudite Dr. Samuel Bard, with whom he continued three years—a devoted pupil.

The condition of affairs in New York, owing to the occurrences of the Revolutionary contest, and the occupancy of this city by the British, led young Mitchell to avail himself of the advantages held out by the University of Edinburgh, where he arrived in 1783, which was at that time adorned by the talents of Cullen, Black, Duncan and Monro. Here he enjoyed the gratifying intercourse of many remarkable students, and among his fellow-companions were the late Sir James Mackintosh; the excellent Dr. Caspar Wistar; Richard S. Kissam, the popular surgeon; William Hammersley, long a professor in Columbia College; and Thomas Addis Emmet, still so well remembered as pre-eminent at the New York bar.

Dr. Francis, in his "Old New York," * has much to say of Dr. Mitchell, who, after his return from Europe, occupied a very prominent place in the scientific, literary and social life of the rising metropolis. It would be impossible to appreciate these striking views of a contemporary of Dr. Mitchell, who knew him well, unless they were quoted in Dr. Francis' own emphatic words and style:

> The universal praise which Dr. Mitchell enjoyed in almost every part of the globe where science is cultivated, during a long life, is demonstrative that his merits were of a high order. A discourse might be delivered on the variety and extent of his services in the cause of learning and humanity. Dr. Mitchell's character had many peculiarities; his knowledge was diversified and most extensive, if not always profound. Like most of our sex, he was married, but as old Fuller would say, "the only issues of his body were the products of his brain." He advanced the scientific reputation of New York by his early promulgation, when first appointed professor in Columbia College, of the Lavoisierian system of chemistry. His first scientific paper was an essay on Evaporation; his mineralogical survey of New York in 1797 gave Volney many hints; his analysis of the Saratoga waters enhanced the importance of these mineral springs. About this time he published "An Account of the State of Learning in Columbia College." His ingenious theory of the doctrine of septon and septic acid gave origin to many papers, and impulse to Sir Humphry Davy's vast discoveries; his doctrines on pestilence awakened inquiry from every class of observers throughout the Union; his expositions of a theory of the earth and solar system captivated minds of the highest qualities. His speculations on the phosphorescence of the waters of the ocean, on the fecundity of fish, on the decortication of fruit trees, on the anatomy and physiology of the shark, swelled the mystery of his diversified knowledge. His correspondence with Priestley is an example of the delicious manner in which argument can be conducted in philosophical discussion. His elaborate account of the fish of our fresh and salt waters adjacent to New York, comprising 166 species, afterwards enlarged, evoked the plaudits of Cuvier. His reflections on somnium—the case of Rachel Baker—evinced psychological views of original combination. His numerous papers on natural history enriched the annals of the Lyceum, of which he was long president. His researches on the ethnological characteristics of the red man of America betrayed the benevolence of his nature and his generous spirit. His fanciful article, "Fredonia," intended for a new and more appropriate geographical designation for the United States, was at one time a topic which elicited a voluminous correspondence, now printed in the proceedings of the New York Historical Society.
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> He increased our knowledge of the vegetable materia medica of the United States, and he wrote largely on the subject to Barton of Philadelphia, Cutler of Massachusetts and to other philosophers in Europe, on noxious agents. He largely seconded the views of Judge Peters on gypsum as a fertilizer. He cheered Fulton when he was dejected; encouraged Livingston in approbation; awakened new zeal in Wilson when Tompkins, the Governor of the State, had nigh paralyzed him by his frigid and unfeeling reception; and with Edward Pintard, Cadwallader D. Colden and Thomas Eddy, was a zealous promoter of that system of internal improvement which has stamped immortality on the name of Clinton. He co-operated with Jonathan Williams in furtherance of the military academy at West Point; and for a long series of years was an important Professor of Agriculture and Chemistry in Columbia College, and of Natural History, Botany and Materia Medica, in the College of Physicians and Surgeons of New York. His letters to Tilloch of London on the progress of his mind in the investigation of septic acid—oxygenated azote—is curious as a physiological document. Many of the leading papers from his pen are to be found in *The London Philosophical Magazine* and in *The New York Medical Repository*, a journal of wide renown, which he established with Miller and Smith; yet he wrote in the *American Medical and Philosophical Register*, the *New York Medical and Physical Journal*, the *American Mineralogical Journal* of Bruce, the *Transactions of the Philosophical Society of Philadelphia* and supplied several other periodicals, both at home and abroad, with the results of his cogitations. He accompanied Fulton on his first voyage in a steamboat in August, 1807; and with Williamson and Hosack, he organized the Literary and Philosophical Society of New York in 1814. He was associated with Griscom, Eddy, Colden, Gerard and Wood, in the establishment of the Institution for the Deaf and Dumb; and with Eddy and Hosack may be classed with the first in this city, in respect to time, who held converse with the afflicted mute by means of signs. With Dr. Townsend and Sylvanus Miller, he disinterred a mammoth at the Walkill in Orange County, in 1818; and constituted a prominent member of the Convention held at Philadelphia, in 1819, for preparing a National Pharmacopœia.
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> He was one of the commissioners appointed by the general government for the construction of a new naval force, to be propelled by steam—the steamer, Fulton the First. While he was a member of the United States Senate, he was unwearied in effecting the adoption of improved quarantine laws and aided Dr. Richard Bayley in the undertaking; and among his other acts important, to the public weal, was strenuous to lessen the duties on the importation of rags in order to render the manufacture of paper cheaper, the better to aid the diffusion of knowledge by printing.
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> As a physician of that renowned institution, the New York Hospital, he never omitted, when the opportunity presented, to employ the results of his investigations for clinical appliances. The simplicity of his prescriptions often provoked a smile on the part of his students, while he was acknowledged a sound physician at the bedside. His anecdotical remarks on the theories and sys-

*"Old New York," or, Reminiscences of the past sixty years. New York, 12mo, 1858.

tems at once declared that he was fully apprised of previous therapeutical means, from the deductions of Hippocrates and Pliny, Boerhaave and Hoffman, to the fanciful speculations of Brown and Darwin. He was filled with the precepts of the Salernian code. But his great forte was natural history. Here his expositions of that vast science, in its several ramifications, gave the best proofs of his capacious stores of bookish wisdom and personal knowledge. He may fairly be pronounced the pioneer investigator of geological science among us, preceding McClure by several years. He was early led to give his countenance to the solidity of the Wernerian theory, but had occasion to announce his belief from subsequent investigations in after life, that the Huttonian system was not wholly without facts deduced from certain phenomena in this country. His first course of lectures on natural history including geology, mineralogy, zoology, ichthyology and botany, was delivered, in extenso, in the College of Physicians and Surgeons in 1811, before a gratified audience, who recognized in the professor a teacher of rare attainments and singular tact in unfolding complex knowledge with analytic power. Few left the lectures without the conviction that an able expositor had enlisted their attention. He, in fact, was a great teacher in that faculty which included Hosack, Post, Macneven and Mott.

Dr. Mitchell was specially known for the extent of his information. Like Gladstone, at the end of the 19th century, it was considered to be practically impossible to find a subject on which he was not full of information. A favorite remark among his friends was, "Tap the doctor at any time and he will flow." When quite a young man he used to show off his wonderful memory by repeating a sermon after his return from church almost verbatim. He was not, however, given much to display, but had the feeling of satisfaction that always comes with the exercise of a faculty. His funeral was a great public demonstration. Dr. Francis tells the story of having asked the sexton, as he lingered by the grave after the funeral, whom he had just buried, and receiving the reply, "A great character; one who knew all things on earth and in the waters of the great deep."

In the prime of his manhood Dr. Mitchell was about five feet ten inches in height, of comely, rather slight and erect form; in after life he grew more muscular and corpulent, and lost somewhat of that activity which characterized his earlier years. He possessed an intelligent expression of countenance, an aquiline nose, grey eyes, and full features. His dress at the period he entered into public life was after the fashion of the day, the costume of the time of the Napoleonic consulate; blue coat, buff-colored vest, smalls and shoes with buckles. He was less attentive to style of dress in his maturer years, and abandoned powder and his cue. On account of a hemorrhagic tendency of his chest at the age of 17 years he adopted exercise on horseback, and was fortunate enough to avert the progress of pulmonary evils. His personality, however, varied in advanced life with the cogitations of his graver years, and he might at times be seen without hat or overcoat exposed to the vicissitudes of inclement weather. His robustness preserved his full features, and to the last not a wrinkle marked his face, nor did lapse of years modify his thirst for knowledge or his cordial and prompt and sprightly utterance; thus setting at naught the declaration of the poet:

> "Old age doth give by too long space
> Our souls as many wrinkles as our face."

Just after Dr. Francis, in his biography of him as contained in Gross's American Medical Biography, has said "But I must desist," there is the following very characteristic overflow of his affectionate regard for his great contemporary:

The inhabitants of New York will long bear him in grateful recollection and the Historical Society cherish his memory for the distinction he shed over that institution; for his unassuming manners, his kind nature, and the aid he was ever ready to give to all who needed his counsel. For their collections he furnished a eulogium on the great jurist, Thomas Addis Emmet; on Dr. Rush; also on Dr. Samuel Bard and De Witt Clinton. His "Discourse on the Botanical Writers of North and South America" is printed in their *Transactions*. Our addresses might be mentioned, abounding in curious facts and historical interest. For public occasions he was ever ready for any emergency. He addressed the Black Friars and glorified St. Tammany, whose genealogy he elaborated with antiquarian research. The Krout Club and the Turtle Club he enlightened by his gastronomic knowledge and natural science; while the naturalists of Long Island, at Prince's Garden, were stimulated to renewed efforts by his laudatory strains in behalf of botany and the Knight of the Polar Star, the world renowned Linnæus. Dr. Mitchell has not unjustly been pronounced the Nestor of American Science.

(*To be continued.*)

The Paris Municipal Council has decided that a street in that city shall be called after Elisée Reclus, to commemorate a literary and scientific man; also that a statue is to be erected to his memory, Clemenceau being favorable to the project. Dr. P. Reclus protests against it. "To live in our hearts and memories, he does not need to be misrepresented in an ugly monument, wearing a frock coat and seated in an armchair!" "You will be given a statue," said someone to him toward the close of his life. "Well, I hope for a comrade to pull it down and plant a fruit tree in its place," was the characteristic retort of the modest old man.

Partisan politics has no place in municipal health affairs, and it should occupy a far more subordinate place in State and national affairs than heretofore has been the case. The teachers, the newspapers, the great lay leaders of public opinion, should endeavor to create a public sentiment in this country which will make it impossible for a man to secure the support of intelligent people unless he comprehends and makes as one of the planks of his platform, as Gladstone and Disraeli and other great European leaders did, the care of the public health the first and most important duty of a statesman.—*Dr. J. N. McCormack.*

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Editorials.

FOR MEDICAL LIBRARIES.

A MEDICAL community with a medical society is invariably progressive, but if it adds to this a good medical library, it adds to its progressiveness stability.

An hospital, a laboratory or a society is often the nucleus of interest about which a medical community gathers, but none of these can appeal so strongly to the largest number of the substantial element of the profession as does a medical library. One of the reasons for this is that a medical library is not possible in a community which is not sufficiently advanced to have a successful medical society. The hospital and the laboratory in a given community do not offer like opportunities to all, and the voice in their management and work comes from but a few. For these reasons they do not always lead to general professional harmony.

A society is governed by the indescribable "spirit of the hive" or by some dominant character, and its interests rise and fall, unless it be a great organization or has property interests or vested rights affecting its members. But a medical library in which all members have a right and which depends for its existence upon the interest of all, when once established and appreciated, becomes a center of common sympathy and the strongest of bonds for holding a medical organization in harmony.

A society with such a library possesses a great cohesive power. Men who are advanced enough to maintain a society will often rally about the interests of a library when but passive in other things. They may have their differences in the hospital and in the society, but they will be found united for the library. Such a library becomes their pride. They know its worth. Their common interests crystallize about it. It diffuses through the whole society high ideals, a rsepect for that which is scholarly and worthy of reverence, and a love for the noble traditions of their profession.

As a library develops and grows it should add in the order named the following classes of literature: First, the current periodicals; second, the newer medical books; third, the completed sets of periodicals and reports; and fourth, the older works—the writings of the fathers—in which glimmer the beginnings of the art and science of medicine. Every medical community should have a library begun and developed on these lines.

Let us take as an example the possibilities of library development in New York State. It would be possible, and, indeed, it is so feasible that the near future will see its consummation, for every county society or other county organization, to which all physicians are eligible, to have its medical library. In sparsely settled counties the library-supporting organization might be geographically larger. Physicians are learning the value of community of interests. There is no need of five doctors in a single village all having a complete set of the same reference work when none of them has some other thing which is of just as much importance. It would be wiser if they pooled their interests, and then, with the same amount of money, they could have five different things instead of one. The next step is short: it is the establishment of a central place where these things shall be available to all. When that step is taken the development of a library with its beneficent influence is begun. A little attention keeps it alive, and the forces of nature feed it.

It only requires a word, here and there, to turn into it the library of a deceased physician, which otherwise would be dissipated and ultimately find its way to the junk shop. A little co-operation with a neighboring library exchanges duplicates for things needed. The American Association of Medical Librarians conduct a clearing house for just this purpose. Time is the all-important factor in the growth of a library. A library which is kept sound is as sure to grow

as an oak sapling. It is hard to stop it. One of the greatest libraries in this country, that of the College of Physicians of Philadelphia, organized when Philadelphia was a village, can be pointed to as a product of time. For nearly two centuries medical books have gravitated to it, until now it is a veritable treasure-house of medical literature. Time does it. The community which contemplates organizing a library is squandering its best capital in delay.

The important factor in the beginning of such an undertaking is that every available person shall have an interest and shall contribute something. A library in a small community to which everybody contributes two dollars a year is worth twice as much as one in which the same total sum is contributed by one or a few individuals. "Our Library" is the talisman of success.

New York State is situated most fortunately for medical library development. It has two large medical libraries to which the whole profession has access and which send books to any part of the State upon request to members of the State Society. These are the Kings County Library and the State Library at Albany. For this reason it is not necessary that the smaller libraries should contain the more rare and little called for books.

The Medical Society of the State of New York is in a position to render much aid to communities which will organize libraries. It has a valuable collection of books amounting to about 7,000 volumes. The Medical Society of the County of Kings is the first county society to avail itself of this collection. This society's library, under the conditions of agreement has accepted but a few of these books, and practically none of the books which would be most desired by the smaller libraries. It has taken only books of which it has no duplicates, and that means a few old publications. The State Society offers this collection to county societies which will establish libraries, and it is an offer that may well be taken advantage of by progressive communities.

The medical journals which are received in exchange, and books which are sent by publishers for review by the medical journals published in this state, should all be finding their way into libraries for the benefit of the whole profession. The New York State Journal of Medicine is carrying out this plan. For the past two years and a half every journal received in exchange and every book sent to this journal for review have been preserved in a County Society library where they may be of use to the whole profession. With their characteristic spirit of altruism, physicians have not retained the books for their own as the price for writing reviews, but have let them revert to the general good. It may be noted here that the Medical Society of the County of Kings receives a considerable number of journals and books from other sources which are duplicates of those received through the New York State Journal of Medicine. These might be made available for other libraries in the State, and it is certain that further systems of co-operation among libraries and publications may be inaugurated.

It is to be hoped that New York State will add to its already established libraries many others, among which the spirit of co-operation may move, until the State is dotted with these storehouses of medical learning, and each community becomes a permanent custodian of the literature of medicine.

SOME NEW YORK VITAL STATISTICS.

DURING the past month the total number of deaths reported in New York State was 12,681, being a decrease over the five years' average for the same month, which is 13,141. This gives a death-rate of 17.8, the birth-rate being 24.6 per 1,000. When we come to compare the city death- and birth-rates with those of the country we find in cities the death-rate to be 18.7 and the birth-rate 25.5; while in the rural districts the death-rate is 16.6 and the birth-rate 16.2. Both death-rate and birth-rate are higher in the city than in the country, but in the country the birth-rate is lower than the death-rate, the reverse being the case in the cities.

Cities which reported more deaths than births for this month are Albany, Troy, Auburn, Newburgh, Cohoes, Middletown and Watervliet. The highest annual death-rate is shown by Watervliet, which is 25.3 per 1,000. The lowest death-rate is shown by Oneida, which is 6.8 per 1,000. Yonkers shows the highest birth-rate (41.9), and the lowest birth-rate is shown by Troy (10.2) and Albany (10.8). Other cities having high birth-rates are Dunkirk (35.2), Rochester (31.6), Amsterdam (31.6), Greater New York (30.8), and Oswego (27.5). These figures are from the monthly *Bulletin* of the New York State Department of Health.

DR. GEORGE HUNTINGTON AND HUNTINGTON'S CHOREA.

WE have always been of the opinion that the best time to do honor to a man, who is worthy of honor, is while he is alive: the ears of the dead are deaf. *Neurographs,* Vol. I, No. 2, 1908, actuated by this principle, devotes a whole number to the discussion of hereditary degenerative chorea, commonly known as Huntington's chorea, and to the man whose name has been given to this disease. Our accurate knowledge of this condition dates from 1872, when Dr. George Huntington wrote the classic description which has served as the clinical guide in its identification. This article was published in the *Medical and Surgical Reporter,* Philadelphia, April 13, 1872. It was widely abstracted, appearing in Virchow's and Hirsch's *Jahrbuch,* for 1872, and partly reprinted in Osler's "Chorea," published in 1894. Up to the present time there have been published over two hundred articles on the disease, references to which are given in the number of *Neurograps* above referred to, and it may be said that a very wide interest has been accorded to it.

The chorea described by Huntington presents three characteristics: It is hereditary; there is a tendency to insanity; and it manifests itself only in adult life. In this country the disease seems to have originated among the early settlers of New England and the Middle States and to have some relation to intermarriage. The cases observed have been in patients who were the children either of such choreics or of parents who died before the disease developed. The histories of the disease show a most interesting family continuity. Huntington observed that it never skips a generation to manifest itself in another; once having yielded its claims it never regains them.

It is good to know that the man who first gave the classic description of this disease, and whose name is now committed, for all time, to the nomenclature of science, is an honored general practitioner of medicine at Hopewell Junction, Dutchess County, New York, preferring the simple life of a country practitioner, with the advantages of rural life for his children, to the stress of the city. Born at Easthampton, N. Y., where his father and grandfather had practiced medicine before him, he has continued the period of practice of three generations, which began one hundred and eleven years ago.

It is wise and profitable for medicine to take notice, now and then, of the men who have contributed the new things to the knowledge of our science. Among these is Dr. George Huntington, to whom we wish long life and many more years of usefulness.

DAY CAMPS FOR CONSUMPTIVES.

THE Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York last year made use of an old ferryboat as a day camp for consumptives. This project attracted much attention and was received by those interested in the prevention and cure of consumption as an important contribution to the means to be more extensively developed for the adequate treatment of consumption in New York City. In many respects the plan is similar to the one carried out by the Boston Association for the Relief and Control of Tuberculosis. That association has operated for a number of years a summer camp in the city of Boston, and met with marked success. The small cost of this method of treatment is one of its claims to serious attention. The Boston camp had a daily attendance of seventy-five patients, to whom were given medical and nursing oversight and instruction, an abundance of milk and eggs and a dinner in the middle of the day at a total cost of sixty-two cents per day per patient. As in New York, the homes of those attending the day camp are supervised and the sleeping conditions regulated and the patients are taught the value of fresh air and of abundant food and the absolute necessity for care in the proper disposal of sputum. It is the judgment of those who have been in charge of the Boston Day Camp for the past three years that many persons unable to enter hospitals or sanatoriums receive very great benefit from the camp method of treatment, and the question is being discussed whether in some such form as this which is now being followed in Boston and New York the German plan of day camps for consumptives should not be adopted in this country. In Germany camps are established on the outskirts of a number of cities, men, women and children being cared for in separate places, while certain cities have in addition special camps for weak and sickly children and children with tendencies to tuberculosis. Although the cost of this treatment is relatively small, it is still high enough to prevent its extension as widely as is desirable. many things, such as hammocks, which would add to the comfort and help in the treatment of

the patients in the New York Camp, connot be purchased for lack of funds. The Charity Organization Society states that contributions small or large will be very gladly received to continue and to enlarge the work it has begun.

FEDERAL INTEREST IN PUBLIC HEALTH.

AS a result of the slow and persistent educational work which has been in progress there is beginning to be manifested a public interest in the public health. This is one of the most salutary signs of progress in this great country. The President has explicitly advocated a greater attention on the part of the Federal Government to questions of public health, and throughout the country there is an awakening to the importance of this subject.

One of the most significant steps in this direction is the plank in the platform of the Republican party, adopted at the last National Convention at Chicago, which declares in favor of a National Department of Health. This appears particularly significant when we stop to think that expediency prompts the introduction of such features as this in the policies of political parties. It means that the political leaders believe that it will meet with public favor. We of the medical profession have always believed that such action woud be for the pubic good; but now we may add to this belief the knowledge that, in the judgment of the most astute public men, it will meet with public approval. In all probabilty the leaders of the National Democratic party will be of the same mind, and we may hope to see a similar plank in its platform. This means that we are soon to have a National Health Department.

It is with much gratification that we observe also the attitude of the Government toward the International Congress on Tuberculosis which is to meet in Washington from September 21st to October 12th. We already have called attention to the aid which our Government has given to it. President Roosevelt has accepted the presidency of the Congress. In his letter to Dr. Lawrence F. Flick, Chairman of the Committee of Arrangements, he said that the importance of the crusade against tuberculosis, in the interest of which this Congress convenes, cannot be overestimated when it is realized that tuberculosis costs our country two hundred thousand lives a year, and the entire world a million lives a year, besides constituting a most serious handicap to material progress, prosperity and happiness, and being an enormous expense to society, most often in those walks of life where the burden is least bearable. The President also said:

> Science has demonstrated that this disease can be stamped out, but the rapidity and completeness with which this can be accomplished depends upon the promptness with which the new doctrines about tuberculosis can be inculcated into the minds of the people and engrafted upon our customs, habits and laws. The presence in our midst of representatives of world wide workers in this magnificent cause gives an unusual opportunity for accelerating the educational part of the program.
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> The modern crusade against tuberculosis brings hope and bright prospects of recovery to hundreds and thousands of victims of the disease, who under old teachings were abandoned to despair. The work of this Congress will bring the results of the latest studies and investigations before the profession at large and place in the hands of our physicians all the newest and most approved methods of treating the disease—a knowledge which will add many years of valuable life to our people and will thereby increase our public wealth and happiness.
>
> The International Congress on Tuberculosis is in the interest of universal peace. By joining in such a warfare against a common foe the peoples of the world are brought closer together and made to better realize the brotherhood of man; for a united interest against a common foe fosters universal friendship. Our country which is honored this year as the host of other nations in this great gathering of leaders and experts and as the custodian of the magnificent exhibit which will be set up by the entire world, should manifest its appreciation by giving the Congress a setting worthy of the cause, of our guests, and of ourselves. We should endeavor to make it the greatest and the most fruitful Congress which has yet been held, and I assure you of my interest and services to that end.

CORRESPONDENCE SCHOOLS OF NURSING.

THERE is no objection to schools of nursing giving correspondence instruction and short-term courses, provided their graduades do not set themselves up as trained nurses and charge trained nurses' prices. It cannot be denied that there is a field for women with a little nursing knowledge who will work for ten or fifteen dollars a week. The majority of families can not well afford a trained nurse.

But it is much to be deprecated that some of these schools, which furnish this curtailed education, encourage their pupils to hold themselves out as being really trained nurses and to charge the fees of trained nurses. This borders on dishonesty.

Some of the magazines carry the advertisement of such a correspondence school which proclaims that "you can be a nurse and make thirty dollars a week." This school announces that its diplomas "are recognized by the leading physicians and hospitals of the United States." Doubtless this is true, but it fails to tell us what happens when they are recognized!

Observations

ON SOME MEDICAL ASPECTS OF CIVILIZATION.

I shall not attempt to define civilization—it is a rather elusive state—but I shall insist that it implies betterment of personal and social conditions. It must make for happiness, it should help men, or it is not civilization. We must beware of the disposition to regard peoples whose manners and customs are different from our own as being not so civilized as we. These very people may have as good cause to judge us likewise. Civilization is to the community what culture and education are to the individual, and since society is an aggregation of persons it all reduces itself to a matter of the individual.

There is an injustice done this expression in that we are prone to regard the things to which we are accustomed as the attributes of civilization. In other words, we think that *we* are the civilized people, whoever we are. A man, who has been living in the woods with the Indians, looks at his moccasins and says, "Well, I shall be glad to get back to Broadway and into a pair of civilized shoes." By that he means exchanging the hygenic and comfortable moccasins for a pair of sharp-pointed, stiff patent-leather, foot-deforming shoes, which require to be "broken in." The London girl, whom circumstances have marooned among the Swiss mountains and clothed in short skirts and a loose bodice, exclaims, "I shall be glad to get back home and into civilized clothes again." She means—God help us: go up to London and see for yourself!

We expect these things: civilization hangs on the edge of savagery. The fact that a society cultivates many of the civilizing virtues hardly justifies it in designating all of its attributes as the qualities of civilization. It happens that the majority stand behind much of the savagery and declare that it shall have the name of civilization. This is true of the Broadway shoe, and of the London corset. Civilization in the popular acceptance is much a matter of custom rather than of good, of tradition and superstition rather than of knowledge and reasoning. It is illustrated by the mob which destroyed the library and apparatus of Joseph Priestly, by the murder of Michael Servitus, and by the little threatening band which waited outside of McDowells' house while he performed his first ovariotomy.

An independent citizen of Washington, D. C., with a good head of healthy hair, wears no hat; and he is hooted at by the bald-headed, derby-crowned scions of Washington civilization as he passes to and from his daily work. I know a woman who might have a so-called "luxuriant head of hair," but she keeps it cut off at a level with the lower angle of her shoulder blades. That gives her an abundance for coiffure purposes, to pin her hat to, and to look well. Still, in the civilization in which she lives, women take pride in carrying about with them as much as possible of this particular excretion. Some carry two or three pounds of it on their heads—weighing almost as much as their livers. If a woman can sit on her hair she is very proud of it. The more there is of this mass of stuff the more time it requires for its care. It should give about as much satisfaction to have an unwieldly mass of hair as it should to have long and unwieldly finger nails. It is a part of the agreed-upon concomitants of civilization.

Now, let us come a little closer home to our professional work. There lies before me a medical book, by an eminent obstetrician, in which I read that, "the rapid pace of modern life is more and more rendering the nursing of infants distasteful and even annoying to many mothers, and this is especially so as we *ascend the scale of social life.*" Again, "The advancements of civilization, especially in our cities and among cultivated people, are rendering child-bearing more and more difficult and depriving the infant of maternal interest." These statements are grossly and horribly false. It is true that "the rapid pace of modern life is more and more rendering the nursing of infants distasteful and even annoying to many mothers," but that "this is especially so as we ascend the scale of social life"—I say, a thousand times, No! Our books on obstetrics and gynecology pass this error along. I wish they would not. The mother who does not love her babe has not ascended the social scale. The women who represent the real civilization, who can justly be said to be high in the social life, are they who keep their bodies in health, who conceive in joy, and who bring forth in glad expectancy their offspring, to be cherished and nourished and guided by mother love. Our writers have confused civilization with bridge parties, high heels, the theatre, and feminine fluffiness. Let medical literature at least cease from this error. A group of females, bemoaning pregnancy as an "accident," are not even mounted on the social scale. The pug-dog habit, the fingers encrusted with jewels, are not the signs of cultivation.

Civilization and social advancement are making women more healthful and more moral; if they are not doing this they shall not have that name. They are bringing the pregnant woman out of her "nursery wrapper" and brooding seclusion, and giving her her wonted exercise and open air and healthful occupation. The pregnant woman who fills her soul with fear and secludes herself as an invalid, becomes an invalid; but, in so doing she is not displaying the attributes of an advancing civilization.

A few years ago when it was fashionable to be pale and languid, a lady from Chicago, as she tied two thicknesses of veils over her face before stepping into the carriage for a drive, said to her weather-browned hostess, "If you went in society you would have to take care of your complexion, too!" Here is society and the social scale again, but the weather-brown woman, who

had cast out the artificial from her life, was vastly the higher of the two in this much talked-of "social scale."

Let us place the right values on things, so that our medical literature may stand the scrutiny of time. Let us not accept false estimates from the hands of society. Whatever pertains to the health of the people is within the jurisdiction of the medical profession, and it is our bounden duty to reconcile it with the advancements of civilization.

It also is our bounden duty to declare as uncivilized and uncivilizing the influences which make women less useful and less loving and lovable as mothers and wives.

Items

EDITED BY

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Drugs, the Target for Epigrams.—Not long since he who, without a change of heart has crossed the seas, spoke publicly as follows: "Be skeptical of the pharmacopeia. He is the best doctor who knows the worthlessness of most medicines. Study your fellow-men and fellow-women and learn to manage them." Yet, this does not drive straight at the nail with an eye to its head. It is time for some one to say: "What we don't know about drugs would keep a good sized printing office busy for a number of moons. On the other hand, we ought to be able to find out a good deal more about them by some real, hard, up-to-date investigation. So let's get off our coats and do something worth while before we talk any more." Of course, we excuse some of the statements we hear for and against the pharmacopeia, when they are made in the course of platform-work. We all know that when nice English comes easily, fact is not always a successful censor; and the epigram is like the snapper on the end of a whip which the professor takes most pleasure in cracking when it stings a little.

We ought to weigh with all care words spoken on the uselessness and usefulness of drugs. Might we not feel abashed if we were to become enlightened as to the genesis of some of our drug-lore? Much of it has come from, say, an uncle, to whom it has been handed down by a barber; the barber having picked it up from an herb-brewer, who had stolen it from a necromancer, who got it, from heaven knows what source. Half a century ago Dr. Oliver Wendell Holmes wrote: "Throw out opium and a few specifics which our art did not discover and is hardly needed to apply. Throw out wine, which is a food, and the vapors which produce the miracles of anesthesia, and I firmly believe that, if the whole materia medica as now used could be sunk to the bottom of the sea, it would be better for mankind and all the worse for the fishes." This is going to the extreme. It is to be hoped that the good and kind doctor will not turn in his grave if we show no disposition to consign the cargo to the depths. We should like to find out something about it first, if we may. Some drugs are admitted to be efficient, even by the Autocrat himself, perhaps, a few others might be found, which would be of some use. At any rate and with becoming respect for the authorities above quoted, we are not willing to throw all the drugs overboard. If we are to be skeptical as to the pharmacopeia, we shall be so with our hands better engaged than in the gestures of oratory. And if we are to know the worth and worthlessness of medicines, we shall want our knowledge to rest upon something a good deal more sure than the old drug-lore which has been treasured too long as one of the priceless heirlooms of the profession.

Drunkenness a Disease, Its Treatment.—The mayor of Harrisburg is a man of active mind. He has ideals as well. Recently, the papers say, he issued a proclamation in which he showed that drunkenness is a disease and should be treated as such. The police department has been enlightened along these lines and orders issued to refrain from locking up disorderly and incorrigible inebriates who may disturb those urbane regions. Courtesy and kindness are to be substituted for the night-stick and the cooler. In fact, the guardians of the peace have implicit instructions to escort "all such diseased" gently but firmly homeward, aid them in the arduous ascent of the stoop, find the elusive key-hole and finally usher them into the expectant stillness of the front hall—and there is to begin the reading of the lesson. It is to be hoped that the good house wives of Harrisburg will rise to the occasion with energy and enthusiasm which will prove the mayor not only a man of sound medical sense, but a philosopher as well. The intuitive and correctional powers of women are proverbial. Here is an opportunity to employ them in a thoroughly practical way. Happy Harrisburg! Your erstwhile teeming cells are empty; your gaolers sleep to pleasant dreams and your poor, suffering, diseased inebriates have to go home to take their medicine!

The Galvanometer Will Read the Emotions.—Some afternoon when you are inclined to be a little pessimistic try the following psychological experiment recommended by Dr. Scripture. Take a galvanometer (not otherwise engaged), connect two flat electrodes with it and complete the circuit by placing one of your hands on either electrode. Now have some kindly disposed person ask you in rapid succession, "Who is your worst enemy?" "Did you ever lose any money?" "Are you married?" Then watch the needle fly. Of course, there is absolutely nothing personal in the order of these questions. They are the ones suggested by Dr. Scripture as very appropriate for the test. Perhaps, the doctor intended so to arrange his questions that

all the darker sides of a man's nature might be revealed at once, by the first gyrations of the needle. Yet, what justification may be advanced for the intimate association of a concept which ought to embody all felicity with two others which cannot possibly pass through the human breast without a pang. Dr. Scripture, after the popular fashion of psychologists, has left several loop-holes through which to extricate himself from this disagreeable situation. He makes it clear that while it is possible to detect the passage of an emotion through the system of an individual, it is totally impossible to determine, by the galvanometer, what kind of an emotion it is. On the other hand, he shows the very practical application of the apparatus and says, "for nervous patients who come to us it is just as necessary to know how emotional they are as it is for the general practitioner to know how high is the temperature in a case of fever."

So therefore, the next piece of office furniture you will be sure to need is the Emotional Galvanometer. As paraphernalia it will certainly prove impressive; it doubtless will become a source of unfailing delight and amusement for the family [illegible] you should feel impelled to discard it altogether, don't be hasty. For you never can tell just when the exigencies of advancing science will make the Emotional Galvanometer as essential to you as your thermometer is at the present.

MEN DO THEIR WORK IN FORTY YEARS.—In the last year or two many conjectures and philosophic inquiries have arisen, which take their tone and color from the theory that it is possible to lengthen the span of man's life. The possibility of such an accomplishment is suggestive to a degree, inasmuch as it is a consideration of large moment to the future of the race. How infrequent an occurrence it is for a man of achievement in any line of activity to live out a life which has given him ample opportunity to fulfill the promise that is in him. How often we see a man stricken at the zenith of his power. How often the arduous labors of many years cease with a life that is all too short e'er the results have taken definite form. It would almost seem that the long years of preparation are spent to no purpose and the foundations which have been so well laid are never graced by a finished superstructure. But add another half century to the allotted time, and then the men of achievement will reach out and conquer new worlds, while a momentous element will have been introduced toward the further evolution of all human affairs. To the morphologist, to the anthropologist and the philosopher the significance of this eventuality cannot fail to be impressive. Its far-reaching results are evident to us all. Over against this possible longevity of some future age, in striking contrast, stands the relatively short period in which the great men of the past have accomplished their life work. In a recent number of the *Century Magazine,* Dr. W. A. Dorland has compiled a set of statistics in which he shows the different lengths of time in which men of distinction in the various walks of life have accomplished their work. An average drawn from about four hundred records shows that the mean duration of mental activity is forty years.

Physicians and surgeons of distinction in this list had an average period of activity of forty-six years. The average initial age at which the life work is begun is twenty-four years. In this regard physicians and surgeons occupy a middle ground, neither starting upon their labors in connection with the medical profession as young as those pursuing other vocations, for example musicians, artists and warriors, nor as late as certain others such as essayists, mathematicians and statesmen. Moreover, instances of precocity, so notable in other lines, are conspicous for their absence among physicians—here, at least there is no ground for the unpleasant adage that "a wit at five is a fool at twenty." Approval is given to the general belief that the golden age is between forty and fifty, while the intellect and judgment are at their best in the average person between forty and sixty. It was Du Maurier's idea that the best years of a man's life are after he is forty but he adds what seems to be a very appropriate proviso to the effect that this can only be true in the case of the man who has achieved, at least, some success prior to reaching this age. The average age at which the great work, "the masterpiece," has been done is fifty, for physicians and surgeons fifty-two.

From these figures it would appear that the men who have achieved great distinction in the medical profession have begun their work at the average age of twenty-four, achieved their master-pieces at the average of fifty-two and continued actively engaged until the seventieth year.

THE MEDICAL ERA'S GASTRO-INTESTINAL EDITIONS.—The *Medical Era,* St. Louis, Mo., will issue its annual series of gastro-intestinal editions during July and August. In these two issues will be published between 40 and 50 original papers of the largest practical worth, covering every phase of diseases of the gastro-intestinal canal. Sample copies will be supplied readers of this journal upon request.

AMERICAN MEDICAL ASSOCIATION.—Last month we called attention to the fifty-ninth annual session of the American Medical Association, which was held in Chicago, June 2d to 5th. In the four days of the session 6,447 members were registered. This is the largest meeting ever held.

The House of Delegates was called to order by the president, Dr. Joseph D. Bryant, of New York, who, in his presidential address, commended the work of the Council on Pharmacy and Chemistry as well as that done by Dr. McCor-

mack in educating the public. He also recommended that a standing committee be established to elaborate the ethical principles underlying the practice of medicine and that general instruction in ethical medicine be made a part of the undergraduate course. He dwelt particularly on the efforts now being made to restrict animal experimentation and recommended action by the House of Delegates on this subject. Dr. Bryant also called attention to the invitation extended by President Roosevelt to him as President of the American Medical Association to take part in the conference recently held at Washington on the Conservation of Natural Resources.

The report of the General Secretary showed that the membership of the Association is 31,343, a net gain for the past year of 3,828. The appointment of a committee to consider uniform provisions for the regulation of county, state and American Medical Association membership was recommended. A communication was presented from the secretary of the American Association for the Advancement of Science asking that the American Medical Association appoint representatives to the Council of that body.

The Committee on Medical Legislation reported that the Army Medical Reorganization Bill and the Carroll-Lazear Pension Bills had become laws during the last session of Congress. The importance of uniform and adequate state legislation on the practice of medicine and the preservation of public health was emphasized as well as the necessity of careful study of the problems involved. The Committee recommended that pending the completion of the work now being done only those changes in existing laws which are imperatively needed should be attempted by state associations. The formation of the Vital Statistics Bill endorsed by the United States Census Department, the American Public Health Association, the Conference on Uniform State Laws of the American Bar Association and the American Statistical Association, was reported, and the endorsement of the House of Delegates was asked for this measure. The report of the Chicago conference on Medical Legislation was also given.

The Council on Medical Education reported that the work of the Council during the past year had been along the following lines:

1. The inspection and classification of medical colleges as (a) acceptable, (b) doubtful, and (c) unsatisfactory. 2. The conducting of an annual conference with representatives of state examining boards and leading educators for the discussion of the important problems of medical education and medical licensure. 3. The collection and compilation of data regarding (a) Medical college students and graduates and (b) regarding results of state license examinations. 4. A thorough investigation of preliminary and medical education in Europe. 5. Working for the advancement of the requirement of preliminary education in the United States to include a year's work in physics, chemistry, biology and modern languages. 6. Obtaining accurate information regarding high schools and universities in their relation to medical education.

The Board of Public Instruction reported that it had secured a secretary, Dr. R. Max Goepp, of Philadelphia, and that it was considering the establishment of lecture systems and of state boards of public instruction and intended to publish articles in the magazines and public press for the enlightenment of the public on disease.

The Committee on Ophthalmia Neonatorum advised the enactment of laws in each state regarding the registration of births and placing the control of midwives in the hands of the boards of health; that health boards distribute circulars to midwives and mothers on the dangers and prophylaxis of this disease; that state and local boards of health prepare and distribute proper prophylactic solutions with specific directions for their use; that proper records be maintained in all hospitals in which children are born; that periodic reports be made by all physicians to boards of health; that concerted effort be made along the lines of public education throughout the country. This report was approved by the chairmen of the Sections on Ophthalmology, Obstetrics, and Diseases of Women and Hygiene and Sanitary Science.

The Committee on Scientific Research recommended the appropriation of $200 for the assistance of each of the following: Drs. D. J. McCarthy and M. K. Myers, Philadelphia, "An Experimental Study of Cerebral Thrombosis;" Dr. Karl Voegtlin, Baltimore, "Chemistry of the Parathyroid Glands;" Dr. Isabel Herb, Chicago, "A Study of the Etiology of Mumps;" Drs. R. M. Pearce, Albany, N. Y., H. C. Jackson and A. W. Elting, "A Study of the Elimination of Inorganic Salts in a Case of Chronic Universal Edema of Unknown Etiology with Apparent Recovery;" Dr. H. T. Ricketts, Chicago, "An Investigation of the Identity of the Rocky Mountain Fever of Idaho with that Found in Western Montana."

The following officers were elected: President, Dr. William C. Gorgas, Ancon, Panama; first vice-president, Dr. Thomas Jefferson Murray, Butte, Mont.; second vice-president, Dr. John A. Hatchett, El Reno, Okla.; third vice-president, Dr. Thomas A. Woodruff, Chicago, Ill.; fourth vice-president, Dr. E. N. Hall, Woodburn, Ky.; general secretary, Dr. George H. Simmons, Chicago, Ill.; treasurer, Dr. Frank Billings, Chicago, Ill.; trustees to serve until 1911, Dr. Wisner R. Townsend of New York, Dr. Philip Mills Jones of San Francisco, and Dr. William T. Sarles of Sparta, Wis.

The Committee on Transportation and Place of Session recommended Atlantic City as the next meeting place, which choice was agreed to by the House of Delegates.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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PSEUDOPERIOSTITIS ANGIONEUROTICA.

As pseudoperiostitis angioneurotica, Max Herz describes a condition, the symptoms of which resemble a periostitis, but which is distinguished from this condition by its evanescence with tendency to relapse. The author is convinced of its nervous origin because of its invariable association with other nervous affections which particularly involve the vascular system. The bones involved seem to be generally if not always those of the thorax, and indeed those lying in the particular region in which subjective cardiac neurosis make themselves manifest. The pseudoperiostitis angioneurotica consists of a hard, doughy infiltration in the immediate vicinity of the bone. The swelling is painful and tender. With its occurrence an exacerbation of the heart difficulty generally is present. That so little has been written concerning such a condition, the author believes due to the fact that it can be very easily confused or associated diagnostically with hysteria, morbus Basedowii, or other diseases with neurotic tendencies. The results of therapy are generally excellent, the author having used heat over the affected region with much relief to the patients.—*Zentralblatt für Innere Medizin,* 1908, No. 12.

RIGA'S DISEASE.

An interesting malady is Riga's disease, which according to Di Giuseppe occurs generally in Southern Italy, and is a malignant and generally fatal form of sublingual ulcer in the neighborhood of the frenum of the tongue. This was first recognized and described as a particular disease by Urbano Cardarelli about the middle of the last century. Riga made it the subject of a special dissertation in 1880. Etiology and therapy are both obscure.

The disease occurs in vigorous and previously healthy children in the first months of life, and is manifect by the formation of a dirty gray, half-centime large granuloma at the side of the frenum of the tongue. With the appearance of the ulcer the child falls ill, suffering most severe symptoms of collapse and soon dies, without the affection responding to any local or general treatment.

The author describes three cases, all children in the same family, and in the most favorable surroundings. In spite of the most attentive treatment these children perished, one after another. The author describes the disease as very rare and very severe. It may occur in families, so that predisposition must be considered. However, it does not occur epidemically. It is not, as some authorities have regarded it, a mild affection connected with the breaking through of the lower incisor teeth.—*Gazz. degli ospedali e delle clin.,* 1907, No. 153; *Zentralblatt für Innere Medizin,* 1908, No. 16.

THE TOXICITY OF THYROID JUICE.

The juice of the thyroid gland in exophthalmic goiter possesses in itself no toxic properties which directly influence pulse or body temperature, says Schultze, of Bonn, who has made a series of experiments to determine the point. The acute symptoms which occasionally occur after operation for goiter, being expressed chiefly in alteration of pulse and body temperature, are not regarded by Schultze as due to resorption of the juice of the goiter. This fact he proved to himself by taking the sterile juice of such goiters, which he first injected into himself, and later injected into patients who had been operated upon. In no case did symptoms follow which were similar to those following thyroidectomy.—*Mitteilungen a. d. Grenzgebieten d. Med. u. Chir.,* Vol. XVII, No. 5.

INDICANURIA.

Harris A. Houghton, who has made several valuable contributions regarding indicanuria, calls attention to the fact that for accurate clinical work the indican test, which is of great value, must be considered in connection with, and not independent of, the general symptoms. To the reviewer this seems a point of great weight, for a tendency to attach undue importance to a slight indican reaction has frequently been noted. There is much yet to be learned concerning indicanuria and intestinal putrefaction, although the underlying facts seem well established. The author presents the following practical rules for guidance until, as he says, something better is devised.

1. Urinary indican is the product of intestinal putrefaction. There may be putrefaction without the production of indol, but there cannot be indicanuria without putrefaction.

2. A maximum excretion of indican, that is, an amount which on Folin's scale gives an index of one hundred or over (comparing the color with that of Fehling solution), may be safely relied upon to indicate excessive intestinal putrefaction, and especially the intoxication arising therefrom.

3. A maximum reaction which gives an index under one hundred may be significant, but its interpretation should be strictly guarded by the general condition of the patient, that is, by the oxidizing and excretory capacity.

4. A heavy indican reaction which markedly subsides under treatment undoubtedly indicates a lessening intoxication, but minor variations in color index have no significance at present.

5. No interpretations can be placed on a negative reaction, too many unsolved factors entering into the problem.—*American Journal of the Medical Sciences,* April, 1908.

THE CAUSE OF DIABETIC COMA.

Diabetic coma, says Osborn, is not due to acetone or glucose, but is due to the diminished alkalinity and finally acid conditions of the blood, an acidemia due principally to diacetic and β-oxybutyric acids. The warnings that such a condition is about to occur are headaches, general nervous irritability, and the presence in the urine of one of these acids; quite likely at the same time the amount of sugar and of the nitrogen may be actually diminished. The urine may show at this time a large amount of ammonia, which is probably formed by the increased acids in the urine breaking up the alkalies.

An absolute withdrawal of carbohydrates from the food of patients having true diabetes mellitus will always increase the acetone and diacetic acid and often the ammonia and β- oxybutyric acid, and toxic acidemia and coma become imminent. Hence it is unjustifiable, sugar having been found in the urine, to withdraw the starches absolutely or too rapidly from the diet. The condition may be carefully and safely studied by the gradual diminution of starches and sugars and the frequent examination of the urine to see if it is free from diacetic acid, which not appearing, and the carbohydrates being reduced to a minimum and sugar disappearing from the urine, show that the patient is suffering from functional or dietetic glycosuria, and not from diabetes mellitus. On the other hand, diacetic acid appearing, the carbohydrates should be increased until it disappears. Also, without the appearance of diacetic acid, if sugar persists in the urine after several days of rigid carbohydrate-free diet, the sugar being formed from the proteids ingested, renders such rigid diet unjustifiable, as the enormous amounts of proteids and fats that must be consumed to produce heat and energy so overwork the proteid metabolism of the body as to cause sooner or later serious indigestions, organic insufficiency, and finally organic disease, to say nothing of the danger of sudden acidemia and consequent coma.

While the ammonia in the urine is perhaps the most accurate indication of the diminished alkalinity of the acidemia present, its estimation is chemically much more difficult than the simple test for diacetic acid, which latter will positively indicate the danger of coma occurring. If a few drops of a five per cent. solution of ferric ammonium sulphate are added to the suspected urine, it will cause a crimson color to develop if diacetic acid is present. The more intense and deeper the color, the more of the acid. Diacetic acid being discovered, carbohydrates should be given immediately and in considerable amount, and the coma will generally, at least temporarily, be averted.—*American Journal of the Medical Sciences,* April, 1908.

BACTERIOLOGY.

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STUDIES REGARDING THE MORPHOLOGY OF TUBERCULOUS SPUTUM.

Zickgraf (*Zeitschrift für Tuberkulose,* 1908, xii, 120), says that since the discovery of the tubercle-bacillus, the examination of the sputum has been almost limited to its detection. The study of elastic fibres formerly thought so important has been quite generally abandoned. Yet they are frequently found in the sputum very early in the course of the disease, sometimes before tubercle-bacilli can be demonstrated. The author thinks that one reason that they are not more often sought is that the methods proposed for their detection are too complicated for clinical use. He offers the following simple method:

A small portion of the sputum is placed on a slide and is covered with two drops of diluted caustic potash solution. The preparation is gently heated, but it is not necessary that the soluble portions should be completely dissolved. Especial care should be taken not to let cotton threads get onto the slide, and only double contoured fibres having the characteristic alveolar arrangements should be considered as elastic fibres. The specimen should be collected early in the morning in a thoroughly clean receptacle. The mouth should be first rinsed out.

The author compared the results obtained by his method with those by May's orcein method and found it practically as satisfactory. He examined the sputum of seventy cases and found the elastic fibres in eighty-nine per cent. of them. He used only muco-purulent sputum, and does not expect to find elastic fibres in strictly mucoid sputum.

With the disappearance of the purulent character of the sputum the likelihood of finding tubercle-bacilli also diminishes. He found tubercle-bacilli in only sixty-one per cent. of the seventy cases, and found elastic fibres in cases where he was unable to demonstrate tubercle-bacilli. In the early cases he found them three times as often as he foud the bacilli. The presence of elastic fibres in the sputum is almost a sure sign of tuberculosis of the lungs as practically the only other conditions in which they are found are lung abscess and ulcerative bronchitis. He believes that the presence of elastic fibres is of no more unfavorable prognostic significance than the presence of tubercle-bacilli.

The second portion of the paper is concerned

with the investigation of the leucocytes in the sputum. Purulent specimens were selected for study. Differential counting and the study of the various types of polynuclear cells, according to Armeth's classification, were not found practicable. The sputum is not sufficiently homogeneous, the age of the leucocytes varies much, and in every specimen are found many cells which are partially or completely destroyed. About one hundred specimens were studied.

Eosinophiles were found in many but not in quite all. The number varied in the different cases and at different times in the same case. With Otto and Hildebrand, the author believes that these cells have no special diagnostic or prognostic meaning. The great number present in some cases he thinks may either arise from the cells of the mucous membrane of the respiratory tract or from leucocytes, which have become transformed into eosinophiles.

The small mononcular cells were found only in small numbers in the specimens examined; often only a single one in many fields.

The principle cells found were the polynuclear leucocytes, mostly with very irregular nuclei. These cells appear to be most readily destroyed. With the triacid stain preparations are obtained in which entire fields may be covered with scattered granules and fragments of nuclei.

Only a few transitional cells were found.

The author's conclusions are that it is worth while, as a routine, to examine sputum for elastic fibres, but that it is doubtful whether any valuable conclusions can be drawn from the study of the leucocytes in the sputum. A. T. L.

A CONTRIBUTION TO THE BIOLOGY OF DIPLOCOCCUS INTRACELLULARIS.

Simon Flexner (*Jour. Exp. Med.*, 1907, 9, p. 105), in his studies, which were begun as a result of the commission of investigation into the New York epidemic of meningitis, made the following observations:

The diplococcus on all ordinary media was of very slight viability. Involutional changes appeared immediately. Of these a large, swollen, somewhat degenerate-looking coccus persisted longest in all the experiments pointing to it as probably a much more resistent form. The best medium for cultivation he found to be agar, to which was added sheep serum and two per cent. glucose. By this means he was enabled to keep single cultures alive much longer (five to six days). The involutional changes mentioned were the result; he was convinced, of some deleterious agency which must be in the nature of autolysis, when considered together with their short liability. To test this he washed off vigorous cultures with salt solution. Some he returned to the thermostat immediately. Others he covered with some serum water, drained off the excess and returned to the thermostat. The latter showed greater second growth than the former. Further, a large, vigorous culture of the diplococcus was washed down with salt solution and a few drops of toluol added. This was replaced in the thermostat. After twenty-four hours the tuluol and growth had disappeared. The remaining fluid was centrifugalized and added in various strengths to shant serum agar tubes. This liquid which contained the extracted products of the diplococcus did not materially inhibit the growth of that organism when inoculated upon it. Inasmuch as greater quantities of products were added than this amount of growth could ever form, the deduction was made that inhibition was not caused by the by-products of bacterial development.

Concentrated suspensions in salt solution and vigorous serum-agar cultures were subjected to various temperatures. Those kept at low temperature succumbed quickly. The former withstood cold longest. Further tests showed that the longest survival was in suspensions of highest concentration when subjected to cold. Concentrated suspensions in salt solution disintegrate quickest at 37° C., the more dilute suspensions surviving longest. Ringer's solution, in all these experiments, preserved the organism longest. Addition of calcium carbonate to the Ringer's solution preserved the diplococci three to four times longer than without it. There must be some agency beside salt solution which injured the organism. This accounts for the quicker disintegration in concentrated suspensions, this enzymotic action being furnished in greater amount. It apparently acts as a solvent for dead diplococci and a poison for living ones. Any substance which kills diplococci such as heat and tuluol accelerates the enzyme action, provided the heat be not strong enough to destroy the enzyme. KCn added to various strengths of suspension inhibits the autolytic action. Such action seems to be only for the time being, for upon washing the culture free from KCn the autolysis still goes on.

A series of 24 experiments upon typhosus, coli, pyocyaneus, catarrhalis, aureus and anthracis indicates that the diplococcus has the power of disintegrating them even when they show no autolyzing power themselves. The greatest resistence was offered by aureus and it is indeed probable that all Gram-staining organisms are more resistent to such action than non-Gram stainers. It points also to a difference between proteolytic and autolytic enzymes, aureus, anthracis and pyocyaneus having proteolytic functions but showing no autolytic action.

Studied as to its heat-mobility, this enzyme shows action below 40° or 45° C., even though the bacteria are killed at this temperature. Temperatures of 65° C. and above cause immediate plasmolysis and suspend the enzyme action. The heating of this "autolysate" in NaCl solution or water reveals the fact that a somewhat higher degree of heat (70° C.) is necessary to suspend the enzyme action on other organisms than to suspend self-digestion.

Experimenting with guinea pigs of uniform weight in an effort to elucidate the pathogenic

problems of this diplococcus, he comes to various conclusions, namely: (a) cultures freshly isolated are most virulent; (b) cultures attenuated by artificial growth cannot be rejuvenated by passage through animals; (c) autolysis of an attenuated culture may, however, yield an extract which may be used as an adjuvent to increase the activity of other cultures; (d) quantities of culture injected vary little in effect; (e) guinea pigs respond relatively very poorly.

Results of intraperitoneal injections showed death in 12 to 24 hours as a rule. There was early and severe reduction in temperature, tense and distended abdomen and prolapse of the rectum followed immediately by death. The temperature depression was less in the non-fatal cases. Diplococci disappear very quickly from the abdomen and there is little exudate in the quickly fatal cases. The more virulent diplococci resist disintegration in the body longest. Pigs surviving 24 to 36 hours show the most exudate, and this exudate is rich in leucocytes. With an increase in the period of survival the diplococci are more disintegrated and the leucocytes more abundant, though this relation can be disturbed by large injections of attended cultures of sublethal doses of virulent strains. The destruction of the diplococci may be accomplished, therefore, by means of leucocytes or by the fluid of the exudate alone. Phagocytosis is fairly constant though variable in extent. As in man, the organism cannot be cultivated from the body lesions.

Subjecting the diplococci to the action of exudate and serum from the guinea pigs brings out the fact that both are destructive to them, the exudate being slightly the more vigorous in its action. The enzymotic power of the exudate is much less susceptible to the action of heat than that of the serum. This superior strength of the exudate is probably the result of diplococcal disintegration inasmuch as they are injurious only in concentrated suspension. Probably the destroyed leucocytes yield a substance which acts on the diplococci and brings them under the power of their own enzyme in some way. This action may be either complemental or proteolytic, but probably the latter, in view of the fact of the general tendency to dissolution exhibited by the organism. H. P. S.

New Books

A Text-Book of Practical Gynecology. For Practitioners and Students. By D. Tod Gilliam, M.D. *Second Revised Edition.* Philadelphia, F. A. Davis Co., 1907. Col. Front., xvi, 642 pp., 13 pl., 8vo. Price: Cloth, $4.50.

This book brings out some good gynecologic axioms, one of the best being "Curettage is right and proper in saprophytic infection, though in the majority of cases not absolutely essential. It is *pernicious* and *deadly* in streptococcic infection." These few words are especially recommended for the consideration of the general practitioner, and, if followed, fewer coffins would be needed.

It is refreshing to see an author who pays a decent amount of attention to the technic of the cystocele operation, one of the most difficult operations from which to secure permanent results.

We regret that the author advises the use of laminaria tests in differentiating between a cancerous cervix and the indurated cervix of chronic cervecitis, without more fully explaining the danger in their use and how to avoid infection. It would have been far better to have advised *against* their employment, even though strict asepsis were enforced. The microscopic examination of cervical "snippings" is most accurate, without danger, and easily more scientific.

The chapter on pelvic infections, from various causes, is much to the point, and written in a sharp, crisp manner, which keeps up our interest.

As a reference book for the specialists it is excellent, in that it is not verbose, nor overwhelmed with an uninteresting collection of pathologic data and worn out methods. Clarence R. Hyde.

Diseases of the Genito-Urinary Organs and the Kidney. By Robert Holmes Greene, A.M., M.D., and Harlow Brooks, M.D. Philadelphia, London, W. B. Saunders Co., 1907. 536 pp., 16 pl., 1 col. pl., 1 chart, 8vo. Price: Cloth, $5.00 net; Half Morocco, $6.50 net.

This book has been written for the general practitioner, the different subjects receiving consideration from the medical and surgical standpoint. A larger amount of space has been devoted to the urinary organs and relatively less has been said of the purely sexual disorders. The various diseases of the kidney, medical and surgical, receive more attention than is usual in a book of this size. In the discussion of suppurative nephritis a simple and practical, if not absolutely accurate, method of diagnosis is described. It consists of an examination of the bladder urine before and after performing a massage of the kidney region and along the course of the ureter. In the chapter devoted to the pathology of prostatic hypertrophy the authors give the result of their personal investigations as follows: "It was possible to demonstrate in every case either inflammatory exudate or interstitial hyperplasia, one or both, of sufficient degree fully to account for the enlargement of those glands which would previously have been classified as fibromatous or myomatous." The simple, clear and concise manner with which the pathology of the various disorders is discussed is worthy of especial commendation.

This book is commended to the general practitioner for the many valuable suggestions which it contains.
Charles S. Cochrane.

Handbook of Cutaneous Therapeutics. Including Sections on the X-Ray, High Frequency Current and the Minor Surgery of the Skin. For the Use of General Practitioners. By W. A. Hardaway, M.D., LL.D., and Joseph Grindon, Ph.B., M.D. Philadelphia and New York, Lea Brothers & Co., 1907. 606 pp., 12mo. Price: Cloth, $2.75.

At first glance this book seems to be an unnecessary effort on the part of its authors. But knowing the dermatological and literary talents of the writers, the reviewer carefully read the book and decided that if the general practitioner wanted a small reference book on skin diseases he could do no better than to procure the one under review.

The descriptions of the diseases are both concise and clear, and the various formulæ are as numerous as those to be found in many of the much larger textbooks.

The first part of the volume is written by Dr. Hardaway and is practically an up-to-date revision of his Manual of Skin Diseases which was published several years ago.

The second part is by Dr. Grindon and deals with the methods and general treatment of skin diseases. Here

the newer treatments, as radium, X-rays, and opsonins are fully elucidated.

The absence of illustrations strikes the cutaneous specialist as a good omission, but it is doubtful whether the general practitioner will be satisfied when he fails to find a picture which, although inadequate, might aid him to a diagnosis.

If the publishers can emphasize the object with which the book was written, that is, the therapeutics of skin diseases, the absence of illustrations will be no obstacle to its sale.

It is, without doubt, the most concise and complete treatise on cutaneous therapeutics that has yet been written. J. M. W.

TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By HENRY W. STELWAGON, M.D., PH.D. *Fifth Edition, Thoroughly Revised.* Philadelphia and London, W. B. Saunders Co., 1907. 1150 pp., 34 pl., 8vo. Price: Cloth, $6.00.

It does not seem necessary to write a review of a book that has gone through five editions within five years, for the worth of the work is attested by the speed with which the editions have been exhausted.

The reviewer must repeat what he said of the first edition, that it stood pre-eminently the best treatise on dermatology in the English language.

The fifth edition verifies the statement then made; the work has been revised three times and much new material added; the last revision has brought the subject of dermatology up to the latest standard and added the most recent findings and theories, so that it is still the best work of modern dermatology.

The subjects described in the first edition, that were then still in the experimental stage, as, for instance, radio-therapy, have benefited by riper experience and study. The part devoted to the study of tropical skin diseases has been practically rewritten and now covers a much broader field, and the latest views and discoveries have been added regarding these hitherto little studied and understood diseases.

If we were called upon to decline the adjective good by editions, we should say the first was good, the following better, and as a comprehensive text-book on the difficult subject of dermatology, the fifth is the best.

The type, paper, illustrations and binding are similar to those of other editions. J. M. W.

LECTURES TO GENERAL PRACTITIONERS ON THE DISEASES OF THE STOMACH AND INTESTINES. With an Account of Their Relation to Other Diseases and of the Most Recent Methods Applicable to the Diagnosis and Treatment of Them in General. By BOARDMAN REED, M.D. *Second Edition.* New York, E. B. Treat & Co., 1907. 1021 pp., 8vo. Price: Cloth, $5.00.

The enviable reputation of the first edition of "Reed on the Stomach and Intestines" would seem to preclude the necessity for a review of the volume under consideration. One salient feature of this book is the noticeable absence of "it may or may not be this, that, or the other," so common in some of our foreign translations and editions upon digestive disease. This characteristic in itself renders the edition well worth reading, as it leaves the mind of the student clear at the end as at the beginning. Compiled in the form of lectures there is a style which cannot but appeal especially to the busy general practitioner, enabling him to pick the book up and read at most any page and gain something of value.

This work is clear, concise and precise as well, written—as it was delivered—to impress upon the memory facts concerning disorders of the digestive tract, in the fewest possible words compatible with accuracy.

H. W. L.

PHYSICAL DIAGNOSIS. With Case Examples of the Inductive Method. By HOWARD S. ANDERS, A.M., M.D. New York and London, D. Appleton & Co., 1907. xix, 456 pp., 32 pl., lch., 8vo. Price: Cloth, $3.00.

The recent output of books on medical diagnosis has been so great that a new one requires particular merit to secure recognition. This book deserves recognition for the careful selection of its material, its moderate size, its examples of inductive diagnosis from hypothetical and recorded cases, its numerous and excellent illustrations, its chapter on the X-Ray in medical diagnosis, contributed by Dr. Pfahler, to which are appended thirty-one very beautiful Roentgenograms showing pathological conditions of the internal organs.

The student of physical diagnosis will surely find this book a valuable aid. But it is open to criticism in the matter of its literary style, which is often heavy and occasionally obscure.

HUMAN ANATOMY. Including Structure and Development and Practical Considerations. By THOMAS DWIGHT, M.D., LL.D., CARL A. HARMANN, M.D., J. PLAYFAIR MCMURRICH, PH.D, GEORGE A. PIERSOL, M.D., Sc.D., and J. WILLIAM WHITE, M.D., PH.D., LL.D. With Seventeen Hundred and Thirty-four Illustrations, of which Fifteen Hundred and Twenty-two are Original and Largely from Dissections by John C. Heisler, M.D. Edited by GEORGE A. PIERSOL. Philadelphia and London, J. B. Lippincott Co. [c. 1906, 1907]. Col. front., xx, 2088 pp., 4to. Price: Cloth, $7.50.

To pass judgment on the merits of any work it is necessary to consider the motif which permeates it—what standard the author has set for himself, what he has endeavored to achieve. The purpose of this work is well stated in the preface: Its aim is threefold. 1st, to present the essential facts of human anatomy, not only gross appearance and relations, but structure and development. 2d, to emphasize the practical applications of anatomy. 3d, to elucidate the text by illustrations that should portray actual dissections and preparations with fidelity and realism.

To the first of these ends the editor has associated with him several American anatomists who have achieved eminence as teachers and investigators. Nor has this method detracted from the homogeneity of the work, for the whole has been so welded together by the able editor that the completed product presents an evenness and finish that is highly satisfactory.

It would be impossible within the limits of this review to critically discuss each section. It is fair to state that a fine balance has been preserved throughout, and that each section is comprehensive and complete, since the editor has taken a broad conception of his subject in regarding descriptive anatomy, histology and embryology, not as separate entities, but as essential parts in the presentation of a complete description.

One of the important features of this work is the prominence which has been given to applied anatomy. At the end of each section, under "Practical Considerations," the facts of anatomy are correlated and their relative bearing upon injury and disease emphasized.

Dr. J. William White's experience as surgeon and teacher ably qualifies him for this task. He has translated anatomical facts into their clinical values with rare force and judgment, and made a contribution which will go far in making the work a success.

The illustrations are a model of what illustrations should be. While they show the parts as they are, they possess artistic qualities which please the eye while they elucidate the text. Few realize the prodigious labor which the completion of such a work entails.

The authors are to be congratulated, for the finished product is a tribute to their accurate and comprehensive scholarship and may truthfully be called "The" American Anatomy.

WILLIAM FRANCIS CAMPBELL.

PRINCIPLES AND PRACTICE OF MODERN OTOLOGY. By JOHN F. BARNHILL and ERNEST DE WOLFE WALES. Philadelphia and London. W. B. Saunders Co., 1907. 575 pp., 5 pl., 8vo. Price: Cloth, $5.50.

The authors, in the preface, after modestly stating that the work is intended for the use of students and practitioners of general medicine (it would seem to the

reviewer that there is much in it for the aurist as well), state that, among others, the following six objects have been kept in view:

1. "To modernize the subject;" certainly otology as practiced at the present time is here depicted.

2. "To correct certain traditional beliefs—*e. g.*, "that children will outgrow their aural ailments, and that a discharging ear is nothing more than an annoyance, may even be beneficial," and in their stead,

3. "To advocate the earliest prophylaxis or treatment."

It seems to us that these traditions have been already largely shattered, but if a final kick is needed for their entire undoing, this book furnishes the material, and no one can read it through without acquiring some measure of enthusiasm for the prophylaxis and early treatment which must, and do, accomplish so much when contrasted with past methods in the treatment of deaf and running ears.

4. "To emphasize the importance of a thorough examination and a definite diagnosis as a basis for rational treatment;" an earnest protest against the heretofore too frequent part played by empiricism in both diagnosis and treatment.

5. "To thoroughly illustrate the text." It has been a great pleasure while examining the book to see an almost entirely new, and in great part very satisfying, series of illustrations. The authors deserve special commendation for the excellency of their work in this department. We miss with pleasure some of the old and oft-repeated cuts which have appeared in almost all the works on otology of the last three or four decades.

Of the book as a whole we have much that is good to say. The chapters on acute and chronic mastoid affections, and those on the brain complications of otitis media seem to us particularly good.

In the chapter on "Bacteriology of the Ear," after summing up the conclusions in a half-page or more, the matter seems to us rather aptly dismissed in the following paragraph: "These conclusions are interesting from a scientific point of view; practically, the bacteriology of the ear is one of the least important aids in diagnosis of aural diseases and their complications."

To the reviewer the chapters on "Acute Affections of the Middle Ear," in which the subject is divided into "Acute Tubo-tympanic Catarrh," "Acute Catarrhal Otitis Media," and "Acute Suppurative Otitis Media," are perhaps the least satisfactory of any part of the book. While realizing that a good clean-cut division of the subject is difficult, we still believe a better elucidation of the various conditions and their distinctive symptoms to be possible.

For future editions of the book, which we sincerely believe will soon be called for, we would like to make the following suggestions: that, if possible, even greater stress be laid on the value of early incision of the tympanic membrane as the preventive treatment *par excellence* of mastoid involvement in acute middle ear inflammations; that the occurrence of mastoiditis without perforation of the membrana tympani, and without any running from the ear, is not so unusual as is generally supposed; that from the standpoint of the aurist, the use of the nasal douche even with explicit directions is dangerous to the ear and therefore to be condemned; that the authors bear in mind throughout the book what they so clearly state in the chapter on Anatomy, viz., that the middle ear is made up of the tympanic cavity, the Eustachian tube, and the mastoid cells, and not fall into the error of speaking later in the book of the "Eustachian tube and the middle ear," or of "the mastoid cells and the middle ear," as if the one did not include the other.

The paragraph on the Pathology of Chronic Mastoiditis seems not to take account of the condensing osteitis, or osteo-sclerosis, so frequently found when performing the radical mastoid operation.

Again, the experience of some of us would make us question the wisdom of the statement on page 501, that the beginning hypodermic dose of pilocarpin is gr. 1-10, 1-8, or 1-6. We would rather suggest gr. 1-16, or at most gr. 1-12, as the maximum safe initial dose, even for adults.

We have been unable to find any mention in the book of the value of Lip-Reading as an aid to the hard-of-hearing, and are convinced that it is of sufficient value to be worthy of a place in future editions of this work.

These suggestions are made not in a spirit of criticism, but with a desire to strengthen an already strong book, which is in the main thoroughly sound on the live questions of present-day otology—thoroughly readable and excellently illustrated—a book bound to prove of great value to the student, the general practitioner, and the specialist. J. E. S.

Medical Society of the State of New York

SCIENTIFIC SESSION.

DISCUSSIONS.

ANNUAL MEETING, January, 1908.

MEDICAL LIBRARIES FOR THE SMALLER CENTERS.

DR. SMITH BAKER, of Utica, N. Y., read a paper with the above title, for which see page 361.

Discussion.

DR. A. VANDER VEER, of Albany, regarded the objects of the paper as three-fold: First, to stimulate among the profession, particularly of villages and small towns, a desire to get at the medical literature of the day; second, to establish in connection with local libraries, a medical department; third, to obtain the co-operation of the library at Albany to act in connection with local libraries. Dr. Vander Veer stated that the library in Albany was now prepared to send out a circulating library, but that as soon as the new library building could be completed many more books and duplicates would be available.

DR. A. JACOBI, of New York, called attention to the fact that such an organization as the Association of Medical Librarians existed, and that it could do more and better work with increased membership. He stated that for a number of years, the exchanges have not been as copious as they should have been, and that if there were more members (the present number being fifty) the work would be better. He advised the physicians in the smaller towns and villages that have no libraries, to become members of the Association of Medical Librarians and so obtain access to the journals and exchanges.

ANNUAL MEETINGS OF THE DISTRICT BRANCHES, 1908.

First District Branch—October 21st, in Poughkeepsie.
Second District Branch.
Third District Branch—October 27th, in Troy.
Fourth District Branch—October 13th, in Amsterdam.
Fifth District Branch—October 15th, in Utica.
Sixth District Branch—October 6th, in Binghamton.
Seventh District Branch—October 20th, in Auburn.
Eighth District Branch—September 23d to 24th, in Batavia.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF CHAUTAUQUA.

THE TRI-ANNUAL MEETING WAS HELD AT THE PEACOCK INN, MAYVILLE, N. Y., MAY 26, 1908.

Scientific Program.

Paper, E. A. Stormes, M. D., Cherry Creek; "Syphilis," B. F. Illston, M.D., Jamestown; "Cesarean Section," I. A. Weidman, M.D., Dunkirk; "Tubercular Peritonitis," J. W. Nelson, M.D., Jamestown.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, June 16, 1908.

Program.

1. "Remarks on the Influence of Fat-Free Diet in Infant Feeding," by J. P. Crozer Griffith, of Philadelphia. Discussed by H. D. Chapin, M.D., of Manhattan; Thomas S. Southworth, M.D., of Manhattan.
2. "The Correlation of Physiology and Infant Feeding," by Joseph E Winters, M.D., of Manhattan. Discussed by LeGrand Kerr, M.D., of Brooklyn; E. H. Bartley, M.D., of Brooklyn.
3. "Leontiasis Ossea Developing in a Child with Diabetes Insipidus, and the Question of Etiology," by L. C. Ager, M.D., of Brooklyn. Discussed by Frederick Tilney, M.D., of Brooklyn.

Section on Pediatrics.

Clinical Meeting, June 12, 1908, at 4 P. M.

Scientific Program.

Symposium on Heart Disease in Children.

Presentation of Patients.

1. A Case of Congenital Heart, Archibald D. Smith, M.D.
2. A Case of Mitral Insufficiency, Showing Results of Treatment, L. C. Ager, M.D.
3. A Case of Mitral Regurgitation, F. B. Van Wart, M.D.
4. A Case of Mitral Regurgitation, LeGrand Kerr, M.D.
5. A Case of Mitral Stenosis and Regurgitation, Alexander Spingarn, M.D.
6. A Case of Pulmonary Stenosis, Lester W. Volk, M.D.
7. A Case of Aortic Regurgitation, Alexander Spingarn, M.D.

Miscellaneous Cases.

8. A Case of Sporadic Cretinism, George F. Little, M.D.
9. Cases Illustrating the Late Deformities of Acute Anterior Poliomyelitis, F. B. Cross, M.D.
10. A Case of Transposition of the Viscera, L. C. Ager, M.D.
11. A Case of Cerebellar Tumor, Archibald D. Smith, M.D.
12. Two Cases of Hereditary Spinal Spastic Paraplegia, Alexander Spingarn, M.D.
13. A Case of Chronic Lymphangitis, F. B. Van Wart, M.D.
14. A Case of Purpura Hemorrhagica, F. B. Van Wart, M.D.
15. A Case of Tuberculous Dactylitis, Archibald D. Smith, M.D.

MEDICAL SOCIETY OF THE COUNTY OF NIAGARA.

The Regular Meeting Was Held at the Kenmore Hotel, Lockport, N. Y., May 8, 1908.

Scientific Program.

"The Role of Digitalis in the Treatment of Heart Disease," De Lancey Rochester, M.D., Buffalo.

Presentation of Cases.

Dr. W. A. Scott presented some fæcal matter, which had been taken from a child.

Dr. J. H. Miller presented a specimen of intestine from a typhoid patient, showing two perforations; and a specimen of a heart showing two large firm organized blood clots attached, one to the mitral valve and extending into the aorta, and the other attached to the tri-cuspid valve and extending into the pulmonary artery.

OTSEGO COUNTY MEDICAL SOCIETY.

The Semi-Annual Meeting Was Held at the Court House, Cooperstown, N. Y., June 9, 1908.

Scientific Program.

Symposium on Adenoids and Diseases of the Tonsils.

(*a*) From a Surgical Standpoint, A. H. Brownell, M.D.

(*b*) Local or Absorbent Treatment, H. Worthington Paige, M.D.

(*c*) Relation to Systematic Diseases, J. H. Moon, M.D.

A Talk on "Diagnosis of Smallpox," by O. W. Peck, M.D., Smallpox Expert, State Department of Health.

Paper on "Infantile Diarrhœa," J. W. Swanson, M.D.

General Discussion on "Morphine, Cactine, and Hyiscine in Surgery and Obstetrical Practice," led by M. Latcher, M.D.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

The Semi-Annual Meeting Was Held at Newman's Lake House, Saratoga Lake, June 17, 1908.

Scientific Program.

Address by the Vice-President.

"Renal Insufficiency," H. G. Hughes, M.D.

Scientific review of the following sections at the fifty-ninth session of the American Medical Association, held at Chicago in June, 1908.

Description of Section on Pediatrics, Frank Vander Bogert, M.D.

Description of Section on Surgery, Charles G. McMullen, M.D.

ONEIDA COUNTY MEDICAL SOCIETY.

The Oneida County Medical Society held its midsummer meeting in conjunction with the "American Association for the Study of the Feeble-Minded" at the Rome State Custodial Asylum, Wednesday, June 24, 1908.

The American Association for the Study of the Feeble-Minded held a three-day session beginning June 22d.

SCHOHARIE COUNTY MEDICAL SOCIETY.

The Semi-Annual Meeting Was Held in the Hotel Augustan, Cobleskill, N. Y., June 10, 1908.

Scientific Program.

"Tuberculosis of the Bladder," with demonstration of use of Cystoscope, by Dr. James Vander Veer, Albany.

DEATHS

"Life is ever lord of death,
And love can never lose its own."

Charles A. Foster, M.D., a member of the staff of the Manhattan State Hospital for the Insane, Ward's Island, New York City; died May 19, 1907, aged 58.

George Gallagher Hopkins, M.D., a veteran of the Civil War, died suddenly in Brooklyn, May 23d, aged 64.

Thomas G. Hyland, M.D., died suddenly, May 26th, from angina pectoris, aged 50.

Enoch Vine Stoddard, M.D., from 1873 to 1890 professor of materia medica and therapeutics and thereafter emeritus professor in the University of Buffalo, Medical Department; died at his home in Rochester, June 6th, aged 67.

Edward Hadley Tweedy, M.D., died at his home in Buffalo, May 13th, from septicemia after an illness of about a month, aged 43.

Robert J. Watts, Jr., M.D., died at his home in New York City, June 8th, from chronic nephritis, aged 41.

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Original Articles

THE OBSTETRIC FORCEPS.

By J. K. QUIGLEY, M.D.

Assistant Obstetrician to the Rochester City Hospital,

ROCHESTER, N. Y.

NO instrument used to-day in medical or surgical work has been such a boon to humanity as the obstetrical forceps.

No instrument presents such an interesting history of invention and development. There is some difference of opinion as to the inventor of the instrument, but that this distinction does not belong to the Chamberlens as was for a long time supposed seems evident. The need of some mechanical aid to the extraction of children, the substitution of a *vis-a-fronte* for an exhausted or deficient *vis-a-tergo* was felt as early as the days of Hippocrates, who recommended the insertion of the hands to aid in extraction. We find, however, no reference in the work of Hippocrates, Celsus or Galen of the existence of such an instrument.

Probably the first authentic record of the use of the forceps is in the writings of Avicenna, an Arabian physician, born 980 A. D.; he mentions the use of forceps to deliver living children. His account, written in Arabic, was in 1555 translated into Latin. He was the author of several books, among them "Canon Medicinæ," a classic for six centuries. The next we hear of the forceps is that form used by Albucassis, who was born near Cordova and died in 1122 at 101 years of age. This instrument, however, could not have been used for the extraction of living children, for the inner side of the blades or jaws were provided with teeth, consequently their purpose must have been the extraction after the death of the fetus.

Jacobus Ruoff, a native of Zurich, born in 1524, described a long and short forceps. These instruments were very crude and their utility was somewhat limited as can be inferred from the fact that the two branches were permanently joined, did not permit of disarticulation, and, consequently, had to be applied as a whole. This brings the story of the forceps down to the famous Chamberlen family, the father of which, William, sought England as an asylum in 1596, having fled from France because of religious persecution. His two sons, Peter, the younger, and Peter, the elder, began practice in London. They became successful, and were pre-eminent in midwifery, claiming with some authority that they could effect deliveries when all others had failed. The younger Peter died in 1626, leaving several children, one of whom was called "Doctor Peter" to distinguish between father and uncle of the same name. He was well educated and settled in London. He was elected F.R.C.P., and like his father he was very successful, particularly in obstetrics, though possessing some of the qualities of a quack. His egotism is evinced by his epitaph which he himself wrote, beginning:

> "To tell his learning and his life to men,
> Enough is said, here lies Chamberlen."

He died in 1683. One of his sons, Hugh, a physician also, because of too active participation in politics, fled from England to France (over a century after his great-grandfather, William, had fled from France to London). Here he attempted to sell for 10,000 livres the family secret of the forceps to the Parisian obstetrician, Mariceau. To test his ability he was given a rachitic dwarf to deliver and failed. The patient died in three hours and an autopsy showed a ruptured uterus. He returned home, and about 1782 sold the secret to Roonhuysen, of Holland. Later it was sold secretly to each candidate licensed by the Medico-pharmaceutical College of Amsterdam.

After a few years the secret was purchased and made public (Vischer and Vander Poll). It was then discovered that the secret invention bought by the licentiates was in latter day parlance in the nature of a "gold brick," for they were swindled into accepting for good coin of the realm one blade only of the Chamberlen forceps.

Hugh Chamberlen left a son, Hugh, Jr., (1664-1728) also a practicing physician, a much esteemed and public spirited man. He disclosed the family secret, and forceps were in general use in England in a short time. Some historians, however, claim that the credit for making public the description and use of the forceps belongs rather to Giffard, who about the time of Hugh Chamberlen, the younger (1724-31), had 225 forceps deliveries and whose report of these cases with illustrations of the instruments and descriptions appeared after his death in 1733. However, this may be, the Chamberlens did not invent the obstetrical forceps, but greatly im-

proved the instrument of Ruoff by inventing a lock which allowed of disarticulation of the branches. They also fenestrated the blades. They thus made valuable the invention of another man, a brilliant and ingenious work, but lost the fame and honor for this by their unprincipled and mercenary action in keeping secret this life-saving discovery in order to restrict the use of it to their own family for four generations, and later selling it.* Aveling says, "It is not fair to judge men of 200 years ago by the ethics of to-day, but the general opinion of the conduct of the Chamberlen family is one of condemnation."

Though most text-books contain cuts of the Chamberlen forceps, it might be well to briefly describe the characteristics of the four pairs of instruments found in 1813 by the housekeeper of a brewer who purchased the old Chamberlen country house. They very plainly show in four stages the development of the instrument in the Chamberlen family. They were short, possessed the cephalic curve only, and were necessarily straight.[1] The handles were not unlike those of a large pair of shears; the lock was not adequate, and it was found necessary to bind the handles together. From this meagre description it is readily appreciated that only the low operation was practiced by the Chamberlens, or the many who used the instrument, till the time of Levret and Smellie, both of whom simultaneously did much to broaden the field of forceps operation.

Levret, in 1747, added the French lock, pelvic curve, and shank, making the long French forceps of to-day. Smellie published in 1751 a description of his instrument possessing a pelvic curve and English lock. This was a short instrument.[2]

At the beginning of the nineteenth century every important obstetrician invented a forceps, attached his name to it, or if he was unable to invent, he modified some one's else, till there were about two hundred different iustruments described, some of which existed only on paper. There was no real farther advancement till 1877, when Tarnier enunciated the brilliant principle of axis traction by the invention of the instrument bearing his name. He estimated that of every thirty pounds applied in traction in high forceps operations twenty-six pounds were exerted upon the unyielding symphysis. It is claimed that forceps had much to do with the decline of the practice of midwifery by women alone and that shortly after their introduction the "man midwife" was seen.

INDICATIONS AND TECHNIQUE.

Having gone rather deeply into the history of the forceps, their indications and technique will be considered. The former are well known and require but little attention here. Briefly: any condition threatening the life of mother or child in which time is a factor, and if not otherwise met, calls for the use of the forceps.

TROUBLES WITH PASSENGER OR PASSAGES.

A.—*Passenger.* 1. Prolapsed cord; 2. Premature separation of placenta. Danger signals are a fetal heart below 100 or above 160, weakness of the fetal heart. Discharge of meconium in a vertex presentation is almost indubitable proof of impending fetal asphyxia.

B.—*Passages.*

1. Obstructive.
(a) Contracted pelvis.
(b) Rigidity of parts as in elderly primiparæ.
(c) Malpositions.

2. Deficient expulsive forces, abdominal and uterine inertia. This is probably the chief indication. Edgar in 208 forceps operations gives uterine inertia as an indication in seventy-five cases or 36 per cent.

3.—Miscellaneous. Acute infectious diseases; serious heart, lung and kidney conditions; eclampsia, etc.

In general this is a safe rule to follow: If there is no progress in two hours' time in the first stage of labor in the presence of fairly regular pains or should there be no advance in one hour in the second stage (*e. g.*, after full dilatation) use forceps regardless of the length of time the patient may have been in labor.

CONDITIONS WHICH MUST OBTAIN BEFORE FORCEPS ARE RESORTED TO.

The first and most important is a fully dilated cervix. Forceps may be applied, it is true, to a cervix dilated only to two or three fingers, but it is never allowable to apply and depend upon the head to complete the dilatation. Hirst makes one exception to this rule, viz: in valvular diseases of the heart. The hand is a better dilator, even where haste is imperative, than the forceps. Why not, therefore, carry our full dilatation manually to such a degree that the cervix will admit of the entrance of the average sized closed fist?

* "The ethical rule which governed the conduct of the Chamberlens was not found in the teachings of Hippocrates, and no one for a moment can suppose that if Sydenham or Harvey had invented the forceps, and learned their great value in the saving of human life and the relief of human suffering, either would have kept it secret, but rather would have hastened to proclaim the instrument and its importance to the physician." (From article in Handbook of Medical Sciences by Theophilus Parvin of Philadelphia.)

[1] This alone would account for the failure of Hugh Chamberlen, Sr., to deliver the rachitic dwarf before Mariceau.

[2] The writer has in his possession the third volume of Smellie's System of Midwifery, published in London, in 1779, and the following quotations are of interest historically:

"Case 3.—A laborious birth from the large size of the head and the smallness of the pelvis in the mother, delivered with the blunt hook.

In the year 1727 I was called in the forenoon to a woman at some distance in the country, who had been several days in labor . . . I was informed next day that the patient gradually grew weaker, turned delirious and died next morning. I am now pretty certain from many examples since if I had been called the day before the woman would have been saved. I am also convinced that *if I had known the use of the forceps,* I should not have been obliged to tear open the child's head."

"Case 5.—In the year 1753 I was called by a midwife to a case of the same kind where I extracted the head *with the forceps.*"

Second. The largest cranial diameter must already have engaged in the pelvis; in other words forceps should not be applied to a floating head. The head must engage or be made to engage, if not, version is indicated.

Third. Membranes must be ruptured or forceps will either slip and damage mother, or, if the grasp is retained, placental detachment and consequent fetal death will result.

Fourth. There must not be too great a disproportion between the size of the fetal head and pelvis.

The head must not be too large as in hydrocephalus nor too small or the forceps will slip off. The perineum is always ruptured in slipping in the low operation. Considerable progress has been made recently in fetometry, or the measurement of the fetal head *in utero*, and it is in such conditions as these that it will probably prove of considerable value.

The pelvis, conversely, must not be too small. Speaking generally, forceps are contra-indicated in contracted pelvis. If, however, the head is engaged, or can be made to engage, high forceps should be given a trial, and if, after moderate traction, we find we are not making any progress, the more serious operations should be considered, I say more serious. I question if a high forceps in considerable degree of pelvic contraction is more serious than Cesarean section.

Fifth. There must be a proper presentation. For instance, it is obvious that it would be useless as well as disastrous to attempt forceps delivery of a child presenting with chin posteriorly, for mechanically considered this is an impossible position.

The proportion of labors which are completed by forceps delivery varies from 1.3 per cent., as employed in the Brussels Maternity, to 9.45 per cent. of 2,200 cases compiled by Edgar from the records of two New York hospitals. In the Paris Maternity in 4,380 cases, 1896-99, the percentage was six, probably a fair average.

THE INSTRUMENT.

It is well to have two instruments, a medium length forceps preferably of Simpson type for median and low operations and a Tarnier axis traction for high. These I think it best to select from the multitude of varieties. The Tucker-McClean, or solid blade, has met with much favor in some localities. The disadvantage found by the writer is its tendency to slip, its thickness adds to the circumference of the fetal head, which is not true of other forceps, for the fenestra compensate for the thickness of the blade.*

Some operators use only the Tarnier instrument for all operations, with or without the traction rods, depending upon the position of the head. They are a bit unwieldy and cumbersome in the low operation, that is, however, largely a matter of personal equation.

FUNCTION OF THE FORCEPS.

The chief function is of course as a *tractor*, next as a *rotator*, as in occipito-posterior positions, but never under other circumstances. In fact, it is an open question whether rotation in post-vertex cases does not occur as a result of traction and not from special efforts in that direction.

As a *lever* in carrying out to and fro movements laterally (never vertically) and not more than thirty degrees, these three (traction, leverage and rotation) comprise the legitimate uses of the forceps.

The function of *compression* with that object in view is harmful and needless, though of course a slight degree of compression must result, formerly it was thought to be necessary to employ it in order that the head might engage. Forceps should under no circumstances be used as a *dilator*. Older writers spoke of the *dynamic force* or the reflex stimulating effect their use had upon the uterine muscle. This of course is incidental and probably does occur in the absence of full anesthesia, but the instrument is never applied nowadays with that end in view.

TECHNIQUE.

First—Make an accurate diagnosis of the position of the presenting part, *be sure that forceps are indicated* and not some other obstetrical operations, such as cesarean section or perforation. The preparation of the patient needs mention only. Scrub, clip or shave pubes. Use the vaginal douche if meconium is present, if there is a gonorrheal or suspicious discharge, or if many examinations have been made. Operate on a table, an ordinary kitchen table with twisted sheet for leg-holder is sufficient. A table is almost imperative in the high or median operation; its advantages are appreciated by those who have tried a difficult forceps delivery on a low movable bed.

Have hot and cold baths ready for resusitation of child, hot sterile douche for sudden post partum hemorrhage. Always be sure of an empty bladder and rectum, using the catheter as a routine. The anesthesia should be to the surgical degree.

A word as to asepsis: Sterilize the instruments. This, I confess, sounds superfluous, but one well known text-book recommends simply the immersion of the forceps in a pitcherful of boiling water. Submerge them completely and boil for ten or fifteen minutes Wear sterile gloves on hands as sterile as can be made by plenty of hot water, a brush and some soap followed by lime and soda or alcohol or bi-chloride.

* Whatever form of instrument is selected be sure it is from a reputable instrument maker, regardless of the cost, as severe accidents have resulted from breaking of cheaply constructed instruments.

CLASSIFICATION.

A good classification is that of Edgar. First: High, in which greatest diameter of fetal head has not passed the inlet. Second: Median, in which maximum circumference has passed the inlet; Median—A, Cervix not retracted over head, and in this case an intra-uterine operation; Median—B, Where retraction of cervix has occurred. Third: Low, or on pelvic floor. It is advisable especially in primiparae to dilate the vulva moderately before applying. Rupture the membranes.*

There are two modes of application, the pelvic and cephalic. In the first, the blades are applied to the sides of the pelvis; in the second or cephalic, the blades are adapted in relation to the fetal head. This latter is the more rational and scientific and is possible in median and many high operations. As the sagittal suture is antero-posterior in low positions the application is necessarily both pelvic and cephalic. In the cephalic application we seek to secure the most favorable grasp for the child's head to prevent injury to face, undue compression and a grasp where least room is required for blades—this is the biparietal.

Briefly described, its technique is as follows: Introduce right hand and search for posterior ear. Using this as a guide, apply the left blade. Introduce the right blade low down in the median line and rotate with left hand internally to a point directly opposite the other blade; lock, if handles will not lock re-apply one or both blades. Before beginning traction examine each blade well to be sure no cervix is included in the grasp. Begin traction with the amount and direction ever in mind. Many recommend that the operators be seated with forearms flexed, this no doubt insures against undue traction being exerted but does not allow of sufficient force in many high cases.

The direction of traction is all-important and the following of the curve of the parturient tract which curve is made up of the axis of the planes of the pelvic inlet, cavity of pelvis and outlet, is not to be disregarded. Just two cases to illustrate:

CASE I.—High forceps; operator expended about one-half hour of time and all the force he could command by bracing, hauling and twisting on a Tarnier axis traction instrument, all the time applying traction at or above the horizontal plane and of course against the symphysis, the operation proved to be an easy one on depressing his line of traction.

CASE II—Large multipara, brought to hospital; septic; vagina packed with ordinary cotton batting. On removal of packing and examination of vagina a laceration was discovered in one vaginal sulcus exposing the sacrum in the other through the broad ligament. This terrible condition was the result of a forceps delivery in which the sub-pubic arch had been used as a fulcrum, the tips of the blades tearing down through on either side of the rectum as described above.

* In case of inertia before deciding for operative intervention rupture the membranes; it will often exert a stimulating effect on an over-distended uterus and the accoucher may happily find forceps application is unnecessary.

Regulate compression by folded towel placed between the handles. Employ intermittent traction at intervals approximately of one minute and thus imitate nature as closely as possible. Release compression occasionally and so equalize the pressure on the skull. Note the progress of the head by index finger of hand nearest blades placed against it.

Having brought the head down to the perineum there are three courses open: First, deliver with forceps; Second, allow patient to come out from the anesthetic and deliver herself; Third, with the forceps engage the head in the vulvar orifice, maintain this engagement by the external hand posteriorly, take off the instrument and deliver the head under the anesthetic. The last method seems the best to the author for these reasons: First, the head is easily kept under control; Second, the perineum does not have to bear the additional thickness of the forceps blades, therefore, lacerations are not as liable to occur; Third, it is more rapid than the second method, safer and occasions no further suffering to the patient.

The description so far given is general—applies to all forceps operations. In the high operation, the axis traction instrument is used, applied as ordinary forceps, but the traction is done entirely by the accessory handles until the head is past the brim.

FORCEPS UNDER SPECIAL INDICATIONS.

First, Occipito-posterior—In persistent occipito-posterior position in the median or low operation the cephalic application should be made. Forceps may be applied reversed or upside down, head brought down to floor, rotated and delivery completed without a second application being necessary or the double application advocated first by Scanzoni may be made. Apply blades to sides of head with pelvic curve toward face, bring down to pelvic floor, rotate, which will bring the forceps to the reversed position, take off, and reapply and complete delivery as in ordinary anterior case. In breech and aftercoming head, the forceps have little use as other methods are preferable, particularly in the latter. In face presentations, anterior, in case of dystocia, forceps are allowable, maintaining the full extension till birth of the child under the pubic arch and then employing traction sharply up over the maternal abdomen, flexing the head. The use of forceps as a rotator in posterior chin cases has fallen into disuse because of maternal injury.

PROGNOSIS.

A few years ago forceps were more dreaded by the laity than now because no doubt of their abuse. The suggestion of "instruments" to the patient often aroused bitter opposition from either herself or her family. This prejudice was many times due to the experience of a relative or friend who had suffered severely from

their use. The forceps have been called the bloodiest of obstetrical instruments; they may be, but need not be. I would not minimize the seriousness nor dangers of these instruments but in experienced hands with clean cut indications for their use, forceps operations are not the mutilating procedure pictured by some. The prognosis for the mother depends much upon the condition which the delivery is to relieve. In the Tarnier Clinic in the years of 1894-1899, of 236 forceps deliveries 206 children were delivered living, there being thirty still births, a mortality of less than 15 per cent. This is not an accurate nor fair estimate, however, for it does not follow that because there were thirty still births the deaths were all due to operative interference. There were two maternal deaths, a mortality of one per cent. Edgar's statistics of 208 cases are eleven still born, one died in puerperium—a mortality of 5.7 per cent. Hirst says the mortality of a forceps operation *per se* should be *nil*. He probably means here maternal mortality.

Lacerations.—With care, there should not be a greater liability to perineal tears than in spontaneous cases. The operator must guard against slipping, however, or tears will result. *Cervical lacerations* result from a cervix not sufficiently dilated or from its inclusion in the grasp of the blades.

Uterine atony and hemorrhage are more apt to follow forceps deliveries than a normal case, but need not add much to the gravity of the condition, if he means for their arrest are in readiness. For the child, one of the commonest complications is facial paralysis resulting from pressure of forceps on the nerve as it emerges from stylomastoid foramen. The prognosis is usually good, clearing up in a few weeks at the most—not so the paralysis resulting from intracranial lesions such as hemorrhage and depressed fractures—these fortunately are rare.

In summary, if there is any one injunction that needs more emphasis than another it is, don't hurry, particularly when the head is well down. The prophylactic treatment of a fistula or a tear through the sphincter ani is much easier than the curative and will prove less embarrassing to the reputation of the accoucher. Practice asepsis; diagnose the position; remember that the mechanism of labor has a scientific basis and imitate it as closely as possible.

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APPENDICECTOMY WITH DESCRIPTION OF A METHOD.*

By TENNYSON L. DEAVOR, M.D.

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TO-DAY the subject of appendicitis is so well defined in volumes of definite and valuable literature that any deviation from the accepted surgical treatment of the disease should be announced with some degree of apology. Appendicectomy is here used because it is more euphonious than the term appendectomy, though the latter is etymologically correct and is preferred by most, if not all, medical dictionaries.

It is reasonable to suppose that appendicitis has existed ever since the creation of man, for while there is no voice lifted to substantiate the fact, there is also not a syllable on record to prove the contrary. Many centuries ago, it was observed that suppurative inflammation in the peritoneal cavity manifested a predilection for the right iliac region.

For a hundred years following 1759, incision into the right iliac fossa for the relief of purulent collections, supposed to have been caused by inflammation of the cecum and surrounding structures, constituted the most important step toward the treatment of appendicitis not then clearly recognized. During the first half of this century, few cases were operated upon before the sign of fluctuation presented. Later on more boldness was manifested. Fluctuation came to be considered a late symptom, portending widespread inflammation and great danger. Early diagnosis was insisted upon. The findings at autopsy proved that the disease was intra-peritoneal, and in almost every instance confined primarily to the appendix. Then came the advent of antisepsis by Lister, making all surgery more hopeful.

A few operators, willing to give up the older terms typhlitis and perityphlitis, now turned their attention to the appendix, stitching up perforations, or placing a ligature at its base, leaving the organ intact. All this time, however, surgical knowledge of the subject was gradually being centralized about one great thought, namely, early and complete removal of the appendix, with or without drainage. Soon the first appendicectomy was done by Krönlein in 1884. Since then able minds of both continents have contributed freely to the literature of the surgery of the vermiform appendix.

Thus by a process of evolution, a very small organ, unsuspected as a morbid entity, has gradually passed through a most painstaking pathological investigation. So that to-day a favorable outcome following timely removal of the appendix may be looked upon as one of the certainties of surgical practice. And the value of the several methods of treatment now in vogue

*Read before the Syracuse Academy of Medicine, February 4, 1908.

is signalized by the phenomenal success of the men who practiced them.

The appendix has been the subject of direct surgical intervention for over twenty years. It has been ligated and excised, amputated, inverted, ligated in continuity, removed in section, closed by suture when perforated, and even incised and drained as in the operation of appendicostomy.

Every surgeon of extended experience in the treatment of appendicitis wisely learns to correct the slightest defect in his operative procedure, even though it be characterized by smoothness and dexterity. Eventually he comes to follow some form of technic which, for him, accomplishes the best available results. And this is commendable. For the practice of too many different methods by the same individual has a tendency to swell the percentage of mortality.

The great body of medical men everywhere are now strongly united upon one theory, that a diseased appendix is a very dangerous organ, and calls for prompt surgical attention. But there will always exist that little difference of opinion in the minds of some as to what is the best course to follow, or just when to operate in a given case of appendicitis. Aside from this there is really but one other unsettled point associated with removal of the appendix, and that is the method of dealing with the stump.

Certain cases in which the appendix is anomalous in position; or is associated with perforation of the intestine or with coincident disease in the female pelvis; or is involved in malignant or benign tumor; or is the center of widespread suppuration and gangrene; or is the seat of complex multiple adhesions; are not amenable to any particular line of treatment, but call for such varied technic as wil meet the requirements of the individual occasion. We might here mention that form of the disease recently designated as posterior appendicitis, important chiefly from the standpoint of diagnosis.

But the number of cases of appendicitis in which excision of the appendix is feasible is indeed very large. Especially is this true of the various forms of chronic appendicitis, and of the many instances in which the organ is the seat of advanced acute inflammation.

With all deference to other methods of removal of the appendix when possible, I wish now briefly to describe one, which I have used in a fairly large number of cases, some of which were interval cases, others suppurative, and still others gangrenous with or without perforation. Comment is also made upon the form of incision, and the kind of ligature material used.

The following are the steps in the operation, some of which are common to all methods:

Incision and delivery of the appendix; ligation and division of the mesentery; dissection of peritoneal cuff back to the cecum; ligation and excision of the appendix, and disinfection of the stump; ligation of peritoneal cuff over stump; union of mesenteric stump with that of the appendix; closure of incision.

The appendix is delivered with as little of the cecum as possible, but this will vary with the individual case. My custom is usually not purposely to displace the omentum and intestines in searching for the appendix, but while traction is being made with the left hand, the right index and middle fingers are carried at once to the right side of the colon, then downward to the cecum, when, without seeing the longitudinal band of muscle fibres, the appendix is found and lifted out.

The mesoappendix, when present, is ligated in section, or preferably in one mass, a half inch from the cecum, the curved needle being carried close to the body of the appendix. This ligature is left long. When the mesoappendix is absent or very small, the appendicular artery, alone, is tied. Division of the mesentery greatly relieves the appendix, and gives immediate room, and the ease with which a peritoneal cuff can be rolled back to the cecal junction, is well known to every one. This cuff should be long enough to allow for retraction. The body of the appendix is now ligated close to the cecum and excised. Disinfection of the stump is accomplished by means of the cautery or better by carbolic acid. A blunt probe without cotton nicely reaches all parts of the stump and its lumen. It is a wise precaution to displace the residue from the part of the appendix to be ligated, before placing the ligature, using a pair of dressing forceps. The field having been cleansed and dried, all sponges are now removed, and the peritoneal cuff returned and ligated like a sack over the end of the stump, and the ligature tied with that of the mesentery previously left long. This brings the cut edges together and practically obliterates all dead space and raw surfaces. The wound is now closed.

The procedure is a short, simple one, and requires but three ligatures, one for the mesentery, one for the appendix and one for the cuff which covers and protects the ligated stump. It is perfectly safe and calls for a limited amount of traumatism. No provisional ligature is applied to the base of the appendix, which takes time and injures the peritoneal sheath. Usually not a single stitch need be taken. These open the way for adhesions, for infection and for hemorrhage. The purse-string suture is unnecessary, since all vessels together with the lumen of the appendix are closed by ligature. Many cases of alarming or fatal hemorrhage have followed one or more of the various methods of disposing of the stump of the appendix within the wall of the cecum. And while these methods all have much to commend them, certain features are evident without discussion. For instance, a stump of appendix unligated, may bleed at any time within twenty-four hours after the operation, often from anomalous blood supply. A ligated stump cannot be inverted into the cecum. This is a physical impossibility. Hemorrhage from an in-

verted stump, not ligated, will flow into the intestinal tract, and this has characterized most of the cases of hemorrhage thus far reported. Late hemorrhage after appendicectomy is apt to follow slipping of a ligature, or erosion of an artery by gangrene, or relaxation of a crushed unligated stump. After proper ligation and sterilization, there can be little advantage gained by invaginating the stump into the wall of the cecum, and if the stump is not ligated it is dangerous anywhere.

Many different incisions, by which to reach the appendix, are recommended, but at this time wisdom forbids anything but a brief reference. The matter of making the incision is a simple one. Its closure requires skill. Muscle should be brought in contact with muscle, all space should be crowded out, and all hemorrhage checked. Transient drainage of the subcutaneous tissue in obese individuals will often save much anxiety. Muscle cannot resist strain, but fascia is strengthened in its action by contact with well-developed muscle. Sometimes while placing the deep sutures, muscle tissue will be seen to insinuate itself between the fascial edges. The cicatrix of these wounds is never so strong as those in which the cut edge of fascia is held in absolute apposition with its fellow of the opposite side.

The median incision in the female serves almost every purpose, and gives ready access to the pelvic organs, but drainage through a median incision is questionable, and has led to many disastrous results. Deaver's incision through the right rectus is a most excellent one, because here the strength of the fascia is reinforced by the body of the muscle. The McBurney incision is applicable to many cases, especially in those of business men whose time is limited and in large muscular individuals who subject themselves to much daily strain. And it may be used for drainage without great fear of subsequent rupture. A very simple device has helped me in protecting the future integrity of the abdominal wall, during drainage through the gridiron incision. It is the use of silk or linen traction threads applied to each layer of muscle or fascia. By gently pulling on these the wound may be opened or closed at will. Daily traction tends to prevent adhesion between the various layers. As suppuration gradually subsides, the sutures may even be tied together during the night, and eventually the fascial fibres resume their original position.

It is not strange that ventral hernia follows direct incision through the iliac fossa. Indeed it is a profound surprise that nature ever repairs the break, when we recall the anatomical structure of the abdominal wall. Cutting directly through this region produces an opening that is hexagonal in shape, and though the stitches when placed appear to hold the edges of the wound in apposition, a tendency to retraction continues for an indefinite time after the operation, resulting frequently in the formation of a cleft.

As to the selection of ligature material I have so far used nothing but chromocised catgut. Some prefer silk or linen thread. It is a matter of choice, but we should not forget that an unabsorbable ligature may prolong the suppuration of a wound into weeks or months, or be the sole cause of a sinus persisting for years.

I have recently made some experiments upon the physical properties of chromocised catgut. And it was found that in tying a ligature about a vessel or pedicle, the amount of traction force required varied from three to ten pounds. A piece of size No. 1 taken from a sterile tube, accurately measured and subjected to a traction force of six pounds, was increased in length only one-eighth of an inch, and on removal of the weight practically returned to its former length. A similar piece of material dipped in a warm solution of salt or bichloride of mercury until soft and pliable, under the same force, increased in length one and one-fourth inches, and did not perceptibly shorten on removal of the weight. Two ligatures, same length and size, one softened as before, the other dry, tied equally tight about a solid body, were immersed in sterile salt solution until softening was complete. The result was that the dry ligature was markedly loosened, while the ligature previously softened before tying, remained perfectly tight, the knot being firm and secure. Now, this is convincing evidence, that without very strong traction, a tight, durable knot can hardly be formed with dry catgut, but that by slightly softening the same material before using, very little force is required to produce a closely fitting knot, which will not relax its hold on further softening by the tissues.

Perhaps the mere thought of leaving the stump of the appendix in the abdominal cavity has led to much speculation and unwarranted apprehension. It can do no harm if ligated close to its origin and sterilized. It seems wrong to injure the cecum by puncture or otherwise when the appendix alone is affected.

Surely much depends upon thorough cauterization, for if the mucous membrane is well destroyed down to the ligature no dead space remains, but adhesion of surfaces leading to obliteration of the lumen rapidly takes place, sealing, for all time, any communication by way of the appendix with the peritoneal cavity.

It has been my pleasure on several occasions to reopen the abdomen subsequent to removal of the appendix, and I have been agreeably surprised to find that the process of atrophy had reduced the stump previously left to an insignificant and harmless remnant.

The power of imparting knowledge, gained second-hand, fluently and even skilfully, is not an uncommon gift and is possessed by many who have never engaged in research and have no especial inclination or aptitude for it, but the teaching of him who has questioned Nature and received her answers has often, and I think commonly, in spite it may be of defects of delivery, a rarer and more inspiring quality.—*Dr. William H. Welsh.*

DIFFUSE PERITONITIS IN WOMEN*

WITH REPORT OF FIFTY CASES.

By ELLICE McDONALD, M.D.

NEW YORK, N. Y.

PERITONITIS is usually the result of some pathological lesion of which it is a grave complication. These pathological lesions may rarely be accompanied by peritoneal involvement, and may be, in themselves, when uncomplicated, comparatively benign diseases, while others may be grave and even fatal. The gravity of the peritoneal lesion, however, causes treatment to be directed towards it, and it may be considered almost a clinical entity to be studied as such.

While the cause of peritonitis is in every case an infecting micro-organism, the gross causes of origin and mode of infection of these organisms have important bearing on the prognosis and treatment of the disease. Thus a peritoneal infection from the Fallopian tubes has a different course from an infection with a similar organism from the small bowel. The gross causes of peritonitis are many and the frequency and severity of the peritonitis associated with them are in the main different.

It is important, therefore, not only to study the various bacteriological causes of infection, but also the various modes of transmission of these bacteria. A more accurate knowledge of the course and severity of the different forms of peritonitis will aid the plan of the treatment which is at present vague and unsettled.

In the study of peritonitis, distinction should be made between the two forms, localized and diffuse. Localized peritonitis is that in which the infectious material is well surrounded by limiting adhesions and other structures, as intestines, so that all pus is confined. Diffuse peritonitis, on the other hand, may not necessarily be spread over a wide area, but the pus is not limited but free in the peritoneal cavity. The old term "general peritonitis" is not absolutely exact, although in common use; in this series the term diffuse peritonitis is taken to mean that the peritoneal infection has spread to both flanks and the pelvis.

Recent contributions upon this subject have helped to extend our knowledge and improve the treatment of the condition. Clairmont[1] and Ranzi in a study of 41 cases of diffuse peritonitis have discussed the etiology, symptomatology and treatment. There were 25 cases of diffuse purulent infection of the peritoneum after appendicitis. Fifteen cases ended fatally. Those infections following perforation of the appendix were less dangerous than those following rupture of perityphlitic abscess and the infections following gangrene were the most serious. After the perforation of the stomach there were six cases with three deaths. Two patients died following infection from duodenal ulcer. There were two cases from gall-bladder disease. One case followed rupture of a pelvic abscess and one followed an incarcerated hernia. Four infections were caused by traumatic rupture of the intestines.

Dudgeon and Sargent[2] in a study of 258 cases of peritoneal lesions found diffuse peritonitis 56 times. In those cases, the peritonitis followed infection from the bowel 45 times, being distributed as follows: after strangulated hernia, 4; after intestinal obstruction, 3; after perforated gastric ulcer, 9; after perforated typhoid ulcer, 1, and after appendicitis, 28. There were 40 cases of appendicitis with localized abscesses amongst the series of 258 cases of peritoneal involvement. Four cases of diffuse peritonitis were due to pelvic causes, one to rupture of a pyosalpinx, two to infected ovarian cysts, and one to pyometra from pneumococcus infection. Accidental infection, as post-operative extension of an infectious process, accounted for six cases.

These authors state that of 258 cases of peritoneal lesions the staphylococcus albus was isolated 108 times.[3] "They claim to have established the pre-eminence of the colon bacillus as a cause of peritonitis and to have disproved the favorite theory that the lesions of peritonitis of intestinal origin are due to the common pyogenic cocci which have been outgrown by the colon bacillus."

The circumstances of 241 operations for peritonitis are related by Noetzel.[4] There were 165 cases of peritonitis after appendicitis with 81 deaths. There were 38 cases from inflammatory pelvic conditions. Five cases of puerperal peritonitis are recorded with three deaths. Diffuse peritonitis followed gall-bladder disease in six instances. Twelve cases followed perforated gastric ulcer and eleven cases were caused by perforated small intestine. Four cases are added from other causes.

These three studies comprise 338 cases of diffuse peritonitis in persons of both sexes. In 218 cases (67.4 per cent.) the peritonitis was due to appendicitis. Gastric ulcer was a cause in 27 cases, bowel ulcer in 140, and infection of the gall-bladder in eight. Extension of infection from pelvic inflammatory disease caused diffuse peritonitis in 38 cases (11.2 per cent.) of the combined series. Diffuse peritonitis associated with pregnancy of the puerperium is mentioned by only one of the three authors, so that this has no statistical value.

In these combined series it may be seen that the frequency of diffuse peritonitis from bowel lesions is relatively high, while that from pelvic causes is proportionately small. Puerperal diffuse peritonitis enters only into one series and that in very small percentage (1 per cent.). The following series* of 50 cases of diffuse peri-

*Read before the Medical Society of the State of New York, January 28, 1908.

* The majority of these cases were studied or are from the records of the Bender Laboratory.

tonitis will give a more exact idea of the frequency with which the various causes operate in the production of this lesion in women. These cases have been arranged with some idea of placing them into classes according to their main causes.

INFECTIONS FROM BOWEL.

Case.	Local Lesions.	Character of Peritonitis.	Complications.	Organisms.
1.	Carcinoma of sigmoid.	Acute purulent.	Intestinal obstruction.	Streptococcus.
2.	Carcinoma of sigmoid.	Acute fibro-purulent.	Intestinal obstruction.	——
3.	Carcinoma of small intestine.	Acute purulent.	Perforation. Acute bronchitis.	Streptococcus.
4.	Carcinoma of intestine.	Acute fibro-purulent.	Perforation.	——
5.	Carcinoma.	Acute fibro-purulent.	Perforation.	Bacillus Coli.
6.	Cholelithiasis. Cholecystitis.	Acute fibrino-purulent.	Perforation of gall-bladder.	Bacillus Coli.
7.	Chronic cholecystitis.	Fibrino-purulent.	Gangrenous gall-bladder.	Bacillus Coli.
8.	Cholecystitis.	Fibrino-purulent.	Perforation of gall-bladder.	
9.	Perforated gastric ulcer.	Purulent peritonitis.	Fibrino-purulent pleuritis.	Streptococcus. Bacillus Coli.
10.	Perforated gastric ulcer.	Fibrino-purulent.	Bilateral purulent pleuritis.	——
11.	Perforated duodenal ulcer.	Fibrino-purulent.	Gastric ulcer. Abscess in lung and kidney. Cholelithiasis.	Bacillus pyocyaneus.
12.	Acute gangrenous pancreatitis.	Purulent.	——	Streptococcus.
13.	Perforated appendicitis.	Fibrino-purulent.	——	——
14.	Perforated appendicitis.	Acute purulent.	——	Staphylococcus aureus. Streptococcus.
15.	Perforated appendicitis.	Purulent.	——	{Streptococcus. {Bacillus Coli.
16.	Perforated appendicitis.	Fibrino-purulent.	——	——
17.	Perforated appendicitis.	Fibrino-purulent.	——	——
18.	Gangrenous appendix.	Fibrino-purulent.	Perforation of intestine.	{Bacillus Coli. {Streptococcus.
19.	Gangrenous appendix.	Purulent.	Chronic salpingitis.	Pyocyaneus.
20.	Perforated ulcer of rectum.	Fibrino-purulent.	Old adhesions.	Bacillus Coli.
21.	Gangrene of bowel.	Fibrino-purulent.	Inguinal hernia.	Streptococcus Bacillus Proteus.

INFECTIONS FROM PELVIC ORGANS.

Case.	Local Lesions.	Character of Peritonitis.	Complications.	Organisms.
22.	Purulent salpingitis.	Purulent.	Chronic pelvic peritonitis.	Pneumococcus.
23.	Purulent salpingitis.	Fibrino-purulent.	Chronic pelvic peritonitis.	Pyocyaneus.
24.	Purulent salpingitis.	Fibrino-purulent.	Acute bronchitis.	——
25.	Ruptured pyosalpinx.	Purulent.	Salpingitis.	Bacillus Coli.
26.	Pyosalpinx.	Purulent.	——	Streptococcus.
27.	Pyosalpinx.	Purulent.	Tubo-ovarian abscess.	{Streptococcus. {Bacillus Coli.
28.	Purulent salpingitis.	Gangrenous and purulent.	——	Staphylococcus aureus.
29.	Purulent salpingitis.	Fibrino-purulent.	Purulent endometritis, tubo-ovarian abscess.	{Gonococcus. {Bacillus Coli.
30.	Infected ovarian cyst.	Purulent.	Cyst communicating with bowel.	——
31.	Infected ovarian cyst.	Purulent.	Pulmonary tuberculosis.	{Pneumococcus. {Bacillus Coli.
32.	Sarcoma of ovary.	Fibrino-purulent.	Chronic adhesive peritonitis.	Bacillus Coli.
33.	Rupture of gangrenous bladder.	Fibrino-purulent.	Hydrosalpinx.	Staphylococcus aureus.
34.	Carcinoma uteri.	Purulent.	Salpingitis.	Streptococcus.

TUBERCULOUS PERITONITIS.

Case.	Local Lesions.	Character of Peritonitis.	Complications.	Organisms.
35.	Ulceration of intestine.	Adhesive dry.	Perforation of intestine.	——
36.	Tuberculous salpingitis.	Adhesive dry.	Pulmonary tuberculosis.	——
37.	——	General miliary.	Chronic appendicitis. Pulmonary tuberculosis.	—— ——
38.	Tuberculosis of tubes, uterus and ovaries.	Fibrinous with some fluid.	Pulmonary tuberculosis.	——

PERITONITIS IN PREGNANCY.

Case.	Local Lesions.	Character of Peritonitis.	Complications.	Organisms.
39.	Acute hemorrhagic endometritis.	Acute suppurative.	Acute suppurative endocarditis. Septic pneumonia.	Staphylococcus aureus.
40.	Abortion. Acute suppurative endometritis.	Acute purulent.	Acute suppurative salpingitis.	Pneumococcus.
41.	Premature labor.	Acute purulent.	Bilateral gonorrheal salpingitis.	Bacillus Coli. Streptococcus. Conococcus.
42.	Abortion. Gangrenous endometritis.	Acute purulent, with petechial hemorrhages.	Acute yellow atrophy of liver.	Streptococcus. B. capsulatus aerogenes.
43.	Acute exudative endometritis.	Acute plastic.	Salpingitis. Hydrosalpinx.	Streptococcus.
44.	——	General plastic.	Pyosalpinx.	——
45.	Purulent endometritis.	Acute purulent.	——	Streptococcus. Bacillus Coli.
46.	Acute endometritis.	Acute purulent.	Abscess of cul-de-sac.	Streptococcus.
47.	Acute purulent endometritis.	Fibro-purulent.	Pericarditis.	Staphylococcus aureus.
48.	Acute purulent endometritis.	Acute purulent.	——	Streptococcus.
49	Gonococcus endometritis.	Acute purulent, with multiple focal collections.	Bilateral purulent salpingitis.	Gonococcus.
50.	Abortion.	Acute diphtheritic endometritis with suppurative infiltration of the uterine muscle.	Acute fibrino-purulent peritonitis. Embolic abscess of lungs and kidney. Ulceration of bladder.	Staphylococcus aureus.

BACTERIOLOGICAL TABLE.

	Infection from Bowel	Pelvis	Pregnancy	Total
Streptococcus alone	3	2	4	
" mixed	5	1	3	18
Bacillus Coli alone	4	2	..	
" " mixed	3	3	1	13
Staphylococcus aureus alone	..	2	3	
" " mixed	1	..	..	6
Pyocyaneus alone	2	1	..	
" mixed	..	..	..	3
Gonococcus alone	..	..	1	
" mixed	..	1	1	3
Pneumococcus alone	..	1	1	
" mixed	..	1	..	3
B. Capsulatus aerogenes mixed	..	..	1	1
Tuberculosis	..	..	..	4
Total cases studied bacteriologically	14	11	12	41

The consideration of these cases shows that there were 21 cases associated with bowel infection: of these eight (16 per cent.) followed appendicitis, two (4 per cent.) followed perforated gastric ulcer. In the combined series of both series, appendicitis as a cause accounted for 67.4 per cent., showing that diffuse peritonitis from this cause is very much greater in men than in women.

Peritonitis from pelvic causes, apart from pregnancy, existed in 13 cases (26 per cent.), in comparison with 11.2 per cent. of the combined series; but as the 12 cases associated with pregnancy are classified apart, this percentage is relatively greater, or 50 per cent.

Four cases of tuberculous peritonitis are included in the series in order to make the series and discussion complete.

Peritonitis associated with pregnancy comprised 12 cases (24 per cent.) of the series. The essential cause of peritonitis in pregnancy varied as did the infecting organisms.

Forty-one cases of the series were studied bacteriologically.

STREPTOCOCCUS PERITONITIS.

The streptococcus has a relatively large place in this series, while the colon bacillus is relegated to second place. It may be that, in fatal cases, the streptococcus occupies this position because of the severity of its infection.

The great mortality of this condition makes it of immense importance to understand the processes of the affection. It is marked by severe clinical manifestations with little evidence of repair on the part of the peritoneum. Pus is usually very generally distributed throughout the abdominal cavity with little or no effort at repair in the distant parts; the gut is dry, glazed and distended and intestinal paralysis soon follows.

Streptococcus infection differs from most other infections in that the blood serum does not acquire streptococcidal properties, but the destruction of cocci and relief from the infection is brought about by the leucocytes. Phagocytosis is an important factor in recovery and in addition to a leucocytosis, there must be an increase in the opsonin, *i. e.*, an increase in the power which prepares the leucocytes to engulf the bacteria.

Streptococcus infection of the peritoneum occurs in two ways: (1) from any focus of infection, as rupture or perforation of the intestine, rupture of an abscess; (2) by extension of the infection through the lymphatics to the peritoneal cavity. This latter form is most frequently found in the puerperium, where extension of the infection is from the uterine cavity through the broad ligaments to the peritoneum.

STAPHYLOCOCCUS PERITONITIS.

Staphylococcus infection of the peritoneum is another of the more common ones. It was found in this series in six cases. It is also a severe type and is marked by metastatic focal collections of pus in other parts of the body. Five of the six cases were caused by pelvic lesions and in three there were metastatic foci. In two cases of staphylococcus infection, there was involvement of the heart or pericardium, once as an acute suppurative endocarditis and once as pericarditis.

The frequency of cardiac involvement in staphylococcus infection or staphylomycosis has only recently been recognized and Otten[5] has reported 55 cases of such infection in which endocarditis developed in 25 per cent. This is a striking contrast to the frequency of endocarditis as an association of streptococcus infection in which it occurs in only a trifle over 4 per cent. of the patients.

There may be a single metastasis in the form of an abscess of the liver, brain or perirenal tissues or there may be multiple small foci or pus. As metastatic abscess formation is the rule, rather than the exception, constant care in examination of the patient should be taken in this form of peritoneal infection.

BACILLUS COLI PERITONITIS.

Colon infection of the peritoneum does not occupy as large a place as it does in Dudgeon and Sargent's series. It is usually the result of bowel infection and is marked by large amounts of pus which has often a fetid odor.

GONOCOCCUS PERITONITIS.

Gonococcus infection of the peritoneum is rare and the course is not usually severe. In one case, it was found in the puerperium in pure culture and was the result of old gonococcus salpingitis. On the third day of the puerperium, the temperature went to 101 degrees and pulse was 96. Pain, rigidity and vomiting with a temperature of 103 degrees appeared on the fifth day. On the sixth day indefinite masses in the abdomen and pelvis were made out on abdominal and vaginal examination. The pulse at this time was 120. Operation was refused. Death occurred on the seventeenth day. Autopsy showed a bilateral purulent salpingitis and general peritonitis of some duration. Collections of pus were found encapsulated by the intestines and adhesions in various parts of the abdomen.

In the other two cases, the gonococcus was associated once with the streptococcus and once with the colon bacillus. The pulse rate in this form of infection usually increases more rapidly than in the other forms of peritonitis. Rigidity and tenderness are usually marked. Pressure upon the abdomen and movement of the uterus in vaginal examination causes pain. There is often a characteristic tenderness in the posterior roof of the vagina. Recovery is the rule.

PNEUMOCOCCUS PERITONITIS.

Pneumococcus peritonitis occurred in this series three times, once associated with pregnancy. It is one of the more uncommon forms of peritonitis and of comparatively slight severity, save in isolated cases. A number of cases have been recently reported. Weichselbaum,[6] Bar and Tissier[7] have reported cases similar to these. That the condition is by no means rare, however, is shown by Armand and Bowen's collection of 91 cases of pneumococcus infection in children. They found that in half the cases the pus was encysted and that the peritoneal infection was usually secondary to some remote pneumococcal lesion. The exhaustive discussion by Jensen[8] of this form of peritonitis gives a very thorough idea of the subject. He reports several very interesting cases with a list of 143 references.

This form of peritoneal infection is characterized by a plastic exudate, very rich in fibrin, which causes adhesions and encapsulation of the exudate; quite rarely in the severer forms, the entire mass of the intestines adheres together and is surrounded by pus. In typical cases, the clinical picture is quite striking; the onset is that of an acute peritonitis followed very soon by a chronic stage with mild symptoms and indefinite masses on abdominal palpation. The diagnosis is never, however, certain without bacteriological examination, although one might suspect this infection from the thin odorless greenish-yellow pus and the abundant fibrinous adhesions. The process is very similar to that of gonococcus peritoneal infection. Prognosis is, as a rule, favorable, but recovery without operation is rare.

TUBERCULOUS PERITONITIS.

Tuberculosis of the peritoneal cavity according to Cummins[9] occurs in 3 per cent. of all autopsies and of all forms of peritonitis, 25 per cent. are tuberculous. Females, however, are much less subject to it than males. Genital tuberculosis is responsible for 40 per cent. of the cases in females. The average mortality is about 3 per cent. The primary focus of the disease is usually to be found and the peritoneal involvement is greatest in extent near the seat of local infection. According to Douglas,[10] Borseke failed to find the primary focus in two of 226 cases. The fibrous form of the disease gives the greatest percentage of cure and the ulcerative the smallest. Goeschel[11] has reported 19 cases with three cures and a number of others improved.

There are two kinds of lesions in this condition; those in which the peritoneum is alone involved and those in which there is a generalized infection of both surfaces of the intestine. Laparotomy is often of value in the separation of constricting adhesions which narrow or occlude the intestine or in the separation of agglutinated masses of bowel.

Diffuse peritonitis may also be caused by perforation in the course of a tuberculous intestinal and peritoneal process, as occurred in one case

reported here and in 26 cases collected by Herara and Patel.[12] Any aggravation of the condition in a known intestinal tuberculous affection should suggest this condition. Pain is significant, but it may lessen in severity or disappear. It, however, usually recurs and may be elicited by palpation. The lack of harmony between the pulse and the temperature, slight meteriorism, rigid abdomen and extension of the areas of dullness are all suggestive when accompanied by vomiting. Operative treatment offers little hope. Search for the perforation is usually hopeless on account of its small size and the fact that it is usually hidden by a serous covering.

PERITONITIS IN THE PUERPERIUM.

The effect of pregnancy and the puerperium upon peritonitis is very marked. The pregnant or recently pregnant woman is more susceptible to infection, in general, than the non-pregnant and is prone to disturbances of metabolism which lessen resistance and decrease elimination. All grades of toxemia of pregnancy render the patient more susceptible to infection. The traumatism of labor causes a local disturbance of circulation and the raw surface of the uterus bares a huge area for the entrance and growth of micro-organisms which may pass to the peritoneal cavity.

Peritonitis in the puerperium may be divided into the two forms: that from a previous focus of infection and lymphatic peritonitis. In the first class, the organism does not pass through the genital canal, but is the result of the lighting up of a previous focus of infection. Into this class fall all cases of infection from bruising of tumors, infection of ovarian cysts and rupture of pus tubes or purulent collections about the adjacent pelvic organs. Any variety of pelvic tumor may have its blood supply cut off and became inflamed and gangrenous, thus causing a peritonitis. The important point to recognize is that the pelvic lymphatics are not involved and that the treatment is that of non-puerperal peritonitis. However, it frequently happens that there may be associated two infections, one of which is of the nature of a lymphangitis and the other is the old focus lighted up. This occurred in case 41, where an old purulent gonococcus salpingitis became reinfected with streptococcus by lymphatic extension and ruptured, causing diffuse peritonitis.

There is, in this series of cases, no instance of peritoneal infection resulting from direct traumatism as necrosis of tumor from pressure or torsion of the pedicle. A fibroid may take on sudden growth during pregnancy and from torsion of the pedicle or sudden loss of nourishment from lessening of the blood supply after labor become necrotic and infected.

Similar causes lead to infection from ovarian cysts. Getter[13] has reported 21 cases where in spite of normal labors infection of the cyst has occurred and led to fatal peritonitis. The infection is usually widespread and severe and commonly due to the colon bacillus. Patton[14] has collected 321 cases of ovarian cysts in pregnancy. In 95 cases treated expectantly until labor, torsion of the pedicle occurred 29 times—four times during labor and 25 times during the puerperium. Rupture happened 13 times—three before and ten after or during labor. There were 25 deaths in the 95 cases, only four of which had operations after labor and 21 in those who were treated expectantly. Diffuse peritonitis occurred in seven of the 95 cases. There were, on the contrary, 184 cases treated by operation with a mortality of six (4.3 per cent.). Infection of ovarian cysts is especially liable to occur in the early puerperium.

Appendicitis is another lesion which may cause an extensive and fatal form of peritonitis in pregnancy. The lessened resistance of the pregnant woman has added to it the local disturbance of the presence of the mass of the gravid uterus and the increased vascularity of the pelvic viscera. The growing pregnant uterus pushes up the cecum and appendix. This displacement begins about the fourth month when the uterus rises out of the true pelvis. It then opens up the broad ligaments and the ovarian vessels are enormously increased in size. This elevation of the cecum is of clinical significance as in addition to the predisposition to disease, by the alteration of position, the focus of inflammation is thereby placed in a more dangerous position, *i. e.,* higher in the abdomen where adhesions are more easily torn and where inflammatory processes spread with greater ease. The cecum returns to its proper place after labor; but, if the appendix is adherent, it is dragged into the true pelvis by the involution of the uterus. This may cause rupture of an abscess or increase the extent of this inflammation to the general peritoneum. Futh[15] states that appendicitis is much more dangerous after the fourth month of pregnancy on account of the size of the uterus influencing the position of the cecum. He has divided Boije's series into two groups. In the first, under four months, there were ten cases with three deaths; in the second, from the fourth to ninth month, there were 32 cases with 19 deaths—a much higher mortality. This seems clear proof of the effect of the continuance of pregnancy upon this condition. Hlawecek,[16] in 1897, collected 13 cases of peritonitis from this cause with 11 deaths; but, with early operative treatment, the prognosis is brighter.

Lymphatic peritonitis is the result of infection in the genital canal passing through the softened uterine and pelvic tissues to infect the peritoneum. This form of peritonitis is usually streptococcus infection and is marked by its severity. It follows the course of a lymphangitis elsewhere in the body save that it is modified by an adjacent serous cavity—the peritoneum. The broad ligaments are thickened often to three

fingers' breadth, and pus will sometimes exude from the cut surface of the lymphatics of that region.

DIAGNOSIS.

The diagnosis of diffuse peritonitis is often a task of no mean order. This is usually difficult when it is a question whether a previous infection has extended to the peritoneal cavity. It is particularly difficult in puerperal peritonitis when a woman already severely infected, shows few additional symptoms and small increase of pathognomic signs.

Rigidity is usually an early and marked symptom and is present in all cases at their inception. It is a local evidence of the irritation of the sensory nerves of the parietal peritoneum and depends upon special chemical conditions. The more intense the toxic action, the greater the rigidity. If it occur on both sides of the abdomen, the peritonitis will have extended to both sides of the peritoneal cavity. This is borne out by a study of Barth,[17] who found in 117 cases that when the rigidity was on one side, the inflammatory process was also limited to that side. Rigidity is most marked in sudden and rapidly spreading peritonitis, as from appendicitis, and is usually slight or transient in cases following pelvic disease or in puerperal peritonitis. After labor, the relaxed abdominal walls of the puerperal patient do not easily become rigid and intestinal distension readily overcomes it. It is usually present at the inception, however. To the educated hand of the surgeon, rigidity is the most reliable early symptom.

Pain is usually a prominent symptom. The pain of peritonitis is fairly characteristic and is a great aid in the diagnosis of the condition. It depends upon two conditions: First, it is now recognized that most of the pain of peritonitis is due to the accompanying lymphangitis. This, in part, causes the crampy pains of peritonitis—the lymph vessels of the intestines press upon the sensory nerves as the lymphangitis extends. The pain of peritonitis is often not localized, but is sometimes referred like that of appendicitis to the epigastrium. This is supposed to be due to the infection in the peri-lymphatic tissue and lymph glands around the aorta.

The second source of pain is from the exterior of the gut itself and is due to the presence of an irritant causing inflammation of the peritoneum. Movement of the intestine causes severe crampy pains. In addition to the direct irritation and inflammation of the peritoneum, pain is further caused by the rubbing of the inflamed intestinal covering against the parietal peritoneum. The visceral serosa is comparatively free from sensory nerves, while the parietal peritoneum is exceptionally well supplied. It is also recognized that peritonitis may exist in the center of the belly beneath the colon and above the pelvis, amongst the coils of small intestine, for some time, and become widespread without causing marked pain.

That acute abdominal symptoms may be caused by lymphangitis alone is shown by a report of Rowland[18] of two cases of operation upon supposed perforation in typhoid fever. Masses of enlarged lymphatic glands were found in the mesentery of the gut without any evidence of perforation or peritonitis. The pain was intermittent and peristaltic. There was localization of the tenderness with little or no rigidity. Armstrong has reported a similar case in typhoid fever; and McCrae in his study of the pain in typhoid fever cities two cases in which the explanation of the acute symptoms was the enlarged mesenteric glands.

Tenderness on palpation is not usually a marked symptom unless there has been some effort at repair with the formation of exudate and adhesions. For this reason, it is usually slight in puerperal diffuse peritonitis and marked in the less acute forms as pneumococcus and gonococcus peritonitis. The tenderness elicited in gonococcus peritonitis by vaginal examination has already been referred to.

Vomiting is a constant symptom of peritonitis and occurred in all of Barth's 117 cases. It may be divided into two classes: that which occurs at the onset of the disease and is regurgitive, and the later and more persistent, bile-strained vomiting, often fecal or hemorrhagic. It usually recurs and persists as the inflammation spreads over the peritoneum.

The temperature invariably shows a rise and is usually high. In infection with the more virulent organisms the rise is high and intermittent; but in less virulent, as gonococcus peritonitis, the temperature is not so high—not rising above 103 degrees in the cases reported here. The pulse rate, however, in gonococcus peritonitis is usually out of proportion to the temperature. There is, however, nothing characteristic about the less virulent peritonitis. The pulse is usually a better indicator of the condition of the patient than is the temperature.

The blood changes of diffuse peritonitis are interesting and instructive. There is usually a diminution in the red cells. This is more marked in puerperal peritonitis and in puerperal infections generally, than in the non-pregnant. The leucocytic count is increased, as it is in all septic conditions. This depends upon the patient's resistance and the virulence of the infection. It may be said, as a general rule, that the leucocyte count is less in the pregnant than in the non-pregnant. The polymorphonuclear leucocytes are usually increased in percentage.

Iodophilia is a rather useful sign and gives reliable evidence in septic conditions. After staining with weak solution of iodine (Ehrlich's method), the blood in cases of septic infection usually shows a reaction in the cytoplasm of the leucocytes. This iodophilia usually occurs in the polymorphonuclear neutrophile cells and

sometimes in the lymphocytes. It does not bear any definite relation to the leucocytosis, but it depends on the amount of toxemia, not on the leucocyte range. Thus, the blood of a profoundly septic person may show intense iodophilia with a fall in the leucocyte count; while a high leucocytosis, without iodophilia, is not incompatible with an infection exciting a toxemia sufficient to stimulate the cells to production, but not of a character to affect them structurally. This fact makes the reaction especially valuable in cases of rupture of an abscess or puerperal peritonitis, where there is often sudden overpowering of the system by toxins. An interesting review of the subject with report of 50 cases of sepsis is given by Da Costa[19]. It is to be remembered, however, that the diagnosis of peritonitis can never depend upon the blood changes which only give confirmatory evidence of infectious processes. No hard fast rule in regard to the amount of leucocytosis can be laid down.

The treatment of diffuse peritonitis in women differs but slightly from the treatment of this condition in men. The much larger number of cases in men (67.4 per cent. in the combined series), resultant from appendiceal disease compared with the smaller number in women (16 per cent. in this series) indicates that women are less susceptible to peritonitis from this cause; while the pelvic causes (50 per cent. in this series) have a relatively greater place. These facts have a bearing upon the treatment of peritonitis in women. The cause of the peritonitis being pelvic in origin, in half of the cases, it is possible that vaginal and pelvic operation might eradicate the focus of disease without disturbance of the upper part of the abdominal cavity.

Again in diffuse peritonitis of the lymphatic type, associated with pregnancy, it is often impossible to eradicate any one focus of infection and abdominal operation, beyond the relief of tension, gives but little help in the cure of the disease. It is possible that this type of peritonitis is best treated by the expectant method with abstinence from food or liquids, rectal feeding and saline infusions by the bowel until the condition becomes localized or cured.

It is to be remembered that, as Lennander says, "It is the infection which kills and the peritonitis which saves."

In cases where the focus of infection, such as an infected ovarian cyst or a ruptured pus tube, can be removed, it seems only reasonable to prevent the addition of its infective material by removal with as little operative trauma as possible.

The Fowler-Murphy method by elevation of the head and rectal infusions by the gravity bag are great factors in the successful treatment of such cases.

However, while operative measures may remove the focus of infection, they can do but little toward the relief and absorption of the peritoneal pus remaining in the abdominal cavity. The encouraging results of Mickulicz,[20] Hanner, Chantemesse and Kahn[22] in the use of nucleic acid and nucleinate of soda as a means of fortifying the body resistance to resist the infection and as a means of increasing the leucocytosis, should not be overlooked.

The use of vaccines and sera have but a limited field owing to the acute type of the lesion. However, Bumm,[23] Rau[24] and Escherich[25] have reported good results from the use of the improved polyvalent antistreptococcus serum, and its use does not harm. It should certainly be given a trial in all cases of streptococcus peritoneal infection. Again, the very successful results reported in the use of staphylococcus vaccine in infections in other parts of the body make its use indicated in the more prolonged staphylococcus peritoneal infection for the cure of the disease and the prevention of metastatic abscesses.

The operative treatment of diffuse peritonitis is limited in scope to the removal of the focus of disease with as little trauma as possible and can offer but little further hope as to cure of the peritoneal infection itself as this cannot be eradicated or removed by surgical means. The attention of surgeons and investigators must now be directed to the increase of resistence against infection, the fortification of the body defenses and in aiding the cure of the septic processes and lesions. In this study, the extent and character of the infection and its examination by blood cultures, etc., are of the greatest importance.

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TUBERCULAR SALPINGITIS.—RESULTS OF SURGICAL TREATMENT IN FOUR RECENT CASES.*

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IT was observed, in an accidental way, that many cases of peritoneal tuberculosis were apparently cured, after laparotomy, for some other supposed condition in the abdomen, and as early as 1890 this operation was performed for the relief and cure of this condition. A few cases were recorded before this time, but only for the purpose of diagnosis. It soon became a recognized procedure and was generally adopted by clinicians as well as surgeons. Soon, however, a reaction set in and toward the close of that decade many were renouncing the surgical treatment of this condition and claiming that more patients recovered under medical treatment than after operation.

In reviewing the literature on this subject and studying the voluminous statistical reports published, one is drawn to the conclusion that the results from medical treatment are equally good as from simple laparotomy.

The reason why a cure should result by simply opening the abdomen, removing the fluid and closing it again, with or without drain, was not understood and neither is it to-day. Experiments on animals upon which artificial tubercular peritonitis has been produced, has demonstrated that abdominal section is followed by a severe hyperemia, which lasts longer than the cases not suffering from tubercular peritonitis. This is thought to be the curative element which is attributed to the action of the air upon the diseased peritoneum, as it does not occur when animals are left submerged in a normal salt solution. Others attribute the cure to an antitoxin produced from the dead bacilli, which will be absorbed. A more probable reason why exploration sometimes cured was that the admission of air set up an adhesive inflammation about the open tubes permitting them to close and thereby shutting off the source of infection.

During recent years and at the present time we are learning to recognize the probable fact that this malady, in the great majority of cases, is at one time a localized process either in the Fallopian tubes, the appendix or the mesenteric glands, and that an early diagnosis and prompt removal of the original organs that are diseased will result in a much larger percentage of cures than is possible by any other method of treatment.

I report four recent cases with results of treatment:

CASE I.—Mrs. O., age twenty-five, married, two children, youngest two and one-half years. Mother and two sisters died of pulmonary tuberculosis.

Following her last confinement, she ran a low temperature for several weeks, accompanied with chills and sweating, was in bed most of the time. Had much soreness and pain over lower portion of abdomen, with gradual loss of flesh.

After several weeks, the fever and chills subsided and she was able to be up about the house and to do a little light work, but she remained weak and emaciated. The soreness and some pain persisted in the lower portion of the abdomen. Menses were of a dark chocolate color, scanty and painful and appearing at irregular intervals. Medicinal treatment was continued all during this period with but little benefit.

First seen in February, 1907, thin in flesh, poorly nourished, hectic flush, temperature one hundred degrees F., vaginal examination showed tubes to be thickened and very tender, abdomen containing a small amount of free fluid. All the other organs healthy. Daily observations showed her condition unchanged. Temperature normal in the morning, slight rise at evening.

Diagnosis of tubercular salpingitis was made. Operated upon March 7, 1907, by William B. Reid, as were the other cases I report. About a pint of free fluid was found in the abdomen. The Fallopian tubes were distended and walls thickened. The fimbriated ends, both open and everted were swollen and of a deep red color. The adjacent peritoneum was studded with small tubercles. The free fluid and tubes were removed and the peritoneum carefully closed over all denuded surfaces and abdomen closed without drain.

The patient sat up on the tenth day. She made a rapid and uneventful recovery. Has gained twenty-five pounds in flesh and remains perfectly well.

CASE II.—Nellie S., age twenty-six, widow, occupation cook, one child, family history negative. Husband died eighteen months before of pulmonary tuberculosis. Always well until about six months ago when she began to have pain and soreness in the lower portion of the abdomen. Had considerable vaginal irritation and leucorrhea with moderate fever, chills, night sweats and loss of flesh.

Examination showed the tubes to be stiff, swollen and tender. Abdomen containing a small amount of free fluid. Other organs normal. Operated upon December 8, 1906. About a pint of free fluid found in the abdomen. Both tubes were enlarged and the walls thick and stiff. The fimbriated ends were open and swollen, deep red in color resembling somewhat in appearance a cock's comb. The mucous membrane puffed and everted. The peritoneum about the tubes was studded with tubercles. Both tubes were removed and abdomen closed without drain.

Patient sat up on the tenth day and left the hospital on the fifteenth day. All symptoms have disappeared and she has gained several pounds in weight and appears perfectly well.

CASE III.—Mrs. J. J., age thirty-nine, married, occupation housework, maternal grandmother and one maternal granduncle died of pulmonary tuberculosis. Mother died at sixty-five of a liver disease but was also tubercular. One sister has pulmonary tuberculosis, and patient's husband had tubercular laryngitis. Never very well. Menstruated at thirteen. Regular but scanty flow and painful. Was pale and suffered with chlorosis until twenty-five. Married at twenty-eight. Miscarried at seventh month, one year later. Had poly-hydramnos and an acephalic fetus. Has two children. Had albuminuria during pregnancy and for six months after first child was born which occurred six years ago. Soon after second confinement began to have colicky pains in the abdomen and three years ago first noticed an umbilical hernia.

I saw her first in July, 1906. She complained of pains through the abdomen, which centered at the umbilicus. Felt weak and was easily fatigued.

Examination showed an umbilical hernia about the size of an orange, adherent to the sack. She was of short, stout, portly build, but flesh was soft and flabby. Vaginal examination showed the tubes to be somewhat tender, otherwise negative. Heart, lungs, kidneys and

* Read before the Fifth District Branch of the Medical Society of the State of New York, October 3, 1907.

other organs normal. Repair of hernia was advised. At operation a small amount of free fluid was found in the abdomen, and the peritoneum was thickened and studded throughout with tubercles. The free fluid was removed and the hernia repaired by the transverse incision and overlapping of the parietal peritoneum and fascia.

Patient made a prompt recovery from the operation. She felt much better in every way for about one month, and then soreness and pains returned. But this time mostly confined to the lower portion of the abdomen. A re-accumulation of fluid was detected. Although the peritoneum was known to be tubercular, the original lesion was thought to be in the Fallopian tubes and operation was advised for their removal. This was accepted, and at operation about a quart of free fluid was found. The tubes were much distended and knotty. The fimbriated ends were still open, but bound down by plastic exudate. The peritoneum about the pelvis was more thickly studded with tubercles than anywhere else. Those in the upper portion of the abdomen observed at first operation, now appeared smaller and less in number, and the peritoneum at this portion had a more glossy, healthy appearance. Appendix was found tubercular and removed. Care was taken to cover in all denuded surfaces with peritoneum and the abdomen was closed without drain. Patient recovered promptly and left the hospital on the fifteenth day. She gradually gained in strength, color and appearance and remains well. A tubercular infection of the skin at one corner of the incision from the first operation persisted for some time.

CASE IV.—Miss R. S., age twenty-five, single, occupation mill-hand. Family history, father had asthma, otherwise negative. Always strong and well until twelve years of age when she began to have asthma. At sixteen had pneumonia, sick in bed two months. She had a great amount of soreness and pain in lower portion of abdomen with this sickness. Menses began at fourteen, regular but always painful. Three years ago began to have much soreness and stiffness through lower part of the abdomen with attacks of chills and fever. Two years ago first noticed abdomen larger than usual.

First examined in May, 1906. Subjective symptoms were soreness in lower part of abdomen, worse on movement, with a full bloated feeling and backache.

Examination showed round, oval shaped abdomen containing free fluid, with tender, thickened Fallopian tubes lying with the ovaries and uterus high in the vaginal vault up against the abdominal wall. Apex of the right lung dull, heart normal, urine negative. The skin appeared dark over various areas of the body suggestive of a possible Addison's Disease. A diagnosis of tubercular salpingitis with involvement of the peritoneum, the right lung, and probable tubercular disease of the suprarenal glands was made and a radical operation for the removal of the Fallopian tubes, the probable origin of the disease, was advised. This was refused at that time. She disappeared and was not seen again until July 2, 1907, when I was called to her home. I found her weak and emaciated but able to be up about the house. She suffered no particular pain, only an aching back and soreness in lower part of abdomen, with dyspnea on exertion. Abdomen was distended and now full of fluid. Skin dry, dark, and mottled over the entire body. Dotted in many places with clear, white spots about the size of a pin head. A large round fluctuating mass the size of a baby's head protruded from the vagina. This could be easily replaced and an indefinite mass could be determined high up in the vagina tight against the abdominal wall. Patient said she had taken a great deal of medicine for her "dropsy." One remedy in particular, a large, brown tablet which was recognized as anasarcin. This latter she had been assured would cure her. It had not and she was now willing and anxious to be operated upon. This was done July 13, 1907. In her advanced condition nothing more than relief was assured her. On opening the abdomen about eight quarts of free fluid were found. Nothing could be seen of the tubes, ovaries or uterus in the pelvis proper, but plastered tight up against the abdominal wall, the broad ligaments smoothly adherent over all was a mass containing the tubes, ovaries and uterus. The urinary bladder, adherent, was crowded high up by this mass and also adhered to the abdominal wall. No free space was found in front of the broad ligaments. The peritoneum was at least one-eighth inch in thickness and greatly contracted, so much so that after dissecting out and removal of the mass containing the tubes, ovaries, and uterus, difficulty was had in bringing the peritoneum together in closing the abdomen. Pathological examination of the parts removed showed the tubes and ovaries to be a tubercular caseating mass. Patient made a good post-operative recovery and has gained steadily in strength and weight since. The pigmentation of the skin is much less and no pulmonary symptoms have developed.

It is not expected that this patient will remain well because of the infection in the lung and suprarenal glands, but the improvement has been so marked that we feel encouraged as to ultimate recovery.

It must be remembered that tubercular salpingitis is a disease primarily of the mucous membrane, and this membrane lined with ciliated epithelium, as are the bronchi, show a decided predisposition to infection by the tubercle-bacillus. The natural forces of the body in their efforts to resist the invasion of infection often, undoubtedly, results in the closure of the tubes, and the process thereby becomes a distinctly localized one. Wm. J. Mayo, in his article, "Surgical Tuberculosis in the Abdominal Cavity with Special Reference to Tubercular Peritonitis,"* writes as follows: "Tuberculosis was found localized in the Fallopian tubes forty-four times without tubercular peritonitis, the tubal lesion being securely walled off."

Charles H. Mayo teaches the removal of the original lesion, leaving the peritoneum, if it has become invaded, to cure itself. He reported fifty-nine operations by the older method, *i. e.*, without removing the original focus. Of these there were forty-two cured, fifteen improved and two died. Of 58 operations for the removal of tubercular tubes, there were fifty-six recoveries and two deaths.

Again the old teaching of which we were so often reminded in our student days becomes true —remove the cause and thereby help nature to do the rest. But this does not mean leaving your patient to the tender mercies of the proprietary man with his "dropsy" cures until the abdomen is so filled with fluid that the patient can scarcely breathe, and the hope of a cure by a rational method has entirely disappeared.

But it does mean that we should observe closely every case with vague soreness and pain in the pelvis and lower portion of abdomen, accompanied by slight elevation of temperature, with perhaps chilly sensations, sweating, progressive debility, and gradual loss of flesh. Particularly so, should the patient have a tubercular family history or be associated in any way with tubercular surroundings.

* *Journal American Medical Association*, April 15, 1905, page 1,157.

What is sometimes diagnosed as a mild typhoid, or as the so much abused term malaria, I believe in many instances to be but the invasion of the Fallopian tubes by the tubercle-bacillus. A case now under observation was treated several weeks during the autumn of 1906 for a "low typhoid and bilious fever." She improved a little after a long time under tonic treatment, but remained thin, pale and debilitated. She now comes to us with a considerable amount of free fluid in the abdominal cavity and unmistakable signs of tubercular salpingitis. I trust we shall see the diagnosis verified at the operation and the treatment result in a cure. The latter I believe will be true if we are not already too late.

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TRAUMATISM AS AN ETIOLOGICAL FACTOR IN APPENDICITIS.*

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THE following cases are presented as a preliminary to a discussion of the etiological relation of traumatism to appendicitis.

CASE I.—Boy, aged twelve. Health fair. No history of previous attacks. Was struck in the right iliac region with a piece of timber, end on, in the hands of another boy. Fell to the ground in pain. Pain subsided and patient went about with but a slight feeling of soreness which persisted for two days. During that time he was not examined. Presumably there was some tenderness. The bowels moved normally, and he felt well excepting for the local soreness. Two days after the injury colic and vomiting developed associated with the characteristic symptoms of appendicitis. Patient was sent to Seney M. E. Hospital. Operation was done thirty-six hours after the onset of the acute symptoms. A thickened, non-purulent appendix, showing inflammation of the mucous membrane and middle coats, was removed. Good recovery.

CASE II.—Man, aged forty-four. Fairly healthy. History of a previous attack, which was probably appendicitis, four years before, and which had lasted a week. Pain entirely subsided. No intervening symptoms. Was struck, while bending forward, in the right side of the abdomen by the front knee of a horse, the blow being directed at a right angle to the surface of the abdomen. Felt a general sense of abdominal discomfort for a few minutes, and then thought no more about it. On the following day there was no bowel movement. A vegetable laxative pill was followed by general abdominal distress which was attributed to the griping of the cathartic. A slight movement occurred on the morning of the third day. A tablespoonful of Epsom salts and another pill (character not known) gave a free evacuation. Appetite not good during the five days following the injury. No nausea, vomiting, or further cramps. On the fifth, possibly on the fourth, day there was pain referred to the right side of the abdomen. This steadily grew worse. First seen on the sixth day. Had had no movement for two days. Examination showed, temperature 101.5, pain and sensitiveness over the appendix, positive rigidity of right rectus muscle. The left side of the abdomen was scarcely abnormal, a slight suggestion of muscular rigidity on pressure being present. No tumor or dullness. Diagnosis, interstitial appendicitis. An enema produced a copious evacuation. Pain was found much relieved on the following day. On the next day an enema produced a free evacuation. The pain subsided. Slight rigidity and tenderness remained. On the tenth day after the injury there was neither pain nor tenderness, and the slight rigidity upon pressure had disappeared two days later. Six months after this the patient was still free from symptoms referrable to the appendix.

CASE III.—Woman, aged twenty. Health fairly good. No history of previous attacks. Struck right lower abdomen against the corner of a table while walking in the dark. Last menstruation two weeks before. Twenty-four hours after the injury she was seized with cramps. Vomited once. Mid-abdominal pain shifted to right iliac fossa in twelve hours. She was sent into my service at the German Hospital four days after the injury. Enema six hours before admission had not been successful. Extreme pain in right iliac region. Temperature 101.2, pulse 106, respiration 24, leucocytes 12,500, polynuclear 80 per cent. Palpation of right side practically impossible on account of pain. Rigidity extreme. Left side also rigid. Some tympanites. Had taken no nourishment but half a glass of milk in two days. A simple enema resulted in a good movement. Food and drink by mouth were prohibited. Pain and other symptoms gradually subsided. Food by mouth was allowed after two days; and at the end of one week the patient was discharged.

These cases are not cited as examples of traumatism as the cause of appendicitis, for in none of them can we say that traumatism was the etiological factor of the appendicitis from which these patients undoubtedly suffered. It is possible that each would have developed the disease had there been no such previous history. They do, however, come as close as we could hope to answering the question, Can traumatism cause appendicitis? While they have been presented as bearing upon the matter, it is my own belief that the answer will best be found, not in discovering here and there a case which has followed an injury to the abdomen, but in the general consideration of the pathology of this disease; for, in comparison to the total number of cases, such an etiological factor plays so small a rôle that it must be regarded practically as inconsiderable. The report of these cases I am willing, therefore, to concede proves nothing. The solution of the problem must be sought in another direction.

Just how great a part traumatism can play in producing appendicitis is an important question for the surgeon. It is also a matter of medico-legal interest, as cases are constantly being presented in which injury is claimed as the etiological factor in the disease. This involves questions in accident insurance, negligence, and criminal assault. Already there is a great deal of testimony on the subject, and unfortunately much that is conflicting.

We are called upon to answer the two queries: Is it possible for injury, direct or indirect, to produce an acute attack of appendicitis in a previously healthy appendix? and, is it possible for an injury to produce an acute attack of appendicitis when the appendix is diseased? Some experienced observers believe that at least

* Read before the Brooklyn Surgical Society, March 10, 1908.

this last question must be answered in the negative. Most writers refrain from a decision. Deaver,* of Philadelphia, in answer to the first question states that he has never seen acute appendicitis occur as a result of injury to a healthy appendix, and he regards the reports of cases to the contrary as having been made upon insufficient study, insisting that it is problematical how a blow or fall or strain of the abdominal or ileopsoas muscles can have any direct effect upon this deeply placed and well-protected organ. The second question he answers in the affirmative.

While this author's judgment is much to be respected, and while he goes into the subject with characteristic thoroughness, and brings it up to date so far as references to the literature are concerned, still we are inclined to believe that the last word has not yet been written. His conclusion that trauma is never the direct exciting cause of acute appendicitis in a perfectly normal appendix we believe is susceptible of revision. In the first place appendicitis does occur in appendices which were previously normal. Why did the inflammation occur? Because something happened which allowed the microbic invasion of the wall of the appendix. What happened to allow this? Abrasion of the mucous membrane by foreign matter (that is traumatism), or lowering of the vitality of the mucous membrane cells by pressure of retained secretions (that is traumatism), or distention of follicles by bacterial products (that is traumatism), or angulation causing local pressure (that is traumatism), or the presence of an excess of ptomaines retained in the appendix against the pressure of the contents of a distended cecum (that is traumatism). Now, supposing that none of these conditions exist, but that the traumatism is applied from without. If it is possible to palpate the appendix it is possible to inflict traumatism upon it. An organ which can be pressed between the anterior abdominal wall and the pelvis or the firm psoas muscle can be traumatised. We know how often the appendix hangs over the margin of the superior pelvic opening and how firm and resistant are the structures lying posterior to it. The wonder is that a traumatising force applied to the anterior abdominal wall in front of the appendix has not been more commonly regarded as to its damaging possibilities to that organ.

A structure, such as the vermiform appendix, which so often is the seat of inflammation, must commonly harbor or be surrounded by the conditions causative of such inflammation existing in a latent state. It is necessary to assume that often these conditions are active up to the very point of engendering appendicitis, but still the balance remains in the favor of the possessor of the appendix by virtue of local vital resistance, phagocytosis, intra-cellular plastic exudate occurring at just the opportune time, or the intervention of some other condition, inhibitive of the inflammatory progress, by which appendicitis is prevented. If, at this critical time in the life of an appendix, traumatism be inflicted, the balance is turned against the integrity of that organ and the invasion by bacteria takes place. This is not a theory it is a well recognized principle in surgery, and when it occurs in the appendix then traumatism is the cause of the appendicitis, for without the traumatism the appendicitis would not have developed.

Another surgical principle is that traumatism lowers cellular vitality. In the case of the appendix, even though inflammation at the time were remote, we must assume that traumatism renders the organ more susceptible to bacterial invasion. There is no ground for regarding the appendix as not amenable to the same surgical principles as apply to other organs.

We have seen cases in which traumatism has had a distinct chronological relation to the development of the disease, just as we see cases in which traumatism has had a similar relation to cancer of the breast or to spondylitis. The proneness of the vermiform appendix to become inflamed when involved in an hernial sac is an example of traumatism producing appendicitis. We are all familiar with the serious injuries of the bowel, leading to peritonitis, which traumatism to the abdomen may cause. The appendix is a part of the bowel which has the most meager vital resistance. Still, the positive fixing of trauma as an etiological factor is almost impossible, because it may always be contended that the disease was developing and would have appeared without the injury. The decision must be reached upon two grounds: the association of the two conditions (appendicitis following traumatism), and the well-known and accepted principle of surgical pathology that traumatism in any tissue predisposes and conduces to inflammation.

The appendix, by virtue of its position and structure and the history of its inflammation, falls under both of these stipulations. It is susceptible to traumatism; it sometimes is traumatised, and its inflammation sometimes follows such injury. There is every season, therefore, to regard traumatism as an etiological factor in appendicitis.

* *New York Medical Journal*, June 15, 1907.

Is it not true that the health of the people is of as much importance as the health of animals? Consider the millions of dollars the national Government spends for the health of animals. If a tithe of what, for instance, is expended in efforts to control hog cholera, pleuro-pneumonia and other diseases of animals, is spent for improving the health of the nation, we should not stand where we are and be a by-word for the nations of the world in consequence of our ignorance and indifference in this matter. We have precedent enough in the direction of the control of animal diseases to justify making the strongest possible appeal for the government to do something for the control of human diseases.—*Dr. William H. Welsh.*

PERITONEAL ADHESIONS.

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THE reason for my writing on the subject of Peritoneal Adhesions was the fact that I have operated on several cases that complained of severe abdominal pain, but, at operation, no cause could be found except a few adhesions. I have also known of several persons who have undergone some slight abdominal operation and have been troubled later with severe pain which in all probability was due to adhesions.

That peritoneal adhesions are, in many cases, nature's attempt to limit the inflammation, there can be but little question. We so frequently see this in cases of appendicitis in which the adhesions have made such a firm barrier as to form a distinct abscess cavity. These adhesions, at the time of the acute inflammation, are of the greatest benefit, yet later may give rise to many and serious complications.

Hertzler studies the formation of peritoneal adhesions by means of a small glass window sewed into the abdominal wall of an animal. From this experiment he concludes that peritoneal surfaces might agglutinate without a destruction of the endothelial layer. In true adhesions the endothelial layers were always destroyed. If the basement membrane was not destroyed, the adhesions might separate after a time. But, if the basement membrane was destroyed, the union was formed by a true growth of fibrous tissue.

Wetherill has also made a study of this subject and concludes that peritoneal adhesions are a conservative process, and that if the source of the trouble is removed the adhesions will become absorbed. The following are his conclusions:

1st. Peritoneal adhesions and exudates are essentially conservative in their purpose and effect.

2d. That with certain, very rare, exceptions, when the source of the irritation or infection which caused them is removed, and the necessity for their future existence is past, they will be taken up and disposed of almost completely.

3d. That ordinarily an interval operation will be required for the removal of the source of the infection in order to restore the patient to health and insure immunity from relapse, and, that such an operation in skilled hands is many times safer than taking the chances of leaving it alone, and, that they are quite uniformly successful and attended with an extremely low mortality.

As an example of nature's ability to cause peritoneal adhesions to be absorbed, I will report the following case: In November, 1905, I was called to Fultonville to operate on a case of appendicitis which gave the following history: A boy, twelve years of age, who had previously had good health, was taken with vomiting and slight abdominal pain. Dr. Bouton decided the boy was suffering from an attack of appendicitis, but the father thought it simply an attack of indigestion and told the doctor he need not call again unless he was sent for. Some five days later the doctor was called and found the patient's temperature one hundred and three, pulse one hundred and twenty, and his general appearance very bad. He again said the boy had appendicitis and advised an operation. Now the parents had become sufficiently alarmed to allow the operation. On opening the abdomen, I found a well-localized abscess containing about six ounces of pus. I drained the abscess and did nothing more, feeling that as the pus was well localized his chances of recovery were fairly good, but that his general condition would not allow a prolonged operation. The boy made a good recovery and returned to school, but in March, 1906, he was again taken sick with acute appendicitis. His parents, this time, did not wish to delay the operation. I was called, and at operation found a perfectly typical acute, gangrenous appendix, but no adhesions either of the intestines or omentum. The appendix was removed and the patient made a good recovery.

In this case we absolutely know that there were adhesions present at the first operation, because they formed a distinct abscess cavity. At the second operation we know that nature had absorbed them, for they were gone.

The question might be asked why we did not remove the appendix at the first operation and thus do away with the possibility of the second. The reasons were these: 1st, sometimes no secondary operation is required; 2d, the patient was in a weak condition, and by simply opening the abscess there was little danger of death. But, if all the adhesions had been broken up, thereby lengthening the time of operation and increasing the possibility of peritonitis, the danger of death would have been much greater. Or, to express it in the words of Dr. Wm. Mayo, "a much worse thing can happen to a patient than to have him live to undergo a secondary operation."

CAUSES.

In studying the various causes of peritoneal adhesions we learn that in a great proportion of the cases, if the diagnosis can be made and operation performed early, before firm adhesions have formed or before the endotheleal layer has been destroyed, nature will absorb any adhesions that may have already been formed. To me this is one of the strongest arguments in opposition to the so-called starvation treatment of appendicitis; *i. e.*, keeping the patient in bed on rectal feeding and operating after the acute attack has subsided. The removal of a gangrenous appendix does cause some mortality, but if we wait with the hope that an abscess may

form, then we have to deal with firm adhesions. Even with a secondary operation and breaking up of these firm adhesions, they are quite apt to reform and give rise to many and varied symptoms.

E. C. Kelly says: "Our endeavor should be to prevent these latter cases, for the success of a surgical operation should be measured by the net saving of human suffering and the restoration of the individual to his sphere of usefulness, rather than by the hairbreadth escape of the victim from the hands of the undertaker."

Beck, speaking of appendicitis, says: "The surgeon, not having a chance to discharge the appendicular abscess, causes tense adhesions. After an early operation, on the other hand, post-operative adhesions are rarely formed. Another point in favor of early surgical intervention in appendicitis."

We also see the bad effect of delaying operation in the surgery of the gall-bladder. The removal of stones from the gall-bladder is a comparatively easy operation, but, if the condition is allowed to remain till the inflammation has extended to the surrounding tissues and the gall-bladder, omentum, and intestines become firmly bound together, the severity of the operation is much greater.

Another very important cause of adhesions is the careless handling and exposure of the intestines during operations.

Wathard, by very careful experiments proved that if the intestines were exposed to the air and allowed to become dry, adhesions would result, but if the intestines were kept covered with warm salt solution pads, no adhesions would result. The intestines should also be handled with the greatest care so as not to injure the peritoneal covering.

Robinson, by experimenting on animals, has demonstrated that adhesions were very apt to result from the rough handling of the intestines.

It is needless to say that we should always endeavor to cover all denuded surfaces with peritoneum. The fact that many times adhesions form just beneath the incision, has led to various means of preventing them, as drawing the omentum down beneath the incision before closing it, or, as Dr. Murphy advises, closing the peritoneum in such a manner as to practically reverse the Lembert suture, *i. e.*, the edges are turned outward. But, it would seem to me that there would be more danger of adhesions from injury to the peritoneal coat of the intestine than from the inversion of the cut edges of the parietal peritoneum. Gould says: "It seems probable that for an adhesion to form between the abdominal scar and a coil of intestine, some injury to the serous coat of the bowel is necessary. This would only require a slight abrasion of the peritoneum, an accident which may happen during any prolonged abdominal operation."

It has also been claimed that knots on the peritoneal surface may cause adhesions, but Gould says: "It is difficult, however, to show exactly how much irritation is caused by the knots because the bruising of the peritoneum near the suture may lead of itself to the formation of adhesions." From his personal experimental work he concludes that there seems to be more danger of adhesion-formation from the rough handling of the peritoneum than from outside knots.

The endeavor should be made to stop all bleeding before closing the abdomen, as blood clots are very apt to cause adhesions and more especially so if they become infected.

Careless use of drainage is a very fruitful source of adhesions; this is more especially true if gauze is used. The bad effects of gauze drainage can, in a great part, be prevented by covering the gauze with rubber tissue as in the cigarette drain, or using a split rubber tube filled with gauze.

Peritonel adhesions may also result from traumatism of the abdomen. The following history is illustrative of such a case: This patient, Mr. J. F., age thirty, was under my care at the Albany Hospital. Patient's family history was not important. Patient's history: Six years ago was operated on for stone in the bladder, otherwise has always had good health till present trouble. One year ago he fell about twenty feet from a bridge, striking on his right side. As a result of this, he was unable to work for about one week; then was able to attend to his work till five months later when he began to be troubled with pain in right side of abdomen. The pain was of a dull character, lasting for an hour or two at a time, then disappearing for a day or two. One month ago, the pains became more frequent and were sharp in character. During the attacks he was troubled with nausea and vomiting. Examination of patient revealed the median scar below umbilicus of previous operation. Palpation showed tenderness over upper right quadrant of abdomen, but no tumor of any kind. An incision through outer edge of right rectus revealed a few adhesions about pylorus, but about the liver the adhesions were very marked. The surface of the liver was firmly bound to under surface of ribs. Gall-bladder and appendix were normal. The adhesions were carefully broken up. Following the operation the patient was relieved of his pain. I have never heard from this patient since he left the hospital, but I greatly fear adhesions will reform.

Another cause of marked peritoneal adhesions may be tuberculous of the peritoneum. In the early stages these cases may be most difficult to diagnose.

A condition of chronic adhesive peritonitis is described by both Wetherill and Beck.

Beck says: "My experience in cases of chronic progressive adhesion forming peritonitis as it is observed idiopathically is absolutely bad. The nature of this peculiar condition character-

ized by a multitude of adhesions is not yet understood."

Wetherill says: "It may occur at one or many points in the peritoneal cavity as result of chronic inflammation, the thickening finally leading to shrinking. Many cases have no acute stage and are without definite cause or onset. It is not primarily a peritonitis, but a distinct affection of the sub-peritoneal visceral connective tissue."

The following is the history of a very interesting case of chronic peritonitis that might appear to be one of chronic adhesive peritonitis, or, it may have been an old tubercular peritonitis in which all evidence of tuberculosis had disappeared.

This case was under my care at the Albany Hospital. Mrs. N. P., housewife, age thirty-one. Family history: Father died of tuberculosis, age fifty-eight; mother died of apoplexy, sixty-eight; one sister died of tuberculosis and one brother died of rheumatism. Personal history: Had diseases of childhood. Had diphtheria when ten years of age. Menstruation began when sixteen years of age and has always been regular. Has been married nine years, but has never been pregnant. When about sixteen years of age patient began to be troubled with attacks of pain in the lower part of her abdomen; these attacks of pain were accompanied with nausea and vomiting. The attacks occurred at varying intervals of one to two years until two years ago, when they became much more frequent, now occurring every two or three months. The attacks do not occur during menstrual periods any more frequently than at other times. In February, 1906, I made an exploratory incision in median line below umbilicus and found the most marked condition of adhesions that I have ever seen. The intestines were so adherent to the abdominal wall that it was with the greatest difficulty that we avoided cutting into them in making the incision. The intestines and omentum were firmly bound together with very firm adhesions. I worked for about half an hour and succeeded in freeing one coil of small intestines for a distance of about eight inches. I then gave up in despair as it seemed a hopeless task to loosen the adhesions, and I felt that they would re-form even if I did succeed in loosening them. The peculiar thing about this case is that she has greatly improved in health since the operation and did not have another acute attack for ten months.

DIAGNOSIS.

The diagnosis may be exceedingly difficult, or, in some cases, absolutely impossible. Howard Kelly, in speaking of tubercular peritonitis, says: "In making a diagnosis of tubercular peritonitis, a surgeon must, in many cases, be guided by probabilities only, as the grounds for a positive assertion may not be found."

But, a severe abdominal pain that remains localized, for which we can find no cause, should make us consider the possibility of adhesions. These cases may be taken for various conditions, as cancer or ulcer of the stomach, or gall-bladder disease. Many patients with marked pelvic peritonitis are treated as neurasthenics. But, a settled pain recurring always in the same region at operation is usually found to have some real mechanical and curable cause.

Chase, in speaking of adhesions, states there are many cases in which intra-pelvic adhesions are the principal factor of the trouble, though only revealed on opening the pelvic cavity. These cases embrace wide extremes of symptoms, sometimes out of all proportion to the gravity of the condition really existing.

TREATMENT.

Treatment consists, in great part, in prevention. Endeavor to operate for the various acute abdominal diseases before firm adhesions have formed. To this statement I would make one exception, *i. e.*, acute pelvic inflammatory diseases. Most of these cases are caused by gonorrhea. There is little danger of the tube rupturing if the patient is kept quiet, the acute condition subsides and a chronic localized condition of pyosalpinx develops, which can be removed with a much less mortality than if the operation is undertaken during the acute stage of the disease. It also has the advantage that in a fair percentage of cases, by waiting till the acute stage has subsided, we will find that at least one ovary may be saved.

By the removal of the cause, early before the adhesions have become firm, nature will be able to absorb the few adhesions that have already formed.

In operating, use the greatest care in handling the peritoneum, and if any abrasions have occurred, endeavor to cover the denuded surfaces with peritoneum.

Paton believes that much can be done to prevent adhesions by the early moving of patient from side to side and setting up active peristalsis by early cathartics.

It has been suggested in pelvic cases to keep the patient in partial Trendelenburg position for several days following operation with the idea of keeping the intestines away from the raw surfaces in the pelvis.

Leaving the peritoneal cavity filled with salt solution after operation in which extensive adhesions have been broken up may allow the intestines to move more freely, and thus prevent adhesions, or in pelvic cases it may be beneficial by separating the intestines from denuded surfaces. It would seem that the Fowler position would aid in that it would keep the salt solution in the pelvis thus floating the intestines out of harm's way. Yet the introduction of salt solution could hardly be advised in septic cases, as it would tend to spread the infection. The ad-

dition of adrenelin to the salt solution has been advised by Marvel, with the idea that the adrenelin would aid in preventing the formation of an exudate, while the salt solution would help to dissolve any exudate that might already have formed. The injection of sterilized air into the peritoneal cavity has also been used in the endeavor to prevent adhesions (Munro).

Of the various schemes tried to prevent adhesions, namely, sponging with very hot salt solution pads, or leaving larger amounts of saline in the peritoneal cavity, or using various substances, as dusting powders, Cargile membrane, etc., little can be said in their favor, for unfortunately most operators do not derive the same beneficial results from these various procedures, as seem to be derived by the operator who first described them.

CONCLUSIONS.

(a) Peritoneal adhesions are nature's way of protecting the general peritoneal cavity from infection.

If the cause of the adhesions is removed early, nature will absorb the adhesions.

(b) That in operations, the most fruitful source of adhesions is the rough handling of the peritoneum or the active endeavor to do a too thorough operation.

(c) Early catharsis, early moving patient about in bed and keeping patient in Trendelenburg position may help to prevent adhesions.

(d) The various substances, as powders, Cargile membrane, etc., are of but little use in the prevention of peritoneal adhesions.

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Hospitals make generally a stronger appeal to public and private philanthropy than the support of medical education, but I do not hesitate to affirm that a general hospital in a university city, whether maintained by public funds or by private benevolence, serves the community and the interests of its patients far better when it is readily accessible and freely available for the purposes of medical education than when it is divorced from connection with medical teaching.—*Dr. William H. Welsh.*

TREATMENT OF GENERAL PERITONITIS.*

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THE treatment of general peritonitis has been so varied and the opinions governing its management so conflicting that to give even a brief review of the numerous procedures employed would take more time than I am allowed—in fact it would be difficult to epitomize, in a paper of this kind, the treatment suitable to the great variety of conditions met with in general peritonitis, due in large measure to the widely differing etiological factors encountered.

For this reason I shall give only the general principles which govern its treatment. We know that the outcome of any given case depends upon the character of the infection, its quantity, the area involved and the resistance of the patient, more than on the treatment employed, although much depends upon the treatment.

To increase the resistance of the organism and to protect the peritoneum against infection, Federmann and others employ normal sterilized horse serum. This may be used subcutaneously or poured into the peritoneal cavity (30 grams) before closing the abdomen.

Von Mikulicz, noting the efficiency of the phagocytes in antagonizing the invasion of pathogenic bacteria, caused an increase of leucocytes to 24,000 per cubic millimeter by injecting subcutaneously neucleinic acid twelve hours before operation. This same increase may be produced by other means, such as the use of collargol and possibly by salt solution.

While the lymphatics of the whole peritoneal cavity are probably capable of absorbing septic material when in contact with it, we know that the under surface of the diaphragm is by far the most active in this process, and that the ability of the lymphatics of the pelvis and lower abdominal cavity to absorb is very limited. Therefore it should be our aim to employ whatever means will limit the pus to the lowest part of the abdominal cavity. This is best obtained by the employment of what is known as Fowler's position.

Rebar and Remy have shown the rapidity of peritoneal absorption by recovering particles of carmine from the thoracic duct only seven minutes after intra-peritoneal injection.

Dr. Ochsner, of Chicago, has advocated a medical treatment for cases of general peritonitis in which surgical measures are not advisable, or can not at the time be employed, the main points of which are the withholding of all food

* Read at the Second Annual Meeting of the Eighth District Branch of the Medical Society of the State of New York, September 26, 1907.

or cathartics by the mouth, with gastric lavage for nausea, vomiting or meteorism. The object of this treatment is to secure absolute rest to the bowel and prevent peristalsis. He takes the ground, and I think correctly, that peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix.

Where possible, the rapid elimination of the cause of the general peritonitis is imperative, whether it be a gangrenous appendix, a perforated bowel, a ruptured pus tube, or any other condition.

The use of serum-therapy may be of advantage where the specific cause of infection is known.

The question of drainage has been much discussed and opinions differ on this subject. Blake drains but seldom, while others never drain.

However, by far the greater weight of opinion is in favor of free drainage and this from the lowest portion of the pelvis and from the focus of beginning infection.

Peritoneal lavage is another subject over which there is great difference of opinion. Up to a short time ago everyone thought it absolutely imperative to flush the abdominal cavity with normal salt solution in all these cases, Notzel, of Frankfurt, going so far as to have a barrel filled with salt solution on the floor above the operating room and allowing the fluid to pour into the abdominal cavity with great force in order to cleanse the cavity and stimulate the resisting power of the intestines. We now believe that peritoneal lavage is seldom indicated and usually does more harm than good by spreading the infection and causing trauma to the very thin layer of endothelial cells covering the peritoneum. Fibrin found on the intestines should never be removed; it is nature's barrier against absorption and a material aid to recovery. Unfortunately the worst cases have little or no fibrinous exudate. It is important that the endothelial covering of the intestines be damaged as little as possible inasmuch as absorption of septic material is infinitely increased by its removal. It is therefore important that we handle the bowel as little as possible and with the maximum amount of care. The length of time consumed during an operation materially affects the result; these patients stand a short operation very well, but prolonged manipulation is almost fatal. For this reason we should work as rapidly as is consistent with thorough surgery and complete the operation as quickly as possible.

There is some difference of opinion as to the advisability of giving opium before or after operations for peritonitis. Many surgeons, including Murphy, still use it at times, while others pronounce it positively harmful on account of its action in quickly lowering the leucocytic count and weakening the phagocytic action against the invading microbes. Enterotomy or enterostomy is indicated in cases of obstruction or paresis of the intestine where quantities of fluid or gas are contained in a bowel unable to expel them.

One of the most valuable adjuncts to the treatment of this condition is the introduction into the body, by way of the intestinal canal, of large quantities of normal saline solution. This may be accomplished by different methods, but the technic which is most satisfactory is that devised by Dr. John B. Murphy, of Chicago, to whom we all are greatly indebted for his valuable contributions regarding the treatment of this disease. Dr. Murphy's method is as follows: He inserts a nozzle containing three or four openings into the anus, to which is attached a rubber tube leading to a bag filled with water and elevated but a few inches above the plain of the rectum, the idea being that the water shall just trickle into the rectum not much faster than absorption takes place.

In this way from a pint to a quart of water should be allowed to trickle in during an hour, the process being a continuous one, and the flow so regulated that no accumulation of fluid takes place in the bowel.

The object of having more than one opening or outlet in the nozzle is that in case flatus accumulates in the rectum it will pass out through one opening in the tube while the others continue to discharge the water into the rectum. When it is desired to stop the flow of water the tube is disconnected from the nozzle, the latter remaining in the anus, thereby avoiding irritation to the anus by the constant removal and insertion of the nozzle, and at the same time facilitating the passage of flatus. By this two things are accomplished: it reverses the current of lymph in the peritoneal lymphatics, that is, it stops absorption and aids excretion by the lymphatics and also stimulates the heart and kidneys. Following the ordinary abdominal section in a non-septic case, 8 to 20 ounces is the average amount of urine excreted during the first twenty-four hours, and even less than this in septic cases, while after this treatment the amount of urine is always greatly increased.

The following case illustrates the application of these principles:

J. P., female, age eleven years, was taken with pain in the abdomen July 4, 1907, at about four o'clock in the afternoon. Her family physician was called and got a history of her having eaten a quantity of peanuts during the day; he prescribed for her but her pain continued, and early the following morning he was asked to see her again. She had vomited slightly, her pain was now somewhat localized in the right side of the abdomen, and tenderness was quite pronounced. Her temperature was 103, pulse 120. I saw the patient an hour later with Dr. John Middleton and found the abdomen very rigid, marked tenderness over McBurney's point, temperature 103¾, pulse 120, expression anxious, abdomen distended and rigid; she was also constipated.

An immediate operation was advised and she was removed to the hospital, where after being prepared she was operated upon at four o'clock, just twenty-four hours after her first pain. The appendix was found gangrenous for its distal third and perforated, contain-

ing fecal matter. About three ounces of foul-smelling pus was present, free in the abdominal cavity. The intestines were covered with a thin layer of lymph and highly injected; distention was very marked.

The appendix was removed with the least possible handling of the bowel and the wound drained by metallic tubes.

She was put to bed and placed in Fowler's position. Saline injections per rectum were immediately begun and she was given eight ounces every half hour during the first three days—that is three gallons per day or nine gallons in the first three days. On the fourth day she received one and three-quarter gallons; on the fifth, one and one-half gallons; on the sixth, three-quarter gallon, and on the seventh day, three-quarter gallon. This makes a total for the seven days of thirteen and one-half gallons of normal salt solution. Of this amount she retained all but eight ounces. It was given from an ordinary fountain syringe, placed about one foot above the buttocks and the tube clamped by a hemostatic forceps. This, I know, is not the method Murphy advocates, but in this case it answered perfectly.

After the first twelve hours she was given no medicine of any kind, her bowels moved naturally on the third day after operation and she suffered none from thirst.

The action on the kidneys of the introduction into the system of large quantities of normal salt solution is well demonstrated by this case.

In the first twelve hours after operation eight ounces or urine were excreted, on the second day twenty-seven ounces, on the third day fifty-three ounces, on the fourth day sixty-two ounces, on the fifth day fifty-eight ounces, on the sixth day forty-two ounces, on the seventh day forty-two ounces and on the eighth day sixty-eight ounces.

The effect on the heart of this over-distention of the blood vessels, including lymphatics, with normal salt solution was shown by the regular decrease in the rapidity of its action with occasional irregularity in rhythm, until the saline was discontinued. For example: the first day after operation the pulse ranged from 138 to 140 beats per minute; on the second day, from 138 to 114 and was very full; on the third day, from 92 to 90; on the fourth, from 84 to 70; on the fifth, 74 to 66; on the sixth, from 64 to 56; and on the seventh, from 62 to 56 per minute and some dizziness was complained of. On this day the saline injections were stopped and the pulse rate began to rise immediately and two days later was 84 and normal in character, remaining so during convalescence. Just before the saline injections were discontinued her feet and legs became quite perceptibly edematous, and her eyelids were noticeably puffy; she also felt drowsy and was inclined to sleep. These symptoms also promptly disappeared after the stopping of the salt solution.

The lungs were slightly edematous and the patient complained of it being hard to breathe. On the sixth day after operation she developed severe pain and tenderness on the left side on a line with the umbilicus; this lasted for three or four days and was relieved by the application of the hot water bottle. I believed this to have been a local manifestation of the general peritonitis from which she suffered.

She began eating on the fifth day. Pus flowed freely through the drainage tube for ten days, then gradually disappeared and she made a perfect recovery.

Care must be exercised as to the amount of salt solution given, as it is quite possible to introduce into the system a sufficient quantity of fluid to produce unpleasant or even alarming symptoms.

In conclusion I would sum up the treatment of acute general peritonitis under the following headings: (1) Early operation and removal of the cause, if possible. (2) Rapid operation with minimum amount of handling of the tissues. (3) Give no food or medicine by the mouth, and, if necessary, empty the stomach by lavage and cleanse the colon and rectum by enemata. (4) The administration of salt solution by rectum after the method of Murphy. (5) The employment of Fowler's semi-sitting position. (6) Enterotomy or enterostomy in the few cases in which it is indicated. (7) Free drainage by tubes of the lower portion of the pelvis. (8) Peritoneal lavage in exceptional cases only.

My object in reporting this case is to record the effect of the salt solution on the heart, kidneys and lungs, and also to note the edema which it produced. We hear much of the beneficial effects of normal salt solution, and they are many, but I think a word of warning should be given so that we may be on our guard and promptly recognize the first indication for its discontinuation.

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UNHEALTHY TONSILS THE CAUSE OF GRIP.*

By T. B. LOUGHLEN, M.D.
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THE subject grip has received a full share of attention from the profession and the laity for a long period. We physicians of the present generation have been very well acquainted with its antics for the past eighteen years, and yet it appears to me that there is a connecting link in relation to it that has been heretofore quite overlooked. We have treated its victims with quinine and whiskey, acetanilid, opiates and gelsemium, and the other remedies and practices that were advocated by our teachers in medical colleges and writers in medical journals and books, and many of our patients again became patients as sufferers from serious bodily diseases. We have all read that the germs of grip blew across the Atlantic and in the course of a brief period invaded our whole nation.

The leaders in the profession have studied and described the special grip bacilli and how thoroughly their toxins penetrated our whole beings, but I have never read through what portals they gained entrance into our bodies. It is an unquestioned fact that within a short time after the appearance on the tonsils of diphtheritic membrane, toxins from the Kleebs-Loeffler bacilli have permeated our whole bodies. How do they so quickly permeate our whole bodies? By what route or routes do they so permeate us? We have had patients who had general bodily aches soon after the appearance of the signs of simple tonsillitis. What caused those general bodily aches? There is that condition known as septic tonsils whose victims caused us much anxiety for their welfare until the nature of their afflic-

* Read before the Olean Medical Club, February 26, 1908.

tions was discovered. In this latter condition were the tonsils, or a septic invasion of the whole body emanating therefrom, the condition we have been treating?

How does the disease which we call grip gain entrance into our bodies? Do we swallow it or do we inhale it?

I have observed during the past few months in all persons who suffered from aches and the other general disturbances which collectively are called grip to have reddened and inflamed tonsils, and in some cases to have a general pharyngitis. At first I treated this condition locally with gargles and sprays without results. I have also employed caustic solutions on those diseased tonsils, and for some time past have swabbed the tonsils with 100-grains nitrate of silver to the ounce of distilled water. This is done at my first visit to a patient whose case I have diagnosed as grip, and I repeat the procedure after two days in most cases. Some cases require more applications. The general treatment is simple and I have nothing new to suggest in regard to it.

My idea is that unhealthy tonsils act as culture beds for the life and proliferation of grip bacilli. In persons of small resistance illness lasts indefinitely unless their unhealthy tonsils are made healthy.

A crop of grip invasion in the body, in my opinion, wears itself out in from two to four days after their portals of entrance into the system are closed.

I have examined a large number of tonsils during the past two months in persons having grip, and while patients usually say that they have no throat trouble, I find reddened tonsils, and upon their straining during application of the swab the tonsils evert and appear angry, swollen and pussy. Examination of the same tonsils after treatment show them to be really healthy as compared with before.

I believe that a large proportion of our population have unhealthy tonsils, and many have unrecognized septic tonsils; and while grip is widespread in our city, state and nation, its victims are not nearly so numerous as are persons having unhealthy tonsils. To have unhealthy tonsils does not necessarily imply that the possessor is having or going to have grip, but it affirms that he maintains culture beds in his tonsils and grip infection is invited to jump in there and enjoy endless frolic.

It is my opinion that almost all of so-called colds and bodily aches of lesser severity than those dignified by the name grip and a multitude of resulting ills are due to or made possible by unhealthy tonsils.

Prophylaxis is the ideal in medicine. There is a momentous question of prophylaxis in relation to grip and aches and colds in general, and that is to maintain healthy tonsils. To keep the tonsils healthy by applying the swab as I have stated, occasionally, or by any other means, is well worth while. I have had patients that I believe would have had grip except for treating the tonsils, and I believe there would be no cases of that disease if healthy tonsils were maintained.

PORRO-CESARIAN SECTION.

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CASE REPORT.

Minnie T., age 27; married; born in the United States; family history negative. Previous history of chorea, asthma, pneumonia and various diseases of childhood. Previous obstetrical experience three children all delivered by forceps after long tedious labors. The last labor was two years ago. When about three months pregnant, two and a half years ago, she began to have great pain on urination and burning sensation in the region of the bladder. Urine was dark colored and contained heavy sediment; at times she passed "gravel" with the urine. Diagnosis of vesical calculus was made, and operation was advised by her family physician but refused. The pregnancy went to full term, but the patient was all the time in very poor health. Labor was very painful, lasted fourteen hours, and was terminated by forceps. The physician in attendance told the patient that while the head was passing the perineum he continually wiped away pieces of soft calculus that were forced through the meatus. After the puerperium the patient was better for some months and then lapsed into the condition that obtained prior to the birth of the child—painful, burning urination, with blood, pus and gravel in the urine.

On May 6, 1906, she was admitted to the surgical service of the Brooklyn Hospital under the care of Dr. R. L. Dickinson. The records state that for eighteen months previous she had had constant pain in the bladder; urinates every thirty minutes during the day and three or four times during the night. Urine alkaline; specific gravity 1014; heavy content of albumin; considerable pus. Under anesthesia a stone in the bladder was found and removed through an anterior vaginal incision into the bladder. The stone measured one and a half by three-quarters of an inch. The bladder was eroded and sloughing. A permanent fistula was established by uniting the mucous membrane of the vagina and bladder leaving an opening about one inch in length. The hope was that with permanent drainage the cystitis would subside and then the fistula could be closed by secondary operation. After the operation it was discovered that the patient was already about two months pregnant. The cystitis did not clear up as hoped; the irritation of the urine discharging through the vagina caused extensive ulceration of that canal and the external genitals, giving much and constant discomfort and distress. During August and September she was again in the hospital under the care of Dr. Dickinson. Under anesthetic the Kelly cystoscope revealed a few ulcerated patches on the mucous membrane of the bladder with small pieces of calculus adhering to them. On account of the pregnancy the local treatment was unsatisfactory, and the patient returned home.

On November 10, 1906, she came under my care and entered the maternity department of the hospital, being now at about full term. Her general health was very poor; the cystitis was very marked; the vagina was extensively ulcerated, swollen greatly, exquisitely tender, with excoriation and edema of the vulva and inner surfaces of the thighs. It was impossible to make the slightest examination except under anesthesia. The patient could not bear the introduction of a slender douche nozzle into the vagina for the purpose of irrigation.

After a careful consideration of the situation for three days, dreading the onset of labor, I proposed to the patient and her husband the operation which gives title to this report. This was willingly accepted and the operation done on November 13, 1906. The operation consisted of the median incision from two inches above the umbilicus to within two inches of the symphysis. Through this opening the uterus was delivered onto the surface of the abdomen and the intestines walled off with gauze. The fundus was then opened in the median line and the placenta was found under the incision. Opening into the amniotic sac was made through the placenta, and the child promptly delivered, followed by the placenta and membranes. Then the uterus at the cervical junction, right tube and ovary, and left tube, but not the ovary, were removed; the edges of the cervix were brought together with catgut sutures and this stump was covered by folds of peritoneum. The abdominal incision was closed with chromic gut layer sutures, five silkworm gut sutures and a linen subcuticular suture. Before the patient left the table she was given 500 cc. saline solution by hypodermoclasis and a pint by rectum. The baby, female, weighed seven pounds, three ounces. The postoperative history was without incident; she improved rapidly from the day of operation; the wound healed firmly throughout its length, and on December 8th, the twenty-fifth day after delivery, she was operated upon by Dr. Dickinson for closure of the fistula. On December 23d she left the hospital with the fistula practically healed. On March 13, 1907, the report from the patient was that she was in good health, the fistula entirely closed; urine seems to the patient to be normal, and she passes no gravel. The baby at four months of age was thriving on modified cow's milk.

The operation in this case was undertaken because of the fear of infection in view of the condition of the birth canal, even if it were possible to deliver under an anesthetic by forceps, as the three previous children had been. The Porro operation was decided upon by reason of the danger of infection if a simple Cesarian operation were done. The patient's life and health had been in great jeopardy in two pregnancies, and she gladly accepted the termination of any possibility of future pregnancies. The outcome of the operations certainly seems to confirm the wisdom of the course pursued.

123 Joralemon Street.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(*Continued.*)

By JAMES J. WALSH, M.D.
NEW YORK.

ALEXANDER COVENTRY.*

Dr. Alexander Coventry, the eighth president, was born at Fairhill, the seat of his father, Capt. George Coventry, near Hamilton, Scotland, on the 26th of August, 1766. He received his preliminary education in the schools of Hamilton and Glasgow, and studied the profession of medicine under Drs. Stewart and Cross, of Hamilton, in 1783-84. After having attended the medical lectures at Glasgow, in the winter of 1784-85, he repaired to Edinburgh, where he heard the instructions of Monro (secundus), Cullen, Hope and Gregory. It was from these ornaments of our profession that Dr. Coventry drew his principles of practice, which, as is believed, guided him throughout his whole professional career. Some property which had been left to him by his father requiring his personal attention, Dr. Coventry sailed for America in 1785. He first located himself at Hudson, in this State, where he remained for about three years, actively engaged in the practice of his profession, and also in agricultural pursuits, to which he was much attached. In 1790 he removed to Romulus, on the west side of Seneca Lake, where he had a fair opportunity of studying the epidemic fevers of that district in all their varied forms. But in consequence of the repeated attacks which he suffered, and the sickness of his family, he removed to Utica, then Fort Schuyler, in 1796, where he continued to reside until the time of his death. It appears to have been his wish, when first settled in that city, to abandon the practice of medicine, and to devote himself to mercantile pursuits. But finding these not congenial to his taste and habits, and that professional calls were frequent, he was obliged to relinquish them entirely. He then again devoted himself to the practice of his profession, which together with his favorite pursuits, horticulture and agriculture, occupied his whole time.

The estimation in which Dr. Coventry was held by his professional brethren may be judged of by the facts that he was for several years president of the Medical Society of the County of Oneida, and in 1822 he was elected a permanent member of the State Medical Society, and in 1823-24, president of the same body. He was at about this time appointed one of the trustees of the Western Medical College, and was also a member of the Albany Lyceum, and a corresponding member of the Linnæan Society of Paris. On the organization of the Agricultural Society of Oneida County, he was appointed corresponding secretary, and delivered the first address before that body.

For forty years Dr. Coventry kept a journal, in which he noted daily whatever he conceived useful and important in his profession and in science. In this, no doubt, many useful and important facts are recorded; and from his known talent for observation and discrimination, it is hoped that the world will be favored with copious extracts from it, containing his private thoughts and views on many interesting subjects.

Dr. Coventry was an occasional contributor to the agricultural and political papers of the day. His principal medical writings are: his addresses before the State Medical Society on endemial fever; a paper on yellow fever, pub-

*The above biographical sketch of Alexander Coventry, M.D., of Utica, N. Y., is taken from the annual address delivered before the New York State Medical Society, 1832. By Jonathan Eights, M.D., President of the Society.

lished in the *Edinburgh Medical and Surgical Journal;* and a paper on goitre, and one on dysentery, in the *New York Medical and Physical Journal.* These productions are all characterized by that practical talent and discrimination for which our lamented friend was so justly esteemed.

He was possessed of a fine and vigorous constitution, which, added to his regular habits and frugal mode of living, enabled him to endure for many years the fatigues of an extensive practice without any injury to his health. But with advancing years these fatigues were insensibly making inroads, and preparing the way for the certain triumph of the destroyer. While engaged in professional business at the house of a friend he was seized with the fatal distemper, the epidemic catarrh [evidently influenza—Ed.], which, after an illness of two weeks, terminated his useful and honorable career. As a practitioner of medicine he was justly esteemed; and while he ever maintained the full and complete confidence of his employers, his professional brethren gave abundant testimonies of their high esteem of his skill and experience.

[The following note occurs in the sketch showing that a precious source of medical information was lost: "We regret to state that the journal kept by Dr. Coventry referred to by Dr. Eights, was left in such a state that no one but himself could prepare it for the press, to do justice to the several subjects he had written on."—Ed.'s *Med. and Surg. Jour.*]

JAMES R. MANLEY.*

Dr. James R. Manley was born in the City of Philadelphia on the 5th of April, 1782. He was the son of Robert and Catherine Manley, the former a native of Maryland, and the latter of the City of New York—a daughter of one of the old Dutch burghers. His father held a captain's commission in the Continental service, and his well-known zeal and active exertions in the cause of the Revolution rendered him an object of suspicion to the British, who had got possession of the city. A false rumor having been circulated that he had in his enthusiasm been heard to say that he would sooner see the city burnt than fall into the hands of the English, he was unjustly suspected of agency in its conflagration, and compelled to seek a temporary residence elsewhere. With his wife he took refuge on Long Island, where he was kindly sheltered by a farmer until political changes allowed him to return without hazard to New York.

Dr. Manley's early years were passed in New York City after the Revolution.

He entered Columbia College at the age of thirteen, and graduated in the year 1799. [Graduation at 18 or younger was not so uncommon then as now—Ed.] He then commenced the study of medicine with Dr. John R. B. Rogers, father of the late Dr. J. Kearney Rogers, and in the year 1803 received the degree of Doctor of Medicine from Columbia, to which at that time was attached a "Faculty of Medicine." He always evinced a strong attachment for his alma mater, and, sensible to the day of his death of the value of an enlightened, liberal education, he lost no opportunity to urge its acquisition and necessity upon candidates for medical honors. In his various addresses before medical students and societies he never failed to exhibit in a strong light the advantages of an extended education, and in his address delivered in the year 1831 before the "Association of the Alumni of Columbia College" he thus expresses himself: "I know not what others may think of the relation of an alumnus to his alma mater, for it is impossible to submit the question to calculation; but for myself I can truly say that there are but two debts which I acknowledge my utter inability to discharge—the one to my sainted mother, who, thirty-five years since, was called to take her place among God's chosen ones, and the other to the institution in the hall of which we are now assembled: one formed my heart; the other, my understanding; one taught me what duty was; the other enabled me to fulfil its obligations, thus leaving me without excuse if my will is deaf to the calls of affection or rebellious to the dictates of cultivated reason." On the subject of education he says: "Nor can it be necessary at this time of day, and more especially in this place, to eulogize the subject of general education. The history of every civilized community presents nothing more or less than a series of its triumphs over prejudice and ignorance. It has not only been an instrument, but emphatically *the* instrument—nay, the sole agent—of all the changes from barbarism to refinement which have marked the progress of society. By its influence has the dominion of passion, in all the ages, been subjected to the guidance of reason, and to it, controlled by an intelligent conscience which acknowledges God in His written word, as well as in His providence, are we indebted for all which can render life desirable. The time was when all the man, all that can distinguish him from the lower orders of creation, his intellectual and moral faculties, were yielded without a struggle to the only two enemies of his happiness, ignorance and superstition; and the thraldom would have existed to this hour but for the influence of education."

In the year 1804 Dr. Manley married Elizabeth Post, a daughter of Colonel Anthony Post, one of the old and highly respectable Dutch residents of New York City. He soon after removed to Greenwich (the region just

*For the following sketch of Dr. Manley's life we are mainly indebted to the biographical sketch of his life and professional character presented to the State Medical Society at its annual meeting February 3, 1852, by Dr. Charles S. J. Goodrich, of Brooklyn, N. Y., which is published in Volume 8 of the Transactions of the Medical Society of the State of New York, covering the years 1850 to 1852 inclusive.

below and west of Eighth Street and Sixth Avenue, on the West Side), a village then on the outskirts of New York, but now lost in her embrace. There he practiced his profession and attended for many years the sick in the State prison located there.

During a long professional life Dr. Manley received many evidences of distinction. In 1818 and 1819, when the yellow fever prevailed to a fearful extent at the quarantine among the passengers from Europe, he assisted the health officer, Dr. Dewitt, who fell a victim to its ravages. When the deputy, Dr. Harrison, was lying ill with the same disease, the Board of Health solicited Dr. Manley to take full charge of the sick at quarantine, which he did. He fearlessly faced the fatal pestilence, and continued in charge for two months, until the post of danger had become a place of safety. In 1828 Governor Clinton was intending to nominate him to the Senate as health officer, but after the Governor's sudden decease the nomination was found, in his writing, on the table ready to be sent to the Senate the next day. Dr. Manley had warned the Governor a day or two before his death of his liability to an attack of apoplexy, and advised him to discontinue, for a time, his severe application to the duties of his office and all other mental exertions, but the warning came too late; the mandate had gone forth; the thread was breaking at the time the warning was pronounced.

Dr. Manley's connection with the State Medical Society reveals him as a physician ready to sacrifice his time for the good of the profession, and willing to lend the aid of his best thought to professional organization and the uplift of medical practice. Few men in the history of the society have deserved so well of his professional brethren for his self-sacrificing work for them as this busy practitioner of the early part of the nineteenth century.

Dr. Manley was chosen one of the censors of the Medical Society of the State of New York in 1822, and also in 1827, and continued in that office almost uninterruptedly till his death. In exercising its functions the native kindness of his heart frequently had severe conflicts with his sense of duty to the community and the profession, in the examination of students presenting themselves for license who were not fully qualified, agreeably to his own standard. "The physician," says he in his inaugural address before the State Medical Society in 1826, "is not only obliged to be well informed, but his knowledge must be at all times at command to act with decision when the occasion requires. * * * To be well furnished for his profession is not only his duty, but his deficiency is his sin; ignorance is his crime; he is not only obliged to administer relief, but the relief must be extended in the best and speediest manner and with the least possible suffering. It is his exclusive business to shield from the danger and assuage the pains of disease, to furnish the means which alone can give to life its enjoyment, or mitigate the sufferings which must inevitably terminate in death."

Dr. Manley was chosen president of the Medical Society of the State of New York in 1820. In his annual address he discourses largely and with his accustomed earnestness on the subject of medical education. He urges the necessity of its being a liberal and comprehensive one. He states, in strong language, the awful responsibility of the physician, under whose control are not only the health and comfort and happiness, but the life and death of the community. He examines into the privileges conferred by degrees, and the powers granted under licenses to practice. He sets forth the danger in the one case and the safeguards in the other. He exposes the temptations under certain circumstances to degrade the profession into a mere money-making traffic, and defines the laws of conscience and morals that should govern the physician always in the performance of his duties, where self-interest, expediency or sympathy might warp his judgment; he refers to the medical politics of the College of Physicians and Surgeons in the City of New York, "in which he has taken a more than ordinary interest for the last six years," and gives a brief exhibition of the controversy which has distracted that school.

A quotation will serve to show how modern were his views as to the necessity for extended preliminary and professional education for medicine.

"The standard of education in medicine must be elevated." "Elementary education also," he continues, "which alone can give promise that the pupil can make profitable progress in medicine, must be an indispensable condition of his entrance upon its study. I do not now speak as the advocate of the medical profession only, but as the advocate of humanity, as the advocate of common sense. I do believe that the recorded and traditionary experience of five thousand years are safer depositories of the public confidence, and more valuable and reliable guides to the successful treatment of disease, than the crude dogmas of erratic, morbid and depraved intellect, which cannot boast the merit of conviction even of their own supporters."

As his biographer says, "The fact that he was appointed resident physician of New York in 1828, and held the office for twelve years under successive governors, is a proof that the Board of Health of New York found him a prompt and able adviser."

It is a contemporary who knew him well, and who had been intimately associated with him, who gives the following details as to his personality and character.

Failing gradually day by day, without pain or suffering, he expired without a struggle on the 21st of November, 1851, in the 70th year of his age. "Sustained and soothed" through life "by an unfaltering trust" in Him who had declared "Come unto me all ye that are weary and heavy laden and I will give you rest," he sank calmly into the sleep of death—

"Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams."

It is not difficult to sum up the character of a person like Dr. Manley, who was a man without guile, for where there is no concealment there is no mystery. He was frank and simple in his manner, kind, open-hearted and liberal in his disposition, with sympathies easily enlisted and emotions that could not always be suppressed. His heart attended his head at the bedside of his patient, and he carried out with tenderness the decisions of a sound judgment and enlightened reason. He was ardent and impulsive in his feelings; quick and benevolent in carrying out the dictates of his generous nature; never hesitated to give to the poor nor proffer to the suffering by the wayside the benefits of his professional skill; naturally active in his movements, rapid in his thoughts and speeches; prompt to decide and ready to execute, he never dallied with disease; when once clearly developed, he struck at once at its origin and arrested its progress. His great decision of character; his untiring industry and energy fitted him peculiarly for the office of resident physician, which he held for so many years, and rendered him highly acceptable as an officer in the administration of quarantine laws. His uncompromising hostility to quackery and charlatanism made him some enemies, but secured him many friends; the former to fear, the latter to respect and admire his sterling fearlessness and independence. In conversation he was affable, and expressed himself with remarkable fluency and force, and wrote with great facility, and in a style clear, flowing and vigorous.

THEODORIC ROMEYN BECK.*

Dr. Beck was the eldest son of Caleb Beck and Catherine Theresa Romeyn. On the paternal side Dr. Beck was of English origin, his ancestors being among the earliest settlers of New England. A love of books would seem to have been hereditary on both sides, for in the will of his grandfather, "Caleb Beck, gentleman, of Schenectady, in the County of Albany," proved before Gov. Cosby, in 1728, one of the first articles named as a valuable legacy is, "my printed books to my son." It might have had its effect, for that son embraced a liberal profession and received his diploma as attorney-at-law, signed by George Clinton in 1757. Caleb Beck, the father of Dr. Beck, also studied law, but never entered upon its practice; he died when his eldest son was but a few years of age, and the education and rearing of his five sons devolved upon his widow and her father, the Rev. Dr. Derick Romeyn. How well this task was accomplished may be best appreciated from the character sketch of Mrs. Beck given by Mrs. Cortlandt in her life of Lewis Beck, also to be found in the *Albany Medical Annals*. As Mrs. Beck gave three distinguished sons to the medical profession of New York State she well deserves this lengthy notice for herself and immediate ancestry.

It has been well and truly said that there never was a great man, the elements of whose greatness might not be traced to the original characteristics or early training of his mother. This was eminently the case with these brothers. Their mother possessed a well-balanced mind, and had received no common training. Mrs. Beck was the only daughter of the Rev. Dr. Derick Romeyn, Professor of Theology in the Reformed Dutch Church, a man of great learning and piety; he twice refused the presidency of Queen's College, New Jersey, and was the founder of Union College in our own State. Left a widow at the early age of twenty-nine, she determined that no exertion should be spared, on her part, to give her five sons a liberal education, her ardent desire being that each of them should embrace a profession, a desire encouraged by her father, and in furtherance of which she had his advice and assistance while he lived. To attain this object, however, demanded much self-denial and active exertion. Studying with them most of their lessons, and diligently caring for every household duty, the home of their childhood presents a beautiful picture. Her good sense, industry and tenderness overcame all obstacles; she lived to see her sons useful in their generation, and honored by all who knew her worth, she entered into her rest at the age of eighty-five, "a shock of corn fully ripe."

T. Romeyn Beck, to return to her most distinguished son, the subject of this sketch, was placed in the grammar school at Schenectady at a very early age, and entered Union College in 1803, graduating when only sixteen. His mother, who entertained a wholesome horror of losing time, placed him, immediately after his graduation, in the office of Drs. Low and McClelland, of Albany. The former was a man of great and varied talent, a fine classical scholar, and a lover of literature. (The latter was the first president of the society.) With these gentlemen he remained until the last year of his medical studies, when he entered the office of Dr. David Hosack, who was at that period considered the first physician of

* By Mrs. Catherine E. Van Cortlandt.—*Albany Medical Annals.*

the country. In 1811 he received his degree of Doctor of Medicine, presenting an inaugural thesis on insanity. This short treatise, written thus early in life, exhibits a wonderful knowledge of the history of insanity and its treatment. The deep interest he manifested for this afflicted class ceased only with his life. At that period their needs were only partially known and wholly disregarded. In this pamphlet, short as it is, Dr. Beck gives a succinct history of insanity, and devotes a portion to the treatment of the insane, advocating public asylums and careful, kindly usage. He lived to see his views endorsed by the eminent men who have made this subject their study, and to witness the inauguration of a new and humane practice, calculating to cure these unfortunates or ameliorate their condition. He modestly introduces his thesis by those words: "It is all that can be expected from one whose opportunities of viewing the disease have been scanty, and whose information has been derived chiefly from books."

Dr. Beck commenced the practice of medicine in Albany, and was appointed physician to the almshouse the same year. On his resignation of this situation he wrote a memorial to the supervisors on the subject of workhouses, replete with sound good sense.

He was but twenty-four years of age when he received the appointment of Professor of the Institutes of Medicine, and Lecturer on Medical Jurisprudence in the Western College of Physicians and Surgeons, located at Fairfield, N. Y. In 1826 he became Professor of Medical Jurisprudence; in 1836 Professor of Materia Medica; filling the two latter chairs until 1840, when it was judged expedient to give up the college in consequence of the establishment of a Medical School in Albany.

Dr. Beck continued the practice of medicine in Albany until 1817, when a growing dislike to practice, and an increasing love for the study of the profession and literature generally, induced him to accept the post of Principal of the Albany Academy. He was naturally sensitive, and the sight of suffering and distress that he could not remove or alleviate wore upon him, and his strength and health alike failed; his attachment to the profession he had chosen remained unabated, and amid the constant labor which his new occupation gave him, he found leisure to accomplish an amount of work that seems almost incredible. As early as 1813, his letters addressed to his uncle, Dr. John B. Romeyn, then in Europe, indicate the design, which a few years brought to a full accomplishment, of a work on legal medicine. In 1823, Dr. Beck published the volumes that have made his name familiar to every member of the legal and medical professions. In the words of an eminent lawyer of this State, "Dr. Beck, known over the civilized world as the author and founder of medical jurisprudence, a science which he substantially created, ranks, wherever law and justice are administered, with Blackstone and Bacon, Grotius and D'Aguessau." These volumes were received at home and abroad with well-merited favor. Besides the numerous American editions it passed through one German and four London editions. In a notice of the German translation, says a bibliographer, "In his native language his work is as yet without a parallel." Since his death two editions have been published. While this great work progressed, its author was never unmindful of the claims of all classes of unfortunates; every public charity demanded and received not merely his notice but his ardent support. His carefully prepared statistics of the deaf and dumb, called public attention to their needs. True to his first interest in the insane, their treatment and care occupied much of his attention. Most wisely was he chosen by the Governor and Senate one of the managers of the New York State Asylum, and he was reappointed at the expiration of each term of office until his death. In 1854 he was unanimously chosen president of the Board of Managers. In the words of one of the ablest officers of the asylum, "The institution has at all times had the advantage of his wise counsel, efficient aid, and ardent devotion, and of his presence and immediate coöperation with his associates, whenever demanded by matters of unusual or special importance. Here, as well as in all other similar positions, he has ever consulted the highest and most enduring good of the interests committed to his charge, without regard to the prejudices or the more apparent benefits of the hour or the day, or any mere personal claims or advantages. His wisdom and experience, his independence, decision and energy, and his unflinching integrity have made him a most valuable guardian of all the affairs of this great public charity."

After the death of the lamented Brigham, Dr. Beck was induced by the managers of the asylum to undertake the charge of the *Journal of Insanity* which he conducted until 1854, when "advancing years and more imperative duties" compelled him to resign the charge. When the tidings of his decease reached the afflicted inmates of the asylum, they requested their chaplain to deliver a funeral sermon on the death of "their friend," and the appropriate words chosen by them as a text for his discourse were, "Having served his generation by the will of God he fell on sleep." His children, deeply touched by the selection so deserved and so well chosen, have placed only this short inscription on the simple headstone that marks his grave.

It is not only as a writer on medicine or insanity, or as an able instructor that Dr. Beck is known. He gave an impulse to every important scientific enterprise of this State. He was one of the originators of the great work of the Geological Survey of New York, and under

the successive Governors intrusted with much of its supervision. The following dedication of the 5th vol. of the survey by Prof. Emmons, shows the light in which he was regarded by the workers in that survey.

"To T. Romeyn Beck, M.D., LL.D.

"Sir: There is more than one reason why the concluding divisions of the present work, undertaken to explore and illustrate the Natural History of the State of New York, and conducted under legislative patronage, should be dedicated to you.

"You were among the first to foster the enterprise, and remained its consistent advocate in times when adverse circumstances seemed to jeopardize its continuance; much more than this, your whole life has been assiduously engaged in promoting the advance of science and the spread of popular education, and the published results of your scientific and literary labors may be referred to as reflecting an honor upon your native state. Would that the merits of the present volume were such as to render it more worthy its dedication."

Not only was he conversant with the scientific workings of this great project, but he introduced a system of economy and order, when appointed a Commissioner to decide upon the various claims that grew out of the contracts, that reduced its expense and facilitated its completion.

"Theodric Romeyn Beck was a master workman in his profession—in moulding the mind and character of the young unequaled. Himself an untiring, indefatigable student, versed alike in solid learning and elegant literature, he inspired the pupil with similar tastes, lighted in his bosom the spark of noble emulation, elevated his desires and purified his ambition. In emotion, tender, delicate and sensitive as a woman—in perception of moral rectitude clear and undeviating—he still possessed a wonderful breadth and manliness of character. His brain was massive, his intellectual faculty strong and robust, his temper fearless, his conduct full of gentleness and dignity, modesty and courage. Such glorious qualities commanded respect and secured obedience, and withal presented in the scholar a model worthy of imitation. He was the Arnold of his Rugby. Around him clustered a troop of brave boys—Tom Browns and all—who loved and honored him with full hearts and flowing affections."

In 1841, he was chosen Secretary of the Board of Regents, and he succeeded in obtaining for them the entire supervision of the State Library and the State Cabinet of Natural History. The State Library, alone, is a noble monument of his faithfulness and diligence; he found a few volumes scattered, disorganized and partially destroyed; he left a library worthy of the State; nor did his work cease with his life. The catalogue of books is complete; its collections for years to come testify how thoroughly he completed his task.

To a stranger it will hardly seem possible for Dr. Beck to have done his duty fully in his capacity as instructor, when it is remembered how manifold were his occupations as secretary of the regents alone, and yet he never neglected the smallest detail of duty.

JOHN H. STEEL.*

Dr. John H. Steel, after acquiring his profession, served for several years in the United States Navy, and in this capacity visited various countries. I am not acquainted with the history of his life, further than to say that on leaving the service he settled in the village of Saratoga Springs, where he rapidly acquired an extensive business. He represented the County of Saratoga as a delegate to this society, and in 1824 was elected a permanent member. In 1835 and 1836 he officiated as president. Dr. Steel is advantageously known as an author. Besides several communications in medical and scientific journals and in our transactions, he published an interesting analysis of the mineral waters of Saratoga and Ballston, which came to a second edition in 1830. The work displays ample knowledge of chemistry and mineralogy, and indeed, I presume, the discovery of iodine in those waters is justly due to him. Although but little beyond the prime of life, his health had for years been failing and we have now to lament his death at a period when he might have been still contributing new facts to medicine, and its accessory sciences.

In his article on the medical topography of the county of Saratoga, Dr. Elijah Porter refers to the analyses of the Saratoga waters made by Dr. Steel, and shows that they were evidently accepted as the standard. This article was read before the society in February, 1833, and was published in the Transactions, Vol. I, 1832-33.

The largest factor in the support of quackery is mysticism. Mysticism is a sign of mental infancy. The fact is that millions of grown-up people are mentally children. They have done no thinking on their own account. They have been spoon-fed by parents, teachers, clergy, editors and writers. Their infantile brains are incapable of analytic thought. Just as the babe stretches out its tiny arms for the moon, so the intellectual babe reaches out for the infinite. The grown person knows his limitations; the child does not. The craving for "the universal," apparent in metaphysicians and theologians, is not, as we have erroneously believed, a sign of philosophy or deep thought. It is a sign of childishness and immaturity.

The childish mind abhors doubt. It craves for positive definitions, whether absurd or not. The most ridiculous explanation is to it better than none at all. It springs at once from two or three facts to an hypothesis of the universe. The child of five delights to show his knowledge by saying of everything, "I know who made that. It was God." Give a child a word and he does not care whether it conveys an idea or not. His perceptive faculties and his memory constitute his mental equipment. The powers of reflection have not yet been developed. He is not thinking, but learning. His highest source of authority is his teacher or his mother. Knowledge, to him, means to remember what he is told.

Christian scientists, healers, and mystics are recruited from that great majority of the public who do not do their own thinking, and whose minds are still in the child state.—*Herbert N. Casson: The Crime of Credulity.*

*Most of this brief biographical sketch of Dr. Steel is taken from the annual address of Dr. Laurens Hull, delivered before the Medical Society, February 6, 1839. Some additions to it have been made from other sources by the Editor, and these are acknowledged in the notes.

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Editorials.

MEDICAL SUBJECTS DISCUSSED BEFORE BOARDS OF TRADE

ONE of the hopeful signs of the times is the interest which municipal boards of trade are taking in medical matters. Every industrial center of any consequence has its board of trade which is interested in furthering the business interests of the community. It was once felt that the work of the medical profession was entirely foreign, and often antagonistic, to the commercial spirit; but a decided change of view is now taking place. The business men are discovering that the health of the community has a close relation to its business interests. Factories, in which dust, crowding, and poor ventilation engender consumption among the employees, are discovering that as a business matter these conditions do not pay. Municipalities are finding that a better prosperity accompanies a cutting down of the death-rate.

Last year the Board of Trade of Amsterdam, New York, invited Dr. Charles Stover to read a paper on the relation of tuberculosis to municipal and industrial life. This paper was of more solid value to that community than any of the other matter presented. These gentlemen were alive to the importance of this subject as an economic question. Dr. Stover reported that in one of the public schools attention was drawn to the fact that many children had sore throats. Investigation showed that the janitor had been instructed by a member of the board of education to close the ventilators in order to economize in the consumption of coal. In another instance in one of the industries of the city there occurred an unusual number of cases of pulmonary hemorrhages. It was thought that a very dry dust, resulting from the manufacturing process carried on, was the cause of the trouble. The proprietors gave one of the local physicians a free hand to suggest and apply a remedy. By experiment and liberal expenditure of money, the introduction of apparatus steadily improved the sanitary conditions, and pulmonary hemorrhages became no longer conspicuous. There can be no doubt about the commercial value of these life saving efforts.

Dr. Stover told these gentlemen the plain facts that our chief weapons in fighting consumption are: First, education of the public, particularly the poorer classes who do not appreciate the danger of the disease. Secondly, the compulsory notification and registration of all cases of tuberculosis. The importance of this relates chiefly to the poor and improvident, from whom after all comes the greatest danger, and who should be under constant surveillance in order that these dangers may be reduced to a minimum. Thirdly, the foundation in suitable localities by the city and the state, of sanitoria for the treatment of early cases of the disease. Fourthly, provision for the chronic, incurable cases in special hospitals. He recommended to the manufacturers and merchants the consideration of means to prevent contamination of the air; and these gentlemen have profited by the recommendations.

In New York City we have one of the most active and efficient organizations of the kind, known as the Merchant's Association. This association has become impressed with the necessity for healthful surroundings as a factor conducive to good business. Among the subjects which it has taken up is the pollution of waterways by sewage. It has conducted a campaign against typhoid, going so far as to address a communication on the subject to the President of the United States and spread broadcast literature on typhoid fever. It is this organization which has had printed in pamphlet form from the *Saturday Evening Post* a paper by Dr. Woods Hutchinson with the striking title, "Typhoid Fever: The Story of the Fly that Does not Wipe Its Feet." This pamphlet is in an interesting style, and will impress upon the layman the important facts concerning typhoid.

These are but two instances of some of the work of commercial organizations. But the same thing is going on all over the country. There are everywhere evidences of an awakening to the commercial and industrial value of health and human life.

SURGICAL PHASES OF ENTEROPTOSIS.

THE treatment of the visceral ptoses remains still in a developmental stage. The diagnosis of these conditions has been attended with so much difficulty and inaccuracy that treatment has been variable and unsatisfactory. A further study of the etiological factors involved is much needed to put the treatment upon a satisfactory basis. As to the diagnosis, that is now coming out of the obscurity in which it has been involved, and perhaps no single agency has contributed more to this end than the X-ray. On account of the advancements in diagnosis, which the last few years have witnessed, the treatment of these disabilities also shows signs of being simplified. Prior to the employment of the X-ray in diagnosis the real position of the hollow viscera was often a matter of uncertainty. With accuracy in determining the presence and degree of ptosis, treatment becomes satisfactory. The great majority of cases are relieved, or much benefited, by medical or hygienic measures. The operative treatment of enteroptosis is no more indicated as soon as diagnosis is made than is the operative treatment of movable kidney. It is much to be hoped that the other viscera will escape the unreasonable surgical assaults which have been inflicted upon the movable kidney.

J. G. Clark has analyzed this subject pretty carefully with a view to determining just which cases can be helped by surgical operative treatment.* The cases of congenital habitus are observed in patients of low vitality with neurasthenic tendencies; and here operation will do more harm than good. The cases in which the disease is acquired from natural causes, such as rapid child-bearing, or difficult labors, or overloading of the colon often require operation. The stretching or distortion of the colon and mesocolon from this latter condition often can be remedied only by operation. Here, for example, when there is great sagging of the transverse colon, the operation of Coffey, by omentoventral suture, proves effective, although resection of the greatly prolapsed loop has been done with success. Cases of ptosis which are acquired as the result of post-operative adhesions or follow the removal of large tumors require operative treatment. The operations which Clark has found serviceable in these cases of visceral prolapsus have been suspension of the sigmoid in cases of grent redundancy and suspension of the transverse colon by omentoventral suture. Gastroenterostomy has not been found advisable in any of his thirty-five operative cases. Shortening of the gastric ligaments has been done twice for sagging of the stomach. The conclusions at which Clark arrives, after studies with the aid of bismuth and the X-ray are that no case of enteroptosis should be operated upon until medical and mechanical means have been exhausted without relief; cases of ptosis due to congenital habitus will not be relieved by operation, except in the rarest instances, and they should not, therefore, be considered amenable to surgical treatment; the X-ray is essential for arriving at an estimate of the degree of ptosis; and in cases of great relaxation of the abdominal wall from child-bearing, resection of the relaxed wall will often be of much help.

*Surgery, Gynecology, and Obstetrics, April, 1908.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

DURING the height of the presidential campaign this fall, Washington will be the scene of one of the most important scientific congresses ever held in America. We have already called attention to this project, and take this occasion to urge the hearty support of the medical profession. Distinguished men from all parts of the world—physicians, hygienists, sociologists and humanitarians—will assemble to discuss the problems of tuberculosis. This gathering will be organized under the name of the International Congress on Tuberculosis. It will hold its sessions in Washington, D. C., September 20 to October 10, 1908.

The Directors and Council of the National Association include many eminent authorities on tuberculosis. Their plans contemplate something far broader than a convention of scientific men. There will be a tuberculosis exhibition which is planned to surpass anything of the sort ever attempted. This method of educating the public

on this subject is employed in many foreign countries, and in this country it has of late become well known through the popular exhibition of the National Association, of the New York Tuberculosis Committee, and of exhibitions of state boards of health. While this exhibition is in progress visitors can learn what is going on the world around in the fight against tuberculosis.

The International Congress will provide a great collection of interesting things, but the Congress itself will be a great collection of interesting persons. Many of the distinguished authorities on tuberculosis in Great Britain, Germany, France, Sweden, Russia, Japan, Italy and South America will visit the United States at the time, not only for the purpose of discussing tuberculosis in the scientific sessions, but also to make public addresses in Washington and other cities.

The last International Congress on Tuberculosis met in Paris in 1905, at which time the American delegates invited the Congress to hold the next meeting in the United States. Mr. Roosevelt seconded the invitation, through Mr. McCormack, the Ambassador to France, and the invitation was accepted with great demonstrations of enthusiasm.

Interest in this Congress involves not only physicians but it will be hardly less attractive to sociologists, for happily in this country the tuberculosis problem has taken a strong hold on the leaders in organized charity, many of whom have become leaders also in the anti-tuberculosis movement. Invitations have been given to the governors of all the states, requesting them in turn to invite their municipalities and other local agencies, either directly or through some department of state government.

The restriction of tuberculosis is a political problem, quite as much as it is a medical problem, and by extending its organization along official lines, the Congress will probably secure the largest and most enduring benefits to the country, and at the same time represent the country in the most favorable way to foreign visitors. An undertaking which will bring all the energies now engaged in the world's combat against tuberculosis to a focus in Washington for nearly a month will leave a permanent impression on the whole country. The good to accrue from this Congress will undoubtedly be very great, and it should receive every possible support.

THE SEVEN DEADLY SINS OF CIVILIZATION.

DR. GEORGE M. GOULD has given us an analysis of the seven deadly sins of civilization.* The sins which he regards as worthy of being thus dignified he has classified and set down with a strong indictment against each. They are harbored among so-called civilized people, and their presence throws doubt upon our worthiness to the title of civilized. The seven sins referred to are tobacco, coffee and tea, alcohol, sugar, venereal diseases, the modern house, and eye-strain. Were some other philosopher to set down seven deadly sins he probably would name some not specified in this list and omit some mentioned by Dr. Gould. However well we agree, it is always profitable to catalogue the things of greatest influence for good or evil; and although it would be a more happy and profitable task to name the seven greatest blessings of civilization, it is undoubtedly an easier one to name the sins.

In the discussion upon tobacco the learned author asks some pertinent questions. If tobacco is not harmful to men why should women be excluded from the pleasure of smoking? Surely it is true that scientific medicine should take hold of this question and find out something more about it.

The effects of tea and coffee seem to be about the same, barring the tannin effect in the former. The use of these products becomes a habit which is difficult to break, and attention is called to the fact that their use does not always stop simply with drinking decoctions but some habitués eat the raw product, the case being cited of a woman who ate tea and developed delirium tremens. One great harm of these two evils lies in the fact that many persons permit them to take the place of substantial food. The worst cases of defective nourishment occur in the combined tea and coffee drinkers.

Of alcohol, none can dispute the contention that it has a well-earned place among the deadly sins of civilization. One of the greatest reproaches to medicine is that, as an organized art and science, it has not taken a stronger stand against this evil, which, among ourselves, we know to be so large a factor in the production of degeneracy and in depreciating the physical and moral stamina of the race.

As to sugar, there will be a large measure of

*_Medical Standard_, December, 1907.

dissent against placing it in this bad company. If, as the doctor says, the per capita consumption of sugar in the United States is seventy-five pounds, let us be satisfied that it is no less.

Venereal diseases constitute a veritable plague. When adequate knowledge concerning their dangers has been given to all, they will then do civilization the service of shutting off the propagation of the heedless and vicious. Now, unfortunately, the general ignorance of sexual hygiene is so great that the innocent and virtuous are the greatest sufferers.

The modern house is probably not so guilty as the way in which we abuse it. It is pretty generally constructed so as to protect the inmates from the weather, but the inmates have perverted it to shutting out the benefits of air and light and to shutting themselves up with the unwholesome emanations of their own bodies. The house can not be classed as a great evil but man's habits in the house can.

Lastly we come to eye-strain, regarded by Dr. Gould as the greatest of these evils. The light of further knowledge will be required to brand it with so severe a stigma, although scientific men have ceased to scoff and are giving more and more attention to the contentions of the world's greatest authority in this condition. The reasons advanced for placing eye-strain in the class under discussion are enumerated as follows: It is of almost universal existence, the majority of persons being subject to it in varying degrees. It is almost impossible for nature to make the human eye-ball so that it can functionate perfectly. Civilization compels near work, for which the human eye is not well adapted, and to which it has not been accustomed until very recent times. The eye, as in no other sense organ, is the *conditio sine qua non* of motility and development of all the higher organs, the retina being essentially brain substance, and every activity of the body depends upon precedent and governing vision. Intellect itself is fundamentally and initially visual: the brain comes out to see.

Morbid vision, according to Dr. Gould, is the great cause of the exclusion of the unfit in human evolution. The survival of the fittest has in large part meant the survival of the ocularly fit. Eye-strain, therefore, he contends, produces more wide-spread and varying morbid function of the organism, more suffering, than any other cause enumerated. This bears strongly upon the terminal diseases. While it is not put down generally as a cause of morbidity, Dr. Gould sees in it the underlying etiological factor in a large category of ills.

Observations

ON HEALTHFULNESS AND HAPPINESS.

I have recently had a friend make the statement that he would rather be happy than healthy; this in connection with the harm that tobacco was doing him. He preferred to suffer the physical ills entailed by tobacco than to sacrifice the pleasure of the fragrant plant. That is his affair. It is a terse way of saying, that, it is better to do what one wants to do without considering its healthfulness or unhealthfulness than it is to do disagreeable things for health's sake. This is a perfectly reasonable view. One generally does what he wants to, and that is usually the most sensible thing to do. That is a man's birthright as soon as he is strong enough to enter into the inheritence of his own and take possession. As a child he has to do what some one else thinks he should do—what some one else thinks is good for *his* health or for *their* happiness. But when his ego has grown strong there comes into play *der Einzige und sein Eigentum*. Then, too, there is a disposition to take the gambler's chance. One often violates a law of health hoping that the retribution may not be forthcoming. Sometimes it is not, and he becomes emboldened and takes a chance again.

Shall I take a cold bath on a winter's morning or not? Shall I walk to the office, or ride? Shall I decline to take a couple of drinks with a convivial friend, or not? Shall I be healthy or shall I be happy? These are the questions often asked. And one naturally decides for happiness, for it is that for which we live. The object of life is happiness, not health. We are not living for the sake of growing healthy; we are living with happiness in view. The man who makes healthfulness his aim in life might be a fine specimen of a brute, but he would be a pretty poor sort of a man. But just here comes the duty of medicine to humanity: that duty is to make the incentive to happiness and healthfulness grow towards one another until finally they come together and coalesce. Then we shall find happiness in doing what is healthful, and health in happiness.

This consummation is in process of evolution. One does not go to breakfast without having brushed his teeth, although it is a time-consuming, and, in itself, in no wise a pleasurable task. We also bathe and keep our bodies clean. Our ancestors a few generations ago gave little heed to either of these operations. Knowledge of their value to us as individuals makes us perform with happiness tasks which otherwise would be disagreeable. The influence of medicinal science upon human progress is destined to bring into the circle of happiness all those things which make for health, for health is one of the most important prerequisites of happiness.

This is just the process which is going on with regard to morality, and has reached a high state of development among the most cultivated people. The old question used to be, Shall I be good or

happy? If I am good I shall miss lots of fun. Education has brought morality and happiness so close together that now they touch. The foundation stones of happiness are hewn in the quarry of morality. Happiness is comparatively little sought for in immorality. Men have learned that the best happiness must be consistant with morality. Of course, the consummation is not yet quite completed; that would mean, I think, what is called the millennium.

This development of healthful happiness must really go hand in hand with moral happiness. Morals do not thrive well in unhealthy bodies, Ecclesiastes and David to the contrary notwithstanding. The compulsory morality of old men, who are the wrecks of youthful sinners, is not the real thing, although, of course, better than nothing. A man in jail cannot steal, nor can a sexual wreck be a roaring libertine. Desirable morality is of the healthy and vigorous type. The same is true of happiness. Healthful happiness —it is that towards which medical science is directed. We are aiming towards the state of enlightenment in which, if the walk to the office is the most healthful, it will be preferred to the ride; in which the harmful tipple will be declined with pleasure; and in which my friend will value his health more than his pipe. Harmless pleasures will take the place of harmful ones, and health and happiness hand in hand will trip merrily on.

Items

EDITED BY

FREDERICK TILNEY, A.B., M.D.

TREASURES OF THE FOUR DECADES AFTER FORTY. —*"The effective, moving, vitalizing work of the world is done between the ages of twenty-five and forty."*

When Prof. Osler enunciated this now memorable statement, he was not aware of the host of witnesses that would rise up against him and speak the fair word for the senescent days after forty. And what an impressive host it is! Dr. Dorland has gathered them together in a recent article appearing in the May issue of the *Century* under the title of "What the World Might Have Missed."

In the decade between the ages of seventy and eighty, one hundred and three of the world's great works and master-pieces were executed. This includes work in all fields of activity. A few examples of the product of this period will be interesting; thus Gladstone for eleven years held the primacy of England; Spencer wrote his "Inadequacy of Natural Selection"; Harvey's "Exercitationes de Generatione Animalium"; Tintoretto's "Paradise"; Galileo's "Dialogue on the New Science" and Samuel Johnson's "Lives of the Poets."

In the decade between sixty and seventy, two hundred and sixty-five great works were produced, a few of which may be enumerated as follows: Pasteur's discovery of the value of inoculation for the prevention of hydrophobia; Columbus's third and fourth voyages to South America; Darwin's "Descent of Man"; Michelangelo's "Last Judgment," said to be the most famous single painting in the world; Wagner's "Parsifal" and Thomas Carlyle's "History of Frederick the Great."

In the decade between fifty and sixty, three hundred and two great works were produced, among them the first fifteen volumes of Buffon's "Natural History"; the discovery of America; John Hunter's description of the utero-placental circulation; Titian's "Venus"; Kant's "Critique of Pure Reason" and the first part of Cervantes' "Don Quixote."

In the decade between forty and fifty, three hundred and twenty of the world's great works were accomplished, as for example: Jenner's discovery of inoculation for small-pox and the first enunciation of the circulation of the blood by Harvey; Huxley's "Anatomy of Vertebrates and Invertebrates"; Darwin's "Origin of the Species"; Linnæus' "Species Plantarum"; and all of Shakespeare's master-pieces, as well as most of his plays.

Our gratitude to Dr. Dorland for this splendid, categorical answer to the gentle but wandering fancy of a master-mind. And, finally, a good word for the Old Man still. For he is possessed of those things which age alone can impart. He is a plutocrat in those riches to which Youth is a stranger.

LACK OF THE SCIENTIFIC SPIRIT.—The other day there appeared an article in one of the illustrated weeklies in which the writer propounded this substantial question: "What would Prof. Koch have accomplished had he been born in the United States?" The answer is far from pleasant, and, if true, voices a sad commentary upon us as a nation from the scientific standpoint. In substance, this writer would have us believe that the professor would only have been able to accomplish a small fraction of his great and valuable works. Our government does very little to foster pure science, and whatever inconsiderable and trivial interest it has in these matters grows in the political garden-patch where it receives the tender ministrations of those who love their constituencies better than themselves. How much help does the government offer those who are willing, anxious and able to work in the scientific departments of medicine, and are at the same time in need of financial assistance? Only a short while ago a famous German professor asked: "Where in America is any work being done? I have seen the beautiful buildings of your educational institutions, but is it not with you a case of the pauper living in the palace?" We must admit that the rank weeds of actual necessity too often sap the strength of a true scientific ardor. Here

and there are to be found a few examples of brilliant endeavor, but of an extended and coördinated effort there is no evidence. In all this short-coming there must be some fault; the blame must rest upon some shoulders. One says it is the government. But, after all, this is most decidedly a boomerang shot which seeks its final mark in the people. It requires but little investigation to come to the conclusion that the public is almost entirely uninformed as to the necessities and status of medicine to-day—indeed, even more, the laiety still cherish the singular misconception that the attainment of the degree of doctor of medicine is open sesame to the entire and subtile knowledge of the human frame. Sad to say, there are still those who would not disabuse them of this idealization. In all candor we are compelled to admit that our knowledge is very imperfect at best, and bold the man who would think to contradict this statement. The greater portion of our intellectual equipment is information, not knowledge; and the information is valuable or without profit in the exact proportion that its sources are good or bad. That the taint of pure theory has polluted these sources, that age-old medical axioms still cast their long shadow over them, that the results of much irresponsible observation have percolated their way into the well-springs cannot be denied. We shall occupy a far stronger position when we come out frankly and say that we are making it our business to find out rather than to accept. This will be a long step toward bearing a new light to the people, and open to them a new and truer view; for we cannot be without their encouragement, sympathy and coöperation.

Lachesis or Another?—Since the reputed beginning of things the Serpent has been subject to much controversy and not a little scandal. There really are some very good classical snake stories. In a few weeks now the annual crop of sea-serpent tales will make its appearance. As a rule, these ornate narrations deal with monsters of wonderous dimensions which have been seen to fringe a wide spread-out horizon. But is it more than fifty years since a very small reptile has made the stir occasioned by the now famous homeopathic lance-head. The drama of this small sauropidan has been well staged. His press agents have been both energetic and direct in their methods. Even that admirable finesse of advertising, to wit, repudiation, has at length been resorted to; for now one alleged authority in such matters comes forward with the statement that the present reptilian recipient of homeopathic rites and honors is a rank imposter, belonging to an entirely different species than the true original captured by Dr. Herring.

It is stated that said authority is a Dr. Heysinger, whose indignation has been so much aroused as to betray him into the use of a variety of blank verse. The double quatrain in which he outlines the therapeutic uses of lachesis poison cannot fail to take its place among the Classics of the Ludicrous. It will bear repeating:

Would you seek for the sphere of Lachesis?
  Then, follow the blood to the nerve-centers vainly contending,
The great pneumogastric lies stricken, the heart sinks and falters,
  Dyspnœa, constriction of throat, and lo! death is impending.

They rally! the blood is assaulted
  With "putrid sore-throat," carbuncle, pyæmia, phlebitis,
Traumatic gangrene and the long train of nervous reflexes,
  The cardiac cough, palpitation and œsophagitis.

And now to think that after so much pains and discussion, the wrong snake has been bagged. More lamentable still! The homeopath can no longer call "checkmate" to the above catalogue of human ills, because the supply of the true lachesis panacea is quite exhausted, and it is only a daring little imposter that has had the audacity to offer the secretion of his indifferent poison glands for the potent and genuine article.

Changes in the College of Medicine, Syracuse University.—The following changes have been made in the faculty and curriculum of the College of Medicine, Syracuse University: Frank P. Knowlton, A.M., M.D., Associate Professor of Physiology, has been made Professor of Physiology. H. S. Steensland, B.S., M.D., Associate Professor of Pathology and Bacteriology, has been made Professor of Pathology and Bacteriology. H. D. Senior, M.B., F.R.C.S., Associate Professor of Anatomy, has been made Professor of Anatomy. Ernest N. Pattee, M.S., Professor of Chemistry in the College of Liberal Arts, Syracuse University, has been made a member of the faculty of the College of Medicine. Richard H. Hutchings, M.D., Medical Superintendent, St. Lawrence State Hospital, Ogdensburg, N. Y., has been appointed Lecturer on Psychiatry. Ralph R. Fitch, M.D., of Rochester, N. Y., has been appointed Lecturer on Orthopedics. Charles V. Morrill, A.M., recently Assistant in Zoölogy in Columbia University, N. Y., has been appointed Lecturer on Histology and Embryology.

Commencing in 1909, students entering the College of Medicine of Syracuse University must have satisfactorily completed one full year, and on and after October, 1910, two full years in a science or arts course in a college recognized by the Regents of the State of New York, and in that course and in their preparation for it a competent course in Physics, Chemistry, Latin, one Modern Language and Biology must be included. The equivalent of this requirement, that is, evidence of having passed college examinations for admission to the sophomore or junior class in a recognized college by a student possessed of a medical student certificate from the State Educational Department, will be accepted. Hereafter all chemistry except applied chemistry

will be taught in the new Bowne Chemical Laboratory of the College of Liberal Arts, instead of in the College of Medicine, as heretofore.

UNIVERSITY OF BUFFALO.—An arrangement has recently been effected by means of which the University of Buffalo has acquired from Erie County, N. Y., one hundred and four (104) acres of land, to be used for university purposes. The tract is splendidly located at the summit of the limestone ridge at the northern edge of the city, adjacent to the Country Club. The Medical Department of the University of Buffalo was founded in 1846, and three other professional schools have been organized since that time. The need for an academic department has long been felt, and its organization now seems in a fair way to be accomplished. The land above-mentioned will be devoted to that purpose.

EXAMINATION FOR PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.—A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, 3 B Street, S.E., Washington, D. C., Monday, September 14, 1908, at 10 o'clock A. M., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination in the various branches of medicine, surgery and hygiene. The oral examination includes subjects of preliminary education, history, literature and natural sciences. The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade. Assistant surgeons receive $1,600, passed assistant surgeons, $2,000, and surgeons, $2,500 a year. Officers are entitled to furnished quarters for themselves and their families, or, at stations where quarters cannot be provided, they receive commutation at the rate of thirty, forty and fifty dollars a month, according to grade. All grades above that of assistant surgeon receive longevity pay, 10 per cent. in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the Board of Examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

INTERNATIONAL CONGRESS ON TUBERCULOSIS.—Preparations are being made by the New York Committee of the International Congress on Tuberculosis to include a Clean Milk Exhibit during the three weeks of the Tuberculosis Exhibition at Washington, from September 21 to October 12, 1908. The coöperation of a number of public-spirited dairy owners, including Mr. W. W. Law, Jr., Hon. Seth Low and Mr. V. Everit Macy has been obtained, as also of Commissioner Pearson, Commissioner of Agriculture; Professor Moore, Pathologist, State Veterinary College, and Professor W. A. Stocking, Jr., Bacteriologist, Cornell University. It will include not only photographs of dairies, statistical charts and Petri plates of bacteriology of milk and illustrations of tuberculin tests for cattle, but will also have a small working dairy with tuberculin tested cow, skilled attendant, sanitary utensils, shipping cases and all sanitary appliances for the marketing of a clean milk. There will be printed on cardboard a series of aphorisms regarding clean milk. There will be represented graphically the food value of milk as compared with other foods prepared by the State Department of Agriculture. Charts, illustrating the general source of infection of milk with tuberculosis, are being prepared under the supervision of Mr. Law, Jr. In view of the fact that Mr. Nathan Straus is preparing for the Exhibition a duplicate of the pasteurization plants already erected by him in Heidelberg, Brussels and Berlin, the Exhibition at Washington will afford an excellent opportunity for a comparative study of the two methods of marketing milk: 1. Pasteurized; 2. Unpasteurized, but clean.

NEW EDITION OF GRAY'S ANATOMY.—It is with pleasure that we learn that a new edition of Gray's Anatomy is about to appear. It has maintained such a lead in its own field since its original publication fifty years ago, that it has won the distinction of being the best-known work in all medical literature. It has started students at the beginning of their course in medicine, has been kept always at hand, and has been carried to their offices after graduation for guidance in the basic facts of anatomy. This new edition about to appear is the result of a revision begun two years ago. In this work Professors J. Chalmers Da Costa and Edward Anthony Spitzka, of Phila-

delphia, have been associated. Dr. Spitzka has rewritten what has heretofore been the most complex and difficult portion of anatomy, the Nerve System, illustrating it with seventy of his own drawings, so that that subject of recently revolutionized development is at once brought to date and simplified.

This book has always been distinguished by the possession of a quality defying analysis and imitation, namely, its teaching power. In this it reflects the genius of its author. Henry Gray died young, but left behind him this evidence of his consummate knowledge of human structure and of the best methods of imparting it to others. No small part of the observed fact that Gray saves a student time and effort and increases the permanence of his knowledge is due to its illustrations. Quantity of pictures can easily be overdone. Teaching quality is difficult to achieve and impossible to imitate. The great series of "Gray" engravings has always been unique in this essential point of teaching quality. They enable the eye and mind to coöperate, thus focusing the whole of the reader's power on the subject before him. These graphic demonstrations simultaneously convey the terminology of anatomy by reason of the fact that the names of the parts are engraved directly upon them, whereby the nomenclature and also the position, extent and relations of each part are unconsciously and indelibly fixed in the memory. These are the four cardinal points to know about any structure, and they are all conveyed in "Gray."

Samuel D. Gross Prize.—A prize of fifteen hundred dollars is offered by the Philadelphia Academy of Surgery under the following conditions: The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 South Thirteenth Street, Philadelphia," on or before January 1, 1910. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine offers a prize of one thousand dollars for the best essay upon the following subject: "The Etiology, Pathology and Treatment of the Diseases of the Kidney." Essays must be presented on or before October 1, 1909. The three subjects mentioned in the title as above given, need not be treated with uniform fullness, but new discovery or fruitful research will be considered the standard of merit. Each essay must be in English, typewritten, designated by a motto, or device, and accompanied by a sealed envelope, bearing the same motto, or device, which shall contain the name and address of the author. No envelope will be opened except that which accompanied the successful essay. The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. The original of the successful essay shall be the property of the Academy, and, according to the deed of gift, will be published in its Transactions. The essays shall be transmitted to the Committee of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize, The New York Academy of Medicine, 17 West Forty-third Street, New York City.

American Gynecological Society.—At the meeting of the American Gynecological Society held in Philadelphia, May 26th, 27th, and 28th, the following officers were elected for the ensuing year: President, Dr. J. Riddle Goffe, New York; first vice-president, Howard A. Kelly, Baltimore; second vice-president, Dr. Malcolm McLean, New York; treasurer, Dr. J. Wesley Bovée, Washington; secretary, Dr. LeRoy Broun, New York; members of the council, Dr. George T. Harrison, New York; Dr. J. Montgomery Baldy, Philadelphia.

For a National Department of Health.—As we had believed would be done, the National Democratic party, like the Republican party, has inserted in its platform a plank endorsing the establishment of a National Department of Health. Mr. Taft has personally expressed himself strongly in favor of this move. Undoubtedly we shall soon have such an organization as a part of the work of the federal government.

Progress of Medicine.

PRACTICE OF MEDICINE.

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THE PROGNOSIS OF PERNICIOUS ANEMIA.

The fact is recognized that with institution of therapy at the proper time in pernicious anemia, patients can usually be preserved for several years of life, says Hirschfeld in a valuable contribution on the subject. The length of the intermissions in this disease is quite varying, and in certain patients three to five years have passed by in which they have felt relatively well and able to engage in their regular vocations. A patient who has once had one occurrence of pernicious anemia must remain constantly under medical observation thereafter, in order that immediate measures may be taken if a relapse threatens, for under certain conditions relapses occur with surprising rapidity.

The author cites the case of a man who had recovered a year before from his first attack of pernicious anemia, but who was warned of the possibility of a recurrence. He came to Hirschfeld complaining that he had the same symptoms as when first taken, and fearing a new attack. Examination of the blood showed no abnormal conditions. When he returned again in two weeks, however, he appeared sick, hemoglobin was 60 per cent., red blood cells 2,500,000, and numerous megalocytes were present. So rapid progress of a relapse may be seldom, but it emphasizes the necessity and duty of making a blood examination in such patients at least every three or four weeks.

The prognosis of pernicious anemia, with early recognition and treatment of the disease, is much more favorable than formerly. How great the resistence of some individuals is to the unknown cause of pernicious anemia, and what it is possible to accomplish with arsenic therapy, is shown by a case of pernicious anemia of thirteen years' duration which Hirschfeld observed and repeatedly examined for twelve years. The author thinks this may be the longest observed case on record.

The weightiest prognostic sign in this disease is in the blood findings and whether with therapy an increase of the red cells and hemoglobin results. However, in some cases which later take a favorable course, times may occur when even during administration of arsenic the blood cells and hemoglobin decrease. An increase of leucocytes and an abundance of eosinophiles denote active functionating of the bone marrow. The occurrence of megaloblasts and normoblasts should not lead one to too hasty conclusions as to the prognosis.

With improvement of blood conditions improvement of the general health by no means always follows. Patients with pernicious anemia do not always die of the anemia itself, for many cases with abnormaly low hemoglobin and blood count improve. They die more frequently of the secondary organic changes caused by the anemia, chief among which are fatty degeneration of the heart muscle and functional disorders of the nervous system. Prognosis is, therefore, not alone dependent upon the blood condition, but also upon that of the other organs. Conclusions from the blood alone can lead to great error in the prognosis.—*Therapie der Gegenwart,* 1907, No. 8; *Zentralblatt für Innere Medizin,* 1908, No. 21.

SCURVY.

Scurvy has become a rare disease on shipboard, since the days when it has been possible to furnish fresh meat, vegetables and fruit at comparatively frequent intervals. Chambers reports a case, however, which occurred on board an English warship in China. The patient, a man of twenty-three years, had hemorrhages of the mucous membranes of the mouth, together with *fetor ex ore.* Later he had ecchymoses of the legs and repeated epistaxis, so that he became very anemic. Blood examination gave negative results. With rest in bed and plenty of fresh vegetables and lemon juice, the condition improved rapidly. Fresh meat was not given until later. The occurrence of scorbutus in this case was explained by the fact that during his eighteen months on shipboard the patient had lived almost exclusively on bread and butter, and cocoa, with occasionally cheese and sardines. He expressed an aversion to meat and vegetables, and only occasionally ate potatoes, which were plentifully provided.—*British Medical Journal,* Jan. 25, 1908.

TUBERCULOSIS AND DIABETES.

Chalier suggests that tuberculosis is not only a complication of diabetes mellitus, but may also be a cause, as for instance in tubercular cirrhosis of the pancreas. This may be a partial explanation of diabetes as occurring in husband and wife, and of the tuberculosis of the children of diabetic parents.—*Progrès Med.,* Vol. 36, No. 52.

CATATONIA IN CHILDREN.

Catatonia, when occurring in childhood, is the most important psychosis of this time of life, says Raecke in discussing the condition. When this develops it is most likely to occur after the eleventh year, although cases have been observed at the age of seven or even earlier. Characteristic of the condition is an abrupt alternation of depression and excitement. The disease generally begins with a rather long prodromal stage of

depression or apathy, in which the child's school work becomes gradually poorer, he loses energy, and has a great variety of hypochondriac complaints. Symptoms of a hysterical nature also occur. Then follows the stage of excitement, at times of a terrifying kind with fearful hallucinations and cramp-like hiccoughs; and again of a more foolish nonsensical kind with a tendency to naughty tricks. Here and there the child will utter words showing distorted ideas of morality or of his own importance. Confusion of relationship sometimes but rarely occurs. Resistance to family discipline, wayward obstinacy, fits of anger with inconsiderate violence, peculiar deportment and manners, making of faces, general depression, refusal of nourishment, stupidity, and urinary incontinence are one or all observed.

Occasionally a heavy stupor comes over the patient, with loss of reaction to external stimuli, and with cataleptic tension in the muscles or stereotyped repetition of certain movements. After weeks or months the tension may disappear, and in case a new attack does not occur healing takes place. In other cases, on the contrary, there persists a permanent defect so that previously bright children give the impression of imbeciles, being childish, irritable, lacking energy, learning very slowly, and not being able to prepare for any independent calling in life. In the most unfavorable cases after the lapse of years, or by gradual stages, the patient arrives at a condition of feeble-mindedness which reminds one in its superficial appearances of congenital idiocy.

As catatonia is an endogenous disease external influences have little to do in its causation. In the majority of cases hereditary stigmata can be traced. The depressive prodromal stage is easily confused with melancholia until the occurrence of the peculiar actions makes manifest the true condition.—*Deutsche Medizinische Wochenschrift,* 1908, No. 21.

STATISTICS OF VENEREAL DISEASES AND APPENDICITIS.

The number of cases of constitutional syphilis in the general hospitals of Germany for each 100,000 patients received in the years 1877-79 amounted to 2,538, whereas for the years 1898-1901 the number per 100,000 had decreased to 1,525. The frequency of the venereal diseases per 100,000 decreased in this time from 6,855 to 4,121.

As to appendicitis the number of patients treated in the public hospitals of Germany increased from 8,412 in 1903 to 16,781 in 1906. The mortality decreased, however, during this time from 9.46 to 6.68 per cent. As most of the fatal cases of the disease are treated in hospitals these figures are higher than the true mortality. The mortality was highest in young persons between the ages of ten and twenty-five, more dying of appendicitis in this period than of all other diseases combined. Of the fatal cases of the disease in 1906 the males were 58.01 per cent. of the total and the females 41.99 per cent.—*Deutsche Medizinische Wochenschrift,* 1908, No. 21.

PROGNOSIS IN EPILEPSY.

In the *New York Medical Journal,* June 6, 1908, Tucker states that the immediate cause of an epileptic convulsion has but little to do with the cause of the disease. The convulsion is simply a manifestation, brought about by auto-intoxication or reflex irritations, of an underlying pathological condition. In the matter of diagnosis he deplores the term hysteroepilepsy, which he believes has no more justification than typho-malaria. In each instance we have two separate diseases. Epilepsy is an affection which possesses a definite pathological basis. In most cases the brain presents a congenital developmental defect. The immediate cause of an attack is intravascular clotting. "There are two factors whose coöperation is necessary before a fit can result: (a) A brain hereditarily and structurally predisposed to instability and convulsion; (b) A sudden deprivation of the normal blood supply." It is interesting to note that the blood coagulation time of epileptics is often reduced. Outside of the insane class Tucker believes that cures may be obtained, under favorable conditions in 20 to 25 per cent. of cases, while in a much larger percentage, conditions can be greatly improved. In the matter of treatment a salt-free and purin-free diet is often of great service. In conclusion it is stated that "we should look upon epilepsy as an organic nervous disease with a pathology of its own, that we should admit the majority of all cases to be helpable, and a good percentage curable, and that, if we will turn from the apathy of the past and adopt the more modern methods of diagnosis and treatment we may aid in the inauguration of a new and optimistic era for this much-dreaded malady."

TABES AND GENERAL PARALYSIS.

In considering the relationship between tabes dorsalis and general paralysis of the insane, Hunt believes that both diseases, in from 50 to 90 per cent. of cases, are due to a toxic state following in the wake of syphilis—the so-called parasyphilis. Both diseases are expressions of the same pathological process, in one instance involving the posterior columns and roots of the spinal cord, and in the other the cerebral cortex. Clinically we may have a combination of the two diseases—taboparesis. The case may begin as one of tabes and later develop paretic symptoms, or the latter may appear first, followed in time by evidence of locomotor ataxia.

From the pathological standpoint, most observers at present believe that the degenerative process is of a similar nature in both tabes and general paresis, although occurring in different parts of the central nervous system.

The frequent association of the two diseases in the same patient is thought to be very significant.—*New York Medical Journal* July 4, 1908.

MIGRAINE AND EYE DISEASE.

In considering the question "To What Extent is Migraine Amenable to Treatment of the Eyes?" Alger states that a competent oculist may often be able to relieve the affection. He regards many so-called oculists as poor refractionists. Migraine is an explosive paroxysmal psychoneurosis occurring in an individual with an underlying unstable nervous system. It is comparable to an epileptic seizure in that the manifestations are sensory rather than motor. The typical symptoms consist of an aura followed by headache, nausea and vomiting, and finally by sleep which precedes recovery.

The author is firmly convinced that the eyes are at fault in a large number of instances, but does not believe that every case is dependent upon eye-strain. For this reason, and also because he believes the examination and treatment of the ocular condition is not as painstaking as it should be, many cases fail to respond to ocular therapeutics. He adds a list of illustrative cases which have been relieved of attacks of migraine after the correction of ocular errors.—*New York Medical Journal,* June 6, 1908.

PROGNOSIS IN CHRONIC VALVULAR DISEASE.

Dr. Edward E. Cornwall, in the *Long Island Medical Journal,* June, 1908, says that the making of the prognosis in chronic valvular disease, except in cases where the end is clearly in sight, is more difficult than in most chronic diseases which have a well-defined pathology. Complete recovery is practically out of the question, though such recoveries have been reported, and the prognosis is limited to an estimate of the length of time the patient is likely to live and the amount of work he will be able to do. This estimate is based on a consideration of factors which extensively modify each others significance, most of which are intrinsically variable, and some of which cannot be foreseen or guarded against. The conclusions reached by the consideration of these factors must always be corrected by circumstances peculiar to each case. In fact, we derive little aid from general principles in making the prognosis in this disease, and must judge each case largely on its own merits. We cannot prognosticate for a particular lesion but only for a particular case.

THERAPEUTICS.

EDITED BY

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THE CURE OF CHRONIC BRONCHITIS BY RESPIRATORY GYMNASTICS.

Dr. H. E. Knopf, of Frankfort-on-Main, in *Berlin. Klin. Woch.,* June 22, 1908, writes of the application of respiratory exercises to chronic bronchitis. After good success in the treatment of a large number of cases of asthma by gymnastics, the writer was led to try the method of chronic bronchitis without asthma. He usually selected four exercises from Schreber's book,* namely: Nos. 13, 24, 20 and 34. Having the patient exercise at first under his observation, teaching one new exercise each of the first four days, the exercises were to be repeated at home twenty times morning and evening. Later inspection was had daily or at longer intervals according to the aptness of the patient at learning.

Which exercises are chosen is less important than to observe the patient's efforts accurately from the first and to continually call his attention to the faults in his respiratory movements. With this aim, he always has the patient exercise before a large mirror, with chest bared, so as to permit self-observation as to movements of thorax and abdomen. Inspiration is to be through the nose and expiration through the mouth, the latter accompanied by speaking "a" or "e" in a loud-whispered voice.

It has often been observed that many persons are not capable of taking deep respiration properly; in subjects of asthma and chronic bronchitis this defect is regularly present. Aside from the respiration being generally too superficial, is efficiency is compromised in that, while during inspiration the thorax, especially in its upper part, is expanded, at the same time the abdominal muscles contract and force the relaxed diaphragm upward. The result is, that the lower parts of the lungs, in which secretion commonly stagnates in chronic bronchitis, remain rather immovable, whereby both circulation and removal of mucus are rendered deficient. This type of respiration the author calls "Respiratio paradoxa." It is usually apparent at once when the respiration is observed with the chest bare; though it is sometimes latent, appearing first upon forced deep respiration. He would in nowise assert that this paradoxic respiration is pathognomonic of asthma or chronic bronchitis, as many well persons breathe in that way; but it appears to him that it constitutes an etiologic factor in the change of acute bronchitis into chronic.

To change the paradoxic into proper respiration is not easy. It is not sufficient to call the

* Schreber's Aerztliche Zimmergymnastik, Leipzig, 1905.

patient's attention to the fault, but the right mode of breathing must be learned, just as any other bodily exercises, under continual expert supervision. Moreover, education as to proper coughing is important. If cough is due to irritation in pharynx or larynx, local treatment is called for, and opiates given if necessary. Otherwise the patient should be urged to suppress all superficial cough, and to cough only when he can really expectorate, then briefly and forcibly.

The recovery usually progresses in such way that the patient substitutes proper breathing for paradoxic; the abdominal muscles, generally weak at the beginning, become stronger, the recti especially becoming prominent; the chest measurement increases in young persons, and in older persons the range of expansion at least increases. The spirometer usually shows increased lung capacity. The fat deposited in the abdominal wall often lessens decidedly. The bronchial secretion, whose separation is generally increased during the first days of treatment, becomes easier to expectorate and in from two to six weeks disappears.

Besides removal of the bronchial catarrh, this treatment exhibits incidental effects, both desirable and undesirable. Of the latter, transient dizziness during the first days of treatment, due evidently to anemia of the brain caused by the forcible aspiration of the blood into the thorax, is soon removed by vascular compensation. Also patients may complain of pain in the muscles of chest and abdomen, which disappears as the gymnastics are continued. Desirable side effects are more numerous: The increase of heart dulness to the right, commonly seen in chronic bronchitis, rapidly recedes. Pallor of skin and mucous membranes disappears. Sleep and appetite improve, evidently through improvement of circulation and quality of the blood. In many cases constipation is lessened through the massage incident to the exercise of the abdominal walls. Moreover, of very great importance is the moral influence of the treatment upon the patient. Usually chronic bronchitics are neurasthenic, with a hopeless outlook for the future; but very early in the treatment they become convinced that they can overcome their disease through use of their own will power, and the appreciable success day by day strengthens this conviction.

The author suggests in conclusion that, when we realize that no other system of the body, save that of locomotion, is so fully under the dominion of the mind as is the respiratory system, and when we consider what a powerful influence respiration exercises upon nearly all organs, a larger perspective appears for the future of respiration therapy. E. H. L.

Man has not yet learned that joy is a more elusive and subtile mystery than the science of mathematics, that joy comes unsought to the sincere and loving soul, that joy is a flower that bursts into life where the soil is rich and ready for planting, that joy is a gift of the gods bestowed with lavish hand upon those who can live simple, natural lives.—*Browne-Thayer.*

GENITO URINARY DISEASES

EDITED BY

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STERILITY IN THE MALE

Hitherto unfruitful marriages have been usually ascribed to the women. Part of this injustice has been due no doubt to superstition and part of it to tradition. Since modern surgery came into activity women have been the marks for many operations and much treatment for sterility, which not infrequently were not at all necessary. This fact and the following in this subject, F. R. Hagner and H. G. Fuller (*Medical Record,* 1908), elucidate in an able paper on the subject of "Sterility in the Male: its Causes and Surgical Treatment." To the foregoing introductory remarks they add that if the man seemed sexually developed and able to have normal intercourse he was regarded as potent, and failure of offspring was, therefore, attributed to the woman, but with advances in genito-urinary surgery it has been found that full intercourse may be had even though the semen is bereft of spermatozoids and therefore cannot impregnate. Where spermatozoids are not absolutely absent they are in many cases found to be inactive or degenerated, or both.

Statistics in modern literature seem to show that in sterile marriages the husband is upon microscopical examination of the semen responsible once in six cases (16 2-3 per cent.). Kehrer has pointed out that examination of the man is today, as, indeed, it should be, much more frequently the custom than formerly. He collected ninety-six cases: In 3 21-100 per cent. there was inability in the male to copulate properly, due to previous excessive masturbation and existing pollutions and from premature ejaculations with or without perfect erection.

Kehrer claims that impregnation may occur in such cases if a speculum is inserted into the vagina before copulation is attempted. In 21 31-100 per cent. of his cases, absence of spermatozoa existed, due nearly always to previous gonorrhea complicated with unilateral or bilateral epididymitis. Occasionally the spermatozoids were absent where no previous disease and no abnormality of the sexual organs was present.

Scarcity of spermatozoids is demonstrated by Kehrer in 11 45-100 per cent. due to gonorrhea with epididymitis or syphilis, making therefore 63 per cent. of ninety-six cases with a history of gonorrhea with epididymitis or prostatitis, or syphilis.

Noeggerath found eight sterile marriages among fourteen on the side of the male, and Gross 18 per cent. in 192 cases. Sterility in the male is, therefore, due, first to aspermia or non-secretion of semen; second, to azoospermia,

absence of living spermatozoids; third, to oligospermia or deficiency of living spermatozoids; fourth, to spermatozoids without activity or with feeble and transient activity; fifth, to obstruction of ejaculation of the semen into the woman, as may occur in hypospadias and fistula; sixth, single or double non-descent of the testicle leads usually to sterility, as does severe damage to the testicles, causing them to cease secretion or to suffer occlusion of the efferent ducts; seventh, operations for stricture may close the ejaculatory duct. Stricture itself may be so tight as to prevent proper ejaculation. The swelling of the penis during erection serving at times to make a tight stricture totally shut off the semen, which then either passes backward into the bladder or remains behind the stricture and slowly dribbles out after the erection goes down.

It must, therefore, always be remembered that no investigation into the case of a childless marriage is complete or fair to both sides until the semen of the husband has been examined with the microscope. The sooner after intercourse this is done the more adequate is the result.

Eight childless marriages may also be due to lack of real sexual attraction, as is proved by cases of divorce followed by fruitful marriages, it may be with both the man and the woman. Stock breeders have a similar experience occasionally among animals.

Our authors state that next to gonorrhea, which must be remembered is the most fruitful single cause of sterility in both men and women, masturbation and sexual excesses follow. The exhausting effect of either condition induces the secretion of imperfect spermatozoids. The good health of the spermatozoids usually depends on the good health of the individual. Syphilis and tuberculosis of the testicles is, of course, destructive to every function sooner or later. The use of the X-ray is now known also to cause sterility in the male and in the female. Usually physicians who follow this specialty are sterile. Prolonged exposure has been known to cause sterility for three months. At first the spermatozoids die and then disappear. They return, however, a few months after the subject ceases to work in an X-ray laboratory.

Inflammation of the prostate not only blocks the ducts, but probably causes changes in the secretion. The prostatic secretion is very necessary to the impregnation of the woman.

The authors state that they have seen several cases cured when pus disappeared from the prostatic fluid.

With regard to the effect of gonorrhea in the epididymis, our authors refer to the following statistics of Benzler, who looked up the history of soldiers who had gonorrhea while in the German army. Of those who had suffered gonorrhea without epididymitis 10.5 per cent. were childless, being probably cases with chronic prostatitis and seminal vesiculitis, 23.4 per cent. of those having had unilateral epididymitis and 41.7 per cent. of those having had bilateral epididymitis were childless; thus showing that this complication of gonorrhea is the commonest cause of sterility in the male.

The globus minor is most involved in epididymitis and suffers the most damage by occlusion because it has but one efferent duct. The globus major has many efferent ducts, so that without damage one or more of these may be obstructed. Consequently anastomosis of the vas with the globus major has been considered. Unless such an operation is done the prognosis for the return of living spermatozoids in these cases is hopeless. The following quotation from our authors is instructive: "Dr. Quinby, of Boston, has experimented on guinea-pigs by tying off the vas deferens at its exit from the globus minor and then making an anastomosis between the globus major and the vas above the ligation, using very fine silk. In from ten to twenty-seven days three out of the four pigs thus operated on showed living spermatozoa in the fluid ejaculated by means of electrical stimulation.

Two cases of sterility (following gonorrheal epididymitis) under my care came to operation, one at the hands of Dr. Martin, of Philadelphia, the other my own. In both instances Dr. Martin's method of procedure was employed, which I will describe. An incision is made through the skin and coverings of the epididymis, which is approached from the outer side, so as not to wound the spermatic artery. The artery of the vas is pushed aside and a one-half-inch incision is made in the vas deferens on the level with the globus major, along its axis, care being taken to get into the lumen of the tube. A portion of the globus major is picked up between two fine forceps and an elliptical piece removed to correspond with the incision in the vas deferens. An examination of the fluid obtained by squeezing the globus major will show spermatozoa. Four fine silver wire sutures on curved intestinal needles are inserted, one at the upper angle of the wound joining the vas and the cut surface of the epididymis, one at the lower angle, one at the outer, and one at the inner side. When these are drawn out a perfect little pocket is formed by the spreading out of the cut vas deferens, and the elliptically cut globus major. The wound is then closed and dressed. It will be seen that the operation is not one of grave danger to life. It is one in which the existing conditions cannot be made worse, but where, in fact, everything is to be gained and nothing to be lost. The first case was one referred to me by Dr. Wellington. The patient was a robust appearing man of thirty-eight, who had been married several years. His wife had been examined and no cause for sterility ascertained. He had had gonorrhea with double epididymitis some years before. Frequent examinations of the spermatic fluid showed no spermatozoa, but the fluid obtained was loaded with pus. The prostate and seminal vesicles had been the seat of chronic inflammation. The pa-

tient was operated upon by Dr. Martin, and the examinations after operation revealed live spermatozoa. This patient's wife has not given birth to a child, but has possibly succeeded in having a miscarriage."

The wife of one of the cases of the author is now pregnant.

The paper closes with the valuable comment that: (1) The condition cannot possibly be made worse by operation; (2) There is double chance for success, as patency on one side is sufficient; (3) The operation has been found feasible.

MEDICO-LEGAL.

A NEW JERSEY PROVISION FOR ANATOMIC STUDY.

On account of requests for further information concerning an editorial in the JOURNAL of March, 1908, entitled, "A New Jersey Provision for Anatomic Study," the law referred to is given below:

Chapter 249 of the Laws of 1907, of the State of New Jersey.

"An act to provide for the incorporation of a pathological and anatomical association for the advancement of medical and surgical science.

I. Three or more physicians duly licensed who desire to associate themselves together for the purpose of pathological and anatomical study and the advancement of medical and surgical science may file and record a certificate.

II. The certificate should contain the name or title of the association, the place where its purposes are to be carried out, the purposes of the association and the names of the directors for the first year.

III. The certificate is to be recorded in the county where the purposes of the corporation are to be carried out and in the office of the Secretary of State.

IV. The association becomes a body politic and corporate upon recording and filing said certificate and has the usual corporate powers, such as the holding title to real and personal property, pleading and being impleaded, etc.

V. The directors or governors may make the association's by-laws.

VI. No director or governor may receive any compensation.

VII. Such association is entitled to a tax of not exceeding $5,000.

VIII. All public officers having charge of dead human bodies required to be buried at public expense must notify any such association or its agent when bodies come into their possession or control and shall deliver without fee such bodies to such association to be used within the State for the advancement of medical and surgical science; except when claimed by kindred for burial and excepting travellers who die suddenly.

IX. Such association may employ a carrier enclosed in a suitable encasement free from public observation. The association's drivers must obtain receipts for bodies delivered to them, or if the body is of an unknown person, a description thereof. Such receipt must be left with the delivering institution.

X. Bond in the sum of $1,000 must be filed that such body shall be used only for the promotion of medical and surgical science within the State. Trafficking in such bodies and sending them out of the State is a misdemeanor, punishable by $200 fine or a year in prison or both.

XI. The expense of delivering bodies to such association shall be paid by the association.

XII. Where there are two associations in one county, each shall appoint two representatives who shall constitute a board of distribution. The board of distribution must distribute bodies to such associations within the county equally and in just rotation.

XIII. Any association may apply for bodies in any county, provided no bodies shall be removed from a county having an association without such association having an opportunity itself to receive bodies. Neglect or refusal to obey the terms of this law are punishable by a fine of not less than $10, nor more than $100.

THE EXPERT MEDICAL WITNESS.

Physicians have become sensitive as to the esteem in which medical expert witnesses are regarded by the public. They say that conditions have come to such a pass that a respectable physician might well hesitate to appear on the witness stand, as he could hardly fail to be conscious that he was looked upon as mercenary; that his opinions would be considered as having been bought and paid for by the party who summoned him, and that neither court, jury, parties, nor the public in general would give him the credit of being honest, sincere or unbiased. Boston physicians propose to remedy the matter by asking the Legislature to authorize the courts to appoint official experts who shall be delivered from temptation by having their compensation fixed by the court and paid by the county. This is all very well and good for the medical profession, at least from the point of view of those of its members who think that the reputation of the profession generally will be safeguarded thereby, but it does not take into consideration the rights of the individual whose life, liberty or property may depend on some fact which can be ascertained only by the aid of the testimony of medical experts. It is perfectly true that in most of the important cases in which such testimony has been given there have been two sets of physicians, each testifying squarely in contradiction of the other, but this is not astonishing when the nature of the subject of the testimony is considered. In a matter of insanity, for instance,

the physician does not testify to any fact; he merely says that in his opinion a certain person is sane or insane, as the case may be. It is pure opinion evidence as to a matter concerning which opinions naturally differ. Indeed, it would be remarkable if there were not a difference of opinion. A party interested in such an inquiry should have the right to call any competent and credible witness whose views are in his favor, with the same right in the opposite party, so that the jury may exercise their proper function of deciding the fact involved. It is questionable, to say the least, whether the plan proposed would not infringe one of the most important of the rights of persons accused of crime, viz., the right of impartial trial and of having compulsory process for the attendance of witnesses. If opinion evidence is to be received at all, it would be manifestly unjust for the law to say that the court should receive the opinion of particular individuals only, and that all others should be excluded, however eminent they might be in their special department of science. Opinion evidence is necessarily less satisfactory than the testimony of a witness who testifies as to facts, and conflict of opinion is generally unavoidable, but it would be an amazing thing to undertake to eliminate the conflict by the appointment of official experts and the exclusion of the testimony of equally or better qualified persons who might hold different views.—*Law Notes,* March, 1908.

COMMON ABNORMALITIES.

The physical conditions, which include the mental conditions, that may render a man legally incapable of making a will, are many and varied, and medical testimony is required by the courts to settle the inevitable bewilderments of each case. Though the alienists have lately made progress in the classification of symptoms, the line dividing responsibility from irresponsibility is still very vague.

In the contest of the will of Walter F. Baker, now going on in Boston, some of the expert testimony seems clearly to indicate the irrationality of the testator. But some of it is dubious. Baker's medical adviser testifies that he was neglectful of his person. We have known eminent jurists and accomplished authors of whom as much might have been said. Another charge is that Baker liked to sit on the floor, Turkish fashion. This is unconventional and uncomfortable, but does not suggest a man's inability to dispose wisely of his property. He talked rapidly, with frequent repetitions. Are all our friends who monopolize the conversation and tell the same story three times in one evening *non compos mentis?* Sometimes we like to think so.

Finally Baker was addicted to bridge and poker. It requires a pretty clear head to play either game well. Such testimony as this, seriously considered in a law court, ought to make many hitherto unsuspected persons feel apprehensive.—*New York Times.*

CO-OPERATION BY LAYMEN IN PRACTICE OF PROFESSIONS.

In the case of the People vs. John H. Woodbury Dermatological Institute, the Court of Special Sessions of New York has held that a corporation cannot advertise to practice medicine. The term "person" in the statute cannot be extended to include a corporation by citing the Statutory Construction Act's provision that the term shall be so understood "in 'every statute unless its general object or the context of the language construed or other provisions of law indicate' differently," our statute being apparently a verbose rendering of the English Interpretation Act, which provides that "Unless it shall appear to the contrary, *person* shall include corporation."

Deuel, J. says: There is no escape from the conclusion that the Legislature intended to confine the practice of medicine to registered physicians, and as an incident to such practice similarly confined its advertising. *It is the individual alone, in his own name, who has legally qualified and secured registration, that may practice or advertise to practice medicine.* Individual here is apparently used as the equivalent of "natural person."

Last summer, in a dental case, People vs. "G. Gordon Martin, M. D., D. D. S., Incorporated," the same court, though differently constituted, seems to have enunciated in equally broad terms a contrary opinion, rather as an *obiter dictum,* however, than as a rule. That opinion was delivered *per curiam,* Olmstead, Deuel and Wyatt, JJ., sitting. The defendant corporation was charged by different counts with unlawfully assuming the degree of doctor of dental surgery, through the use of the letters D. D. S., and with unlawfully appending those letters to its name, not being thereunto authorized by diploma, contrary to the statute. It was also tried on the same day upon a separate information charging its unlawful practice of dentistry by an unlicensed employee, Jess E. Lott, and found guilty, this being, so far as I know, the first conviction under our Public Health Law of a corporation for unlawfully practicing either medicine or its specialty, dentistry. To sustain the other charge the People offered in evidence defendant's charter, by which it took and under which it used the name, "G. Gordon Martin, M. D., D. D. S., Incorporated," and various advertisements and circulars wherein under that name it offered—using the first person singular, I—to render all manner of dental services, both medical and surgical, and to effect marvelous cures. The court found this proof inadequate to support the charge, and said, *inter alia:*

"There is no doubt that the defendant corporation is a person within the meaning of the law, and can be prosecuted for any criminal act; it could be even prosecuted criminally for doing an act expressly conferred upon it by its certificate of incorporation, provided such act were within

the inhibition of the law. Such powers attempted to be conferred upon it the law would treat as mere surplusage not affecting other powers legally conferred."

The People contended that assumption of the title by appending its descriptive letters—*i. e.,* making them part of the name—was a violation of the statute, which the carelessness of the secretary of state in granting the certificate could not make legal

The Court said, that: "Nowhere in the evidence is it shown that the defendant corporation assumed the title of doctor of dental surgery, nor does it appear by proof that it *appended* the letters 'D. D. S.' to its name. As matter of fact the letters 'D. D. S.' *are part* of the name of the defendant corporation, and were not *appended* to its name, and as they contain the only assumption by the defendant of the degree of doctor of dental surgery it cannot be well contended that there was an illegal assumption of such degree by the defendant."

With all deference to the learned Court's opinion in Martin Company's case, it may be suggested that could the People have appealed this strictly etymological construction of the term "appending" might have been different. Intransitively, the verb to append signifies "to belong, or pertain to;" transitively, it means "to hang or attach as a *proper part,* possession or accompaniment." To support this definition the Century Dictionary quotes from Goldsmith, a past master of English undefiled: "Conceive * * * a pig's tail * * * *appended* to the back of the head," which suggests that although the author might have had the ornamental article in his eye, nevertheless a real pig's tail is generally considered to be an "appendage." although quite as firmly incorporated into and as much part of the pig as the letters D. D. S. in the name of the defendant corporation. Be that as it may, this *per curian* opinion of the Special Sessions concluded with these words:

"The name of the corporation may be changed so as to eliminate the very objectionable features which are apparent in the letters following the name G. Gordon Martin. *Should this be done, it cannot be contended that the corporation could not practice dentistry through duly qualified dental surgeons."*

Is this *obiter* reconcilable with the equally broad opinion in Woodbury's case, to which we have already referred, that medical practice is intended to be confined to licentiates? Possibly the court had in mind certain differences of fact between the cases. The G. Gordon Martin charter expressed its purposes to be *inter alia:* "To contract for the sale of and furnish the services of regularly licensed dental surgeons; to furnish dental service, dental work and dental supplies," etc.; words which differentiate the Martin case from Woodbury's and from Hannon vs. Siegel-Cooper Co. (167 N. Y., 244), in which Mr. Justice Cullen said that apparently the defendant's action "in assuming to carry on the business of dentistry was illegal and *ultra vires."* It does not appear that either the Woodbury or Siegel-Cooper charters specifically authorized these corporations to farm out medical or dental practitioners. Nor does it transpire in the Woodbury case that the practice advertised was to be that of licensed physicians. The Special Session's *obiter* in the Martin case harmonizes with State Eclectical Medical Institute vs. State (103 N. W., 1078), and Platner vs. State (id., 1079; while its contrary opinion in the Woodbury case seems to be in accord not only with Deaton vs. Lawson (82 Pac., 879), but with People vs. Rontey (4 N. Y. Supl., 235; affirmed on opinion below, 117 N. Y., 624), by which the provision of the Consolidation Act requiring proprietors of drug stores to be licensed was sustained and considered not to be repealed by the Penal Code's similar requirement as to drug clerks. There the court said:

"In this respect the provisions of the Consolidation Act are radically different (from the Penal Code's). It is intended to reach not only the incompetency of drug clerks, but the incompetency of proprietors of establishments for retailing and dispensing medicine, the obvious theory of the Legislature being that the head of the establishment must himself understand the business in order to insure safe, intelligent, diligent and efficient service on the part of his clerks, as suggested by the counsel for the People."

By parity of reasoning the proprietor of a medical or dental office should be a licensed or registered physician or dentist; but so should the proprietor of a plumbing establishment; yet the Court of Appeals, in Schnaier vs. Navarre, etc., Co. (182 N. Y., 83), distinctly held that there may be a partnership in the plumbing business between an unlicensed man confining his energies to financing the concern and a licensed plumber doing the actual plumbing work, and so acquiring wealth for the financier to manage. The courts uphold the Plumbing Law as well as the Medical and Dental Law solely as a protection to the public health. Then why, by similar reasoning, may not dentists and physicians, as well as their confreres, the plumbers, have lay partners, or hire out to corporations, so long as the layman and corporation merely attend to the financial business of the combination? The Court of Appeals, in deciding Schnaier's case, did not, so far as the report discloses, consider Rontey's, which was not cited upon the briefs. Yet to differentiate the two in principle is not unlike dividing the hair 'twixt north and northwest side. That the conduct of the professions by corporations and lay partnerships is utterly destructive of professional traditions and ethics, harmful to the community and conducive to fraud, both in advertising and practice, would seem to be obvious; and it may be urged that the plumbing "profession" has not yet acquired tra-

ditions. Any one who knows how in advertising "dental parlors" ignorant girls, employed as cashiers, supervise the work of both licensed and unlicensed operators solely in the interest of the cash box and the proprietor, appreciates fully the evil of this commercialism. It is to be hoped that before long some case shall present fully to the appellate courts the question involved in the Martin and Woodbury cases, and secure a decision either upholding the doctrine of the Woodbury case or, at least, defining the limits within which laymen may co-operate with licentiates in carrying on the practice of law, medicine and dentistry as commercial ventures rather than as professions with the honorable motto *"Qui prosunt omnibus."*—W. A. PURRINGTON, in *New York Law Journal,* January, 1908.

New Books

A TEXT-BOOK OF SURGICAL ANATOMY. By WILLIAM FRANCIS CAMPBELL, M.D., Philadelphia and London. W. B. Saunders Co., 1908. 675 pp., 8vo. Price: Cloth, $5.00 net.

"Anatomic facts are dry only as they are isolated; translated into their clinical values, they are clothed with living interest." This introductory sentence in Dr. Campbell's preface might very well form the basis of the new method of teaching anatomy. The chief difficulty which confronts the student in his first year, is the fact that he attempts to learn anatomy by sheer force of memory. As he is simultaneously compelled to commit to memory many other things which are primary in the study of medicine, naturally the task is a difficult one. In fact, our students learn anatomy in much the same way that a foreigner would try to learn English if he memorized the dictionary, and the results are not dissimilar. The same difficulty does not confront the student when he takes up the clinical study of Medicine and Surgery, because it is much less difficult to remember the sequence of morbid phenomena or the grouping of symptoms which go to make up a disease entity, than to acquire, for instance, an accurate knowledge of all the intricate arterial system or any of the other series of anatomical facts over which the medical student has, for centuries, toiled and burned much midnight oil. Dr. Campbell has made a happy attempt to assist the student of anatomy by associating facts anatomical and facts surgical. Thus the two sets of facts are made to interlock so that the memory is compelled to retain both. This work is of use and interest, not only to the student, but also to the practitioner. All the illustrations are exceedingly well done and elucidate satisfactorily the subject which they illustrate. This is really a work on surgical diagnosis, with anatomy for its basis A. T. BRISTOW.

ABDOMINAL HERNIA, ITS DIAGNOSIS AND TREATMENT. By W. B. DEGARMO, M.D. Philadelphia and London. J. B. Lippincott Co., 1907. 458 pp., 8vo. Cloth, $5.00 net.

As the author states in his preface, it is to the physician that this book is especially addressed; yet its perusal by the surgeon cannot be without profit, since it elucidates in an authoritative and experienced manner many of the finer points in the diagnosis and treatment of hernia.

While it is impossible to detail in a review all the features of this work, special attention may be directed to the chapter on the "Mechanical Treatment of Inguinal Hernia." The simplicity and effectiveness of the radical cure by operative means has, we believe, obscured and minimized the importance of the truss which must always remain an important measure for the relief of many sufferers. The nice distinction between cases which will be benefited by operation and those which must be resigned to the wearing of a truss; the emphasis which is placed on the fact that "the wearer of a truss is a chronic invalid and should submit himself to his physician at regular intervals for inspection and correction of defects in the truss and in the manner of wearing," the classification, the defects, and the superiority of certain forms of truss, and the proper manner of prescribing a truss, are discussed in a masterly manner and form one of the most important chapters in the book.

The warning to regard all direct inguinal hernias as extrahazardous and to use extraordinary care in operating upon them is timely and pertinent. The partial peritoneal covering of the sigmoid, cecum and bladder explains how these viscera may be dragged down by a sac of peritoneum previously formed, and also explains the accidental openings of the bladder and large bowel which frequently occur in this dangerous and deceptive variety of hernia. If operators would regard with suspicion all cases of direct hernia, or hernia in very fat patients, accidents to the bowel and bladder would be less frequent.

The author discusses in an able manner the varieties of abdominal hernia, both the common and rare forms, and describes their surgical treatment in clear and concise language. More detail in reference to the operation for strangulated femoral hernia, the role of Gimbernat's ligament in forming the constriction, and the clinical value of an anomalous obturator artery might be discussed with profit and add to the value of this chapter.

The text is elucidated by a number of original illustrations which have been well selected and aptly placed.

The work is a fine and scholarly contribution to the important and as yet but meagerly understood subject of abdominal hernia.

WILLIAM FRANCIS CAMPBELL.

THE ROMANCE OF MEDICINE. By RONALD CAMPBELL MACFIE, M.A.Aberd., B.M., C.M. London, Cassell & Co., Ltd., London, Paris, New York, 1907. Col. front, viii, 312 pp., 4 pl., 2 col. pl., 8vo. $1.75 net.

More wonderful and more marvellous than the wonders and marvels of the romances of the middle ages, are the extraordinary revelations of modern medicine. Not even Ariosto himself, with his orcs to fight and hippogriffs to ride, with his magic rings and horns and lances to give variety and range, can compete with the story of man's battle with disease. For there is this added advantage to the romance of medicine that it is not, after all, a romance in the proper meaning of the word, but a series of facts and truths and not the work of imagination, so that when one has read the story it is impossible to dismiss it from the mind as one might do with a romance. Rather, the mind of the reader is left in a state of profound admiration, mixed with reverential fear, and hope, and we may add with thankfulness. Hope predominates.

In the chapter on "Man Versus Microbes" fear would triumph were it not that, as the author states, "man has the commissariat department in his hands; he can feed his cells with good food and fresh air and to some extent he can provide them with ammunition," and then he goes on and tells how the fight proceeds. As Dr. Macfie tells the story of the discovery of germs and microbes, and of the advances made step by step, one investigator following the other from the early vague notions about germs, up to the most recent ideas about serums and opsonins, the interest never flags, and the reader becomes absorbed in the narrative.

Just how far the general reader is capable of absorbing or understanding the more advanced stages of the story of the battle of the microbes is not easy to decide; but even with the present state of widespread general information we may be excused for doubting if the general reader is capable of following the story up to the point of alexins, amboceptors, and opsonins. Writers of text-books on that subject have

taken a free hand in the use of very queer diagrams, and even with the queer diagrams the subject is not an easy one. It may be the wiser plan to assume that the general reader can understand it, or is willing to read the story as far as it goes. With this exception there is nothing in this book that the intelligent layman may not comprehend, and as books written with the purpose of helping the intelligent layman to a better understanding of the problems that confront the physician are not too numerous, we may give the "Romance of Medicine" a hearty welcome. Further, as Dr. Ronald Campbell Macfie has presented the facts with scientific accuracy and in their correct historical context, the book will prove useful to the student of medicine as an addition to his works on history.

PETER SCOTT.

BIER'S HYPEREMIC TREATMENT IN SURGERY, MEDICINE, AND THE SPECIALTIES: A Manual of its Practical Application. By WILLY MEYER, M.D., and PROF. DR. VICTOR SCHMIEDEN, Philadelphia and London. W. B. Saunders Co., 1908. 209 pp., 8vo. Cloth, $3.00 net.

The Bier method of treating infections has been known to the profession for some years, but, until quite recently, the details of treatment have been but fragmentary and, consequently, incomplete, since we have had to depend, for the most part, on scattered articles in the journals, written by men whose work was experimental, rather than authoritative. In the present handy volume, however, the subject is handled by Schmieden, Prof. Biers' former assistant and now colleague, in collaboration with Dr. Willy Meyer, of New York, who is probably more familiar with this method of treatment than any other man in this country. The work is profusely illustrated, and all Biers' apparatus is shown. A full account of his method, as applied to different pathological conditions, is given. To those who go abroad this summer, the article on the Treatment of Seasickness ought to prove attractive. The authors state that head hyperemia by means of the elastic band has given the best results. The concluding sentence on this subject, however, leads one to the dreadful suspicion that the authors may not have full confidence in this method of terminating mal de mer, for they say, "Naturally there is no reason why other remedies should not be employed in addition." We commend this work to all those who are interested in the treatment of infections, either acute or chronic, for it is the only authoritative treatise we have in the English language.

A. T. BRISTOW.

THE BATTLE CREEK SANITARIUM SYSTEM: History, Organization, Methods. By J. H. KELLOGG, M.D., Superintendent Battle Creek, 1908. 210 pp., 8vo. Cloth.

All of us have caught glimpses in the advertising departments of the magazines of a famed Sanitarium in the Middle West at whose huge size and manifold activities we have marveled much.

We are free to confess that we have always had a kind of hazy notion that this institution represented about the highest possible commercial development—in a good sense, of course—of the modern sanitarium. We acknowledge surprise upon reading that the Superintendent "donates to the Sanitarium all the services he performs for it, including all surgical and professional fees. He receives no salary or compensation whatever and has not for years; on the contrary, he contributes annually from his private resources thousands of dollars. The large corps of physicians receive no professional fees, and only weekly wages so small that their services are practically a charity. This is also true of the hundreds of nurses and helpers. They are a band of sincere people conscientiously devoting themselves to a great work for humanity, and not for personal gain."

There are over eight hundred of these consecrated employees, "willing to consider as chief compensation the satisfaction of seeing men and women restored to health, who, without the services rendered, would have little prospect but the grave." Thirty of the employees are physicians.

"The Battle Creek Sanitarium corporation is a private enterprise conceived and conducted solely for the public welfare." "The nature of the institution is wholly philanthropic, it performs a vast amount of charitable work, and wonderful sacrifices are made by the managers and employees generally."

The Sanitarium is incorporated as a "charitable institution" under Act No. 242 of the Public Acts of the State of Michigan, and pays no taxes.

Said charitable work appears to be as follows: "Provision is made for the care of the sick poor as well as for those who are well to do. In East Hall, * * * formerly used as a nurses' dormitory, thirty persons who are not able to pay the prices named in the regular rate card receive special rates according as their circumstances may require. The minimum rate in this building is ten dollars for special reduced rates, as the accommodations for this class is necessarily not unlimited."

Further provision is made for persons whose means are still more limited. There is a dispensary, in which department a nominal charge of fifty cents daily is made for treatment. This class of health-seekers must room in the town; they can secure table-board at the Sanitarium "café" at rates of $3.50 to $5.25 per week.

The Haskell Home for Orphans is an "allied charity," aided chiefly by the generosity of Mrs. Caroline E. Haskell. Another "allied charity" is the Bethesda Maternity.

These incomparable philanthropists restored seven thousand and six patients to complete or partial health in the year 1906-7. It is impossible to judge what proportion of these fortunate persons received their renewed health in the "Department for the Treatment of Persons of Limited Means."

Upon pages 207-8-9 appears a report upon the institution and a fervid endorsement of it by a Committee of Citizens of Battle Creek whom Dr. Kellogg had invited to investigate the enterprise. In this report they are "loyal to the institution because it has been our institution. It is a matter that affects us all, no matter what our occupation or following may be. It has done more to advertise Battle Creek than all the other institutions we have. With its lines running from San Francisco to Cape Town, it has carried messages of the thrift and enterprise of Battle Creek. We are all indebted to it because of its so doing. It has brought many of our great institutions here—it has brought the attention of energetic and prosperous men to Battle Creek. It has brought the attention of men to the benefits of such a community, causing these men to come and join with us, and institution after institution has been built up, to which we can give nothing credit but the Battle Creek Sanitarium." Who would decline to admit such unbiased testimony or longer doubt the institution's character?

In the midst of a venal age it is refreshing to encounter this isolated instance of altruistic devotion to an inspiring ideal. Vanished are the saints, yet saintly are they who compose the devoted band at Battle Creek, a town which fittingly bears a name of heroic significance.

Why, we indignantly inquire, cannot our public institutions upon "the island" and in darkest Flatbush be likewise transmitted into fairylands, presided over by medical Oberons?

Something tells us that if Dr. Kellogg's prospectus were to be read to an audience composed of our unregenerate officials and attendants here in the East it would not evoke cheers.

A. C. J.

WOMAN: A Treatise on the Normal and Pathological Emotions of Feminine Love. By BERNARD S. TALMEY, M.D. For Physicians and Students of Medicine and Jurisprudence. *Second Enlarged and Improved Edition.* New York Practitioners' Pub. Co., 1908. x, 258 pp. 8vo. Cloth: $3.00, net.

THE SEXUAL INSTINCT: Its Use and Dangers as Affecting Heredity and Morals. By JAMES FOSTER SCOTT, B.A., M.D., C.M. *Second Edition, Revised and Enlarged.* New York. E. B. Treat & Co., 1908. 473 pp., 1 pl. 8vo. Cloth: $2.00 net.

"In our anxiety that our morality should not take cold, we wrap it up in a great blanket surtout of precaution against the breeze and sunshine."—Essays of Elia.

"This is the excellent foppery of the world, . . . an admirable evasion of whoremaster man, to lay his goatish disposition to the charge of a star!"

King Lear, Act 1.

Anciently, 'twas a star. And we are resourceful, too; we have our stars. We, too, are villians only by necessity; fools, by heavenly compulsion.

The books of Talmey and of Scott we review together because of the valuable illustration which they afford of the inevitable divergence of individual methods in presenting the problems of sex and venereal disease. Each of these books will be of value to different classes of medical men. One will seem too ascetic, too priggish, to a certain class of readers. We will not say too dignified, for these subjects cannot be treated in any other than a dignified way. This book should be read by professional women, by young professional men, by clergymen, ethical teachers and scholastics. It will appeal to them and they form no small audience. It will steady the sexually unbalanced, lacking moral ballast. We can say for this book that it could be read by adolescents of both sexes, so high a plane does it attain, and no further harm result than the occasional encouragement of a Franciscan asceticism in point of the sexual sphere or the possible setting up of that morbid substitute for a normal response to sexual stimuli—the intellectual eroticism, for it is nothing else, pure as it seems, for which Dante stands as the great type. Dangers there are in sexual asceticism as there are in sexual looseness.

Scott's citation of Kant as a vigorous type who lived chastely as a bachelor is misleading, to say the least. Kant's greatest problem throughout his life was concerned with the preservation of the little health he had. What meant the contracted chest and the deformed shoulder but fibroid phthisis? This recalls "All vigorous men are not virtuous nor all virtuous men vigorous."

Scott's book will be very helpful to a class to which Talmey's might not be acceptable. Talmey's book is for those who don't need to take this subject in sugar-coated form. It is too strong for sexual babes, who need some anesthesia such as emanates from souls like Scott. Talmey's book will be helpful to the wholesome, vigorous, well-balanced, direct, red-blooded type of reader. Yet we confess that while we believe ourselves to belong in the latter class, Philistines, if you like, we do not think that it was at all necessary to introduce such topics as the love affairs of Egyptian ladies and sacred goats. We fail to see how such data can have any possible bearing upon the practical problems of to-day. However, our sense of humor is appealed to, and for this will we pardon the author. We also love him because prudery seems to have been entirely left out of his composition. Conceive of a drama written around a goat episode. Shade of Thespis! The temptation to make a synopsis of such a drama is very great, but we forbear.

No longer do we cry "To the Tarpeian rock" when sexual matters are analyzed by physicians. Over its edge have the gods of moral health seen many of the zealots hurled who would have wished "to persuade us that the population of the earth increases by the stork method" and who once "succeeded in creating false impressions which for so long hindered free discussion." The satyrs who followed in the train of Dionysus were shy.

We have always felt that there was a certain danger in overstating the disease dangers of the "venereal peril," and we are very glad to see a disposition on all sides to revamp the old bogey statistics. The danger to which we allude is this, that the seduction of young girls by *roués* is favored in proportion as the latter's fears of venereal infection are excited by exaggeration. In medicine, as in everything else, exaggeration never served any good purpose.

"Physicians do not relish the encomiums which are showered upon families which are merely large. It sounds well to be called the patriarch of many children, but something repels when we see the tombstones of successive wives who contributed to the old sinner's fame, or if the one wife and the later children are enfeebled by undue rapidity of increase. Race suicide is to be found in over-production as well as in childless marriages."

Who would question the utter sanity and wisdom of the foregoing words of Scott?

"Though it be for the full necessary
For thy comfort sometime to satisfy
Thy carnal appetite:
Yet it is not convenient for thee
To put therein thy felicity,
And all thy whole delight."

The Four Elements, anon., Sixteenth Century.

A. C. J.

DISEASES OF THE NOSE. By ERNEST B. WAGGETT, M.A., M.B., B.C. London, H. Frowde, 1907. x, 282 pp., 3 pl, 12vo. Cloth, $2.00 net.

We take pleasure in commending Dr. Waggett's manual to physicians who desire a careful review of the technic of rhinoscopy and a description of some of the surgical measures which are most frequently employed at the present time, in the treatment of diseases of the nose, nasopharynx, and accessory sinuses.

The book consists, apparently, of a series of clinical lectures delivered to a class of post-graduate students. It is written in an informal conversational style, and the author relates his personal experiences in a delightfully interesting and graphic manner.

The title is somewhat misleading, for the text does not cover the general subject of "Diseases of the Nose;" it is rather a study of selected pathological conditions of especial importance either because of the severity of the local lesion, or the extent of constitutional injury resulting from them.

The first chapters are devoted to the anatomy of the nose and the methods of examination. The description of the "Art of Rhinoscopy," is the most thorough and satisfactory with which we are familiar.

Adenoid hypertrophy in the naso-pharynx is discussed at length, with attention to many details of treatment not usually found in text books. The etiology of adenoids, the deformities of the palatal arch, of the nasal septum, and of the thorax are explained and also explanations are given as to the proper breathing and calesthenic exercises for the correction of these malformations during the post-operative period.

Other subjects considered are deflection of the nasal septum, chronic rhinitis, and diseases of the accessory sinuses. These chapters contain much of interest and value, not alone to students, but to instructors also.

F. W. DUDLEY.

TREATMENT OF INTERNAL DISEASES. For Physicians and Students. By Dr. NORBERT ORTNER, of the University of Vienna. Edited by NATHANIEL BOWDITCH POTTER, M.D. Translated by FREDERIC H. BARTLETT, M.D., from the Fourth German Edition. Philadelphia and London, J. B. Lippincott Co., 1908. xiii, 658 pp., 8vo. Cloth, $5.00 net.

This is a popular work and the translator and editor are to be thanked for placing before us in English the Vienna clinician's experiences in the field of therapeutics. The book bristles with valuable lessons.

Unfortunately, however, it bristles with queer drugs in which the author's trust seems to approach the implicit. Very few of the synthetics and alleged synthetics have been neglected by Ortner. The long list will

seem a thing of glory to the proprietary fanatic—to many therapeutists and to the better type of pharmacist it will seem cause for despair.

Not alone to the virtues of the synthetics are peans sung, but the materials for a very epic which shall recount the glories of "Vigoral," "Puro," "Bovinine," "Bovril," "Taurine," "Liquor Carnis," "Panopepton," "Valentine's Meat Juice," "Somatose," "Horlick's and Borden's Malted Milk," "Gude's Pepto-Mangan," "Haemaboloids," "Ovoferrin," "Tropon," "Carniferrin," "Ferratin," "Haemol" and "Haemogallol" are here available. As a proprietary directory the book is almost unique. It is a remarkable union of the most advanced art and science with the balderdash of commercialized therapy.

We miss Tyree's Antiseptic Powder and Scott's Emulsion.

When shall we be utterly freed from the humiliation of commercial exploitation? Not until drug therapy becomes entirely discredited?

How far wrong is Edward Bok when he charges that many of our most eminent men are the chief offenders in the matter of prescribing preparations of the composition of which they are partly or wholly ignorant?

Speed the day when we shall have passed beyond the deadly blight of ready-made prescribing in order that the maws of the commercial sharks and pilot-fish be stuffed with our votive offerings.

Speaking of the drug features of the book, the editor, in his preface, makes the *naïve* remark that many will be glad to have at hand what seems an excess of measures aimed to relieve symptoms of disease.

Verily, there are times when therapeutic nihilism seems a blessed conception and the therapeutic anarchists of medicine instruments of providence, operating, opsonin-like, upon demoralized professional leucocytes.

A. C. J.

Manual of Life Insurance Examination. By Brockbank, M.D. (Vict.), F.R.C.P. London, H. Frowde, 1908. xiv, 288 pp., 12vo. Cloth, $2.50 net.

Brockbank's Life Insurance is an excellent manual from which much might be gleaned by practitioners not engaged in insurance work. Of course it is designed for examiners, yet the book could be read with profit by practitioners in general. The author's style is devoid of frills and the book is close-packed with helpful hints.

Section I is intended to be read by beginners and those who have had little experience in life-insurance work. Section II, the author believes, will prove instructive even to men of extensive experience.

A. C. J.

Modern Medicine: Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Assisted by Thomas McCrae, M.D. Vol. III. Infectious Diseases (Continued) and Diseases of the Respiratory Tract. Philadelphia and New York, Lea Brothers & Co., 1907. 960 pp., 6 col. pl., 8vo. Cloth, $6.00 net.

This, Volume III of Osler's Modern Medicine, maintains the high level set by Volumes I and II.

The review of such a work is, necessarily, almost a labor of supererogation, and the remarks and comments made in its course are almost sure to be trite and commonplace. We must, perforce, content ourselves with not much more than merely calling attention to the excellence of the twenty-two contributions which make up the book.

Baldwin, of the Saranac Laboratory, in his article on Tuberculosis, in discussing the subject of heredity, shows that there is a strong disposition to disbelieve in an inherited immunity of any kind or degree. While full account of the teachings of Weismann must be taken, in respect of the non-transmission of acquired characteristics, one might very properly hesitate to dogmatize on this subject in the light of such observations as those of H. M. King.. King observed that the course of the disease in one hundred and three fatal cases was a year longer in subjects of phthisical parentage than in those without it. Yet "such facts," says Baldwin, "speak quite as much for acquired resistance from repeated early infections as for inherited immunity." However, if we are to accept "inherited specific susceptibility," why not "inherited immunity"? It is true that the children of tuberculous parents develop phthisis oftener than the children of the non-tuberculous, but here the duplication of external etiologic factors offsets actual heredity. It is a subtle problem. We have, of course, totally abandoned the ancient belief in the direct transmission of the disease, for good and sufficient scientific reasons.

It would seem as though the decrease in the death rate from tuberculosis in recent years could not be explained chiefly upon the ground of hygienic measures alone. Must so little credit be accorded Nature herself? Has it been vaccination and hygiene alone that have lessened the occurrence and the virulence of variola? Is syphilis (comparatively) mild to-day because of *our* efforts?

And conceding that we can prolong the lives of the sufferers, have we therein, philosophically considered, an unmixed good? While nearly perfect segregation and sputum destruction are possible of attainment in many of the cases, this is not true of the majority of cases. Will the greatest enthusiast deny that the patient whose death is merely postponed is not more or less of a disseminator of bacilli during the period of postponement? We cannot, of course, relax our efforts despite the foregoing fact, and we undoubtedly do save some lives, but the point is that it is more likely Nature herself that is lowering the death rate by reason of a constantly increasing resistance, based chiefly upon increasing immunity, than that the boasted measures of man himself avail much. It is a fact that much of the decrease had occurred before Koch's discovery and the increased institutional care. (Newsholme.)

We are so accustomed to handing large rhetorical bouquets to ourselves when we discuss the fight against tuberculosis—and the fighters—that the foregoing reflections may seem pessimistic. They are not pessimistic, however, for the writer has a faith in the therapeutic attainments of Mother Nature that leads him to believe that tuberculosis will yet be even more of a curiosity than the most ardent crusader has yet prophesied—and that not at the latter's hands, though his professional descendants will, doubtless, even in the post-tuberculosis era that is to be ushered in, bestow still larger bouquets upon each other and megaphone their encomiums yet louder.

Trauma: blows upon the chest are considered important in connection with pulmonary tuberculosis.

The term scrofulosis should be retained, thinks Baldwin, only when applied to chronic non-tuberculous enlargements of the lymph nodes, and to the constitutional weaknesses of the skin and lymphatic apparatus described by Virchow.

The *rôle* of opsonins as specific antibodies aiding in the phagocytosis of tubercle bacilli is discussed, as well as the utilization of the opsonic index in the diagnosis and the application of the opsonic therapy. This will show how completely all our present knowledge is set forth in this great work.

Early cases whose index is low and those classed as "chronic" hold out the most hope for successful opsonic treatment.

The opsonic index is also discussed in connection with the diagnosis of gonorrheal arthritis. A normal or high index offers some evidence of the gonococcal nature of a joint affection.

The senior author of the chapter on Syphilis is Professor Osler, that "poetical clinician," as Jacobi has dubbed him, not entirely, it would seem, in good temper. If "accident"—again quoting Jacobi—accounts in any measure for the great, if poetic clinician, may those whom we love fall foul of it full often, and profit by the circumstance.

It is true that Osler mixes poetry with his scientific

teachings, but 'tis a happy fusion. It is never done for the sake of the poetry—but always to help out the science. "Since then (since the introduction of mercury by the Galenists) the luetic cloud has had a quicksilver lining." There are those who may prefer Manhattanese. For ourselves we choose the Oslerism. Again: "Charles established himself on the throne, and his army syphilized the city (of Naples). *Before long the whole European prairie was aflame.*"

Acute nephritis as a secondary symptom, occurring with the cutaneous outbreak, is declared to be a not uncommon event.

The simulation of pulmonary tuberculosis by syphilitic fever is a point to be borne in mind by the careful diagnostician.

To expect state regulation to subdue the social evil, Osler thinks, "is like sowing weeds and then asking for a law that no weeds shall grow." That is, in countries where the predominating opinion of the commonwealth is not effectually expressed by such a policy. Moreover, "regulation deals with an almost negligible fraction of offenders and leaves untouched those who are most active in spreading disease, the relatively numerous clandestine sinners."

"It is impossible to commence treatment too soon," "but *only, if the diagnosis be made.*" The organism of Schaudinn is declared to be pathognomonic.

The prescribing of mercury "for the sake of prudence" where doubt exists as to the diagnosis is properly scored. This caution cannot be emphasized too much nor repeated too often.

Dunbar's study of hay fever is a model of scientific exposition. It may be accepted as the last word on the subject.

Packard, in writing of the tonsils, makes no mention of the newer methods for the total enucleation of the tonsil. A. C. J.

PRACTICAL ANESTHETICS. By H. EDMUND C. BOYLE, M.R.C.S., L.R.C.P. London, H. Frowde, 1907. viii, 178 pp., 11 pl., 12vo. Cloth, $2.00 net.

A practical knowledge of the administration of anesthetics of any great efficiency is usually acquired by oft-repeated experience and becomes very close to intuition. Heretofore each man has had to acquire that intuition through experience and has had only the most meager book-knowledge to start with.

The manual herein reviewed proposes to give some points which will advance its reader just one step beyond the purely theoretical, and it certainly succeeds in so doing.

The American idea of the efficiency of ether compared with chloroform makes this English work seem lacking in appreciation of ether as a general anesthetic; and again impresses one with the idea that said lack of appreciation has its foundation in the stubborn tenacity with which English anesthetists stick to a closed method of using ether, producing, as they do, a greater or less degree of asphyxia with highly concentrated ether vapor and all the unpleasant sequelae that this combination of conditions produces.

On the other hand, with our preference for ether and consequent lack of great experience with chloroform, this work gives many practical points in its use which cannot but help to benefit any reader. For example: a chapter on "Relative Overdosage" is of great value to American anesthetists calling attention, as it does, to the oft-observed phenomenon of cortical toxemia during chloroform administration just at the beginning when with depressed respiratory motion the chloroform vapor becomes more concentrated in the mask and in the lungs because of very infrequent interchange of tidal with reserve air. Such a condition is seen often and may be remedied by prompt effort of resuscitation, but if its likelihood of occurrence is kept in mind it can be avoided. A chapter on the "Selection of the Anesthetic" is a badly needed one, for if any greater error exists than poor use of a particular anesthetic agent, be it chloroform or ether, it is the absence of any effort to choose the agent of narcosis fitted to the surgical or general condition of the patient ,and here help in this direction is easily to be found. That part of the book devoted to gas alone, or gas and oxygen, is unique in its completeness as most chapters of standard works on surgery dismiss the subject with a few remarks upon the use of nitrous oxide for very short surgical procedures only; in this work practical points are given the reader relative to the use of gas in the broader field of more or less prolonged administration for more major operations.

Many needed warnings are noted here and there of slight import in themselves, perhaps, but of great importance taken together as unobserved they disturb the general character of the anesthetic, for example: the common habit of moving a semi-anesthetized patient from bed to table. In general the work is small, handy, concisely written, and is reasonable enough in price to be within the reach of those who most need it—the hospital internes.

WM. C. WOOLSEY.

THE MEDICAL AND SURGICAL USES OF ELECTRICITY: Including the X-Ray, Photo-Therapy, The Finsen Light, Vibratory Therapeutics, High Frequency Currents, and Radio-Activity. By A. D. ROCKWELL, A.M., M.D. *New Edition, Revised and Enlarged.* New York, E. B. Treat & Co., 1907. xvi, 676 pp., 8vo. Cloth, $5.00.

In this revised edition of his work Dr. Rockwell enlarges upon the previous volume. Much the same arrangement of the subject is followed. The illustrations are more numerous, and many of them are very helpful to an understanding of the text. The chapter upon Electro-Surgery is exceedingly well written. The use of the X-ray and the various lights is thoroughly discussed. The work will be found highly acceptable to those engaged in this department. W. S. H.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. BRADEN KYLE, A.M., M.D., *Fourth Edition, Thoroughly Revised and Enlarged.* Philadelphia and London, W. B. Saunders Co., 1907. 797 pp., 15 col. pl., 2 pl., 8vo. Cloth, $4.00.

We have in this revised and augmented edition a work of very considerable scope. In the preface the author specifies (page five) the newly added articles by title, the list of these and the articles altered and augmented, occupying about three-fourths of the 8vo page of running type, too many to note here individually. By referring to the very complete index one finds that these new articles, amounting in some cases to a few lines, in others to several pages, have been incorporated under headings of capital type, in their appropriate places in the body of the work. Assuming that those interested are acquainted with one or more previous editions of the book we select from among the new articles for examination almost at random, one on Gangrene of the Tonsils. It is indexed under Gangrene (probably by an oversight not also under Tonsil.) The author takes for granted a ready recognition of the condition, so does not describe its appearance. The two cases which the author has seen were each limited to a single tonsil and to the tonsillar tissue itself; in both a part of the tonsil sloughed off and recovery ensued, but with the formation of much scar tissue. The systematic symptoms were but slight; the physical condition was poor. In one of the cases observed an almost direct latent syphilitic history existed.

Ludwig's Angina, Vincent's Angina, and Angina Ulcerosa Benigna, the last two, new articles, appear consecutively on pages 506-508 and the characteristic features of each are given. Cross-reference is properly made to the article. Edematous Laryngitis, a hundred pages further on, and *vice-versa.* Sufficient descriptive matter is presented in these articles we believe, to render them clinically differentiable, but the very close relation between the anginas and the edemas of the throat and neck whether accompanied by pus formation or not, gives us ground for criticizing the inter-

position of other articles between these. Yet we like the author's plan of handling them under separate headings, as stimulating to clearer and finer differentiations.

The almost encyclopedic character of the work may be inferred from the further enumeration of some of the new articles, viz.: Taking Cold, Lithemic Rhinitis, Chemic Ulcers, Fibromyxoma of the Nasopharynx, Glioma of the Nose, Telangiectoma, Syphilis of the Septum, Empyema of the Antrum in the Young, Bonecyst of the Accessory Sinuses, and others.

WILLIAM C. BRAISLIN.

Correspondence

SUIT FOR ALLEGED MALPRACTICE AGAINST DR. N. B. BAYLEY.

To the Editor NEW YORK STATE JOURNAL OF MEDICINE:

Among the exigencies of practice, particularly surgical, there is, perhaps, no element more disturbing than the criticism, real or imaginary, that has for its object suits for damages in the treatment of bone injuries.

The ease by which such suits can be instituted, and their occasional success, lead a certain class to exploit their injuries for mercenary purposes. Any departure from the normal form or function of a limb, whether as the result of injury or unsuccessful treatment or not, are siezed upon and manipulated to support these nefarious designs.

The writer has recently been the defendant in a suit for damages brought by a man who sustained a compound comminuted fracture of the lower end of his left radius. The patient was seen in consultation, he objected to anesthetization and X-ray examination, and accepted the results of the surgical procedure with the perfect understanding, that ether and the X-ray were necessary to an intelligent and satisfactory treatment. The reduction of the fracture was made, and a plaster splint applied, with the hand and wrist flexed, as in this position the fragments were retained in place. The union of the fragments was excellent, and the resulting thickening of the end of the radius was no greater than the severity of the injury demanded. The hand and wrist were in alignment with the arm; there was no displacement of the styloid processes. Some six weeks afterward the patient came to my office, when a fluorscopic examination disclosed a good result, with all the motions of the wrist joint practically normal; there were no bone outgrowths or callus formation to interfere with the functions of the joint. As, however, the swelling and stiffness were somewhat slow in disappearing, the patient complained of his inability in the use of his arm; he listened to bad advice, and brought suit against the consultant, alleging unskillful treatment and consequent inability to use his arm at his work. When the case finally came to trial, the functions of the wrist joint were so good, with so little deformity, coupled with the fact of his acceptance of the surgeon's skill and prognosis, and his refusal to take ether, facts brought out by the testimony of himself and family, caused his counsel to ask for a dismissal of the case without costs.

Upon being served with the papers in this suit I placed the matter in the hands of the counsel of the New York State Medical Society, James Taylor Lewis, Esq., to whom I wish to give credit for the skilfull manner in which he conducted the case. To the members of the State Medical Society in New York City, especially Dr. Wyeth, and of the Rockland County Medical Society, I feel under deep obligation for their lively interest and support. To any one who is so unfortunate as to be the defendant in such a suit, his best interests would be served in placing the matter unreservedly in the hands of the counsel of the New York State Medical Society. If this practice became the universal custom, this class of litigious persons would become steadily rarer.

HAVERSTRAW, N. Y., July 5, 1908.

Medical Society of the State of New York.

DISTRICT BRANCH SOCIETIES.

FIRST DISTRICT BRANCH.

Plans are now being perfected for the meeting of the First District Branch, to be held at Poughkeepsie, on October 21, 1908.

Arrangements have been made for two sessions and a dinner, and in addition to contributions from members of the Society, papers will be read by prominent physicians from a distance who have been invited to participate.

THIRD DISTRICT BRANCH.

The annual meeting of the Third District Branch will be held at Troy on October 27, 1908.

There will be a morning and an afternoon session, the full program of which will be published in a later edition of the JOURNAL.

FOURTH DISTRICT BRANCH.

THE ANNUAL MEETING WILL BE HELD AT AMSTERDAM, N Y., OCTOBER 13, 1908.

Preliminary Program.

Address by Dr. Arthur G. Root, President of the Medical Society of the State of New York.

(Subject to be announced), L. Dwight Washburn, M.D., Sandy Hill.

(Subject to be announced), W. B. Melick, M.D., Fort Edward.

"Neurasthenia and Psychasthenia," N. A. Pashayan, M.D., Schenectady.

"Some Observations on the Treatment of Fractures," Dayton L. Kathan, M.D., Schenectady.

"Gunshot Wound of Spinal Cord, with Recovery," George Lenz, M.D., Gloversville.

(Topic on Tuberculosis, to be announced later), Charles C. Trembley, M.D., Saranac Lake.

"Some Points in Early Diagnosis of Tuberculosis," Arthur H. Garvin, M.D., Superintendent New York State Hospital for Incipient Tuberculosis, Raybrook.

(Subject to be announced), David C. Twitchell, M.D., Saranac Lake.

"The Treatment of Peritonitis," Charles G. McMullen, M.D., Schenectady.

"Diseases and Conditions Which May Be Mistaken for Appendicitis," William C. Wood, M.D., Gloversville.

"Puerperal Septicemia," R. C. Davies, M.D., Granville.

FIFTH DISTRICT BRANCH.

UTICA, OCTOBER 15, 1908.

Preliminary Program.

Morning Session, 10 A. M.

1. President's address: "The Physiology of Age."
2. "Nephritis of Childhood," by Dr. W. R. Gillette, Rome.
3. "Tuberculous Nephritis," by Dr. W. S. Nelson, Utica.
4. "The Nervous Symptoms of Interstitial Nephritis," by Dr. Smith Baker, Utica.
5. "Conditions Simulating Appendicitis," by Dr. William Wallace, Syracuse.
6. "Surgical Interference in Perforation of Typhoid Fever," by Dr. A. J. Brown, Rome.
7. (Surgical paper), by Dr. J. H. Glass, Utica.
8. (Surgical paper), by Dr. G. D. Gregor, Watertown.
9. (Surgical paper), by J. F. McCaw, Watertown.
10. "Report of a Case of Fractured Skull," by Dr. F. E. Fox, Fulton.
11. "Cancer and Syphilis of the Tongue," by Dr. G. M. Foster, Utica.

Afternoon Session, 2 P. M.

Symposium on the Disorders of Advanced Life.

1. "Senile Heart and Blood Vessels," by Dr. J. L. Heffron, Syracuse.

2. "Senile Dementia," by Dr. George Tooney, Utica State Hospital for Insane.

3. "Pneumonia of the Aged," by Dr. H. L. Elsner, Syracuse.

4. "Disorders of Digestion," by Dr. W. D. Garlock, Little Falls.

5. "The Prostate Gland," by Dr. N. Jacobson, Syracuse.

6. "Fractures of the Hip," by Dr. F. B. Smith, Watertown.

COUNTY SOCIETIES.

CHENANGO COUNTY MEDICAL SOCIETY.

THE ONE HUNDRED AND THIRD SEMI-ANNUAL MEETING WAS HELD AT REXFORD FALLS, SHERBURNE, N. Y. ON JUNE 9, 1908.

Scientific Program.

"Certified Milk," by Dr. Frank Preston, Greene.

"Has This Any Clinical Value?" by Dr. George O. Williams, Greene.

Discussion of a County Laboratory proposition, by Dr. Thomas F. Manley, Norwich.

"Chronic Nasal Catarrh," by Dr. Homer E. Smith, Norwich.

"Ileo-colitis in Children," with report of a case, by Dr. George D. Johnson, Oxford.

"Some Common Psychoses," by Dr. Paul B. Brooks, Norwich.

Drs. L. D. Farnham, W. S. Overton and W. A. Moore, of Binghamton, who were guests of the Society, took part in the discussion.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

THE SEMI-ANNUAL MEETING WAS HELD JULY 8TH AT THE HUDSON RIVER STATE HOSPITAL, POUGHKEEPSIE, N. Y.

The business and scientific meetings were held in the pavilion. The Society was entertained at dinner by Doctor Pilgrim, Superintendent of the Hospital.

Doctor Toms, President of the First District Branch, addressed the meeting, and at his request the President was instructed to appoint a committee to report in January to the State Society as to the enforcement of the medical practice laws in this county. The society voted to hold its annual banquet October 21st, the evening of the First District Branch meeting. Forty-nine physicians were present. The following resolutions were adopted:

Resolved, that the Medical Society of the County of Dutchess notices with deepest regret that His Excellency, Governor Hughes, approved the Optometry Bill against the wishes and advice of the medical profession of the County at large and the Medical Society of the State of New York in particular. We would therefore request His Excellency in the future to respect the wishes of the medical profession in medical legislative matters.

Resolved, that these resolutions be transmitted to His Excellency, Governor Hughes, and be published in the NEW YORK STATE JOURNAL OF MEDICINE.

Resolved, that the Medical Society of the County of Dutchess notices with regret that the Honorable Myron Smith, Representative in Assembly, voted against the advice and wishes of the members of the Society as regards the Optometry Bill.

Resolved, that a copy of this resolution be transmitted by the Secretary to the Honorable Myron Smith, with the hope that in the future the recommendations of the medical profession of Dutchess County be considered in regard to medical legislation.

Resolved, that these resolutions be printed in the NEW YORK STATE JOURNAL OF MEDICINE.

Resolved, that the Medical Society of the County of Dutchess notices with regret that the Honorable Fred. Northrup, Representative in Assembly, voted against the advice and wishes of the members of the Society as regards the Optometry Bill.

Resolved, that a copy of this resolution be transmitted by the Secretary to the Honorable Fred. Northrup, with the hope that in the future the recommendations of the medical profession of Dutchess County be considered in regard to medical legislation.

Resolved, that these resolutions be printed in the NEW YORK STATE JOURNAL OF MEDICINE.

Resolved, that the Medical Society of the County of Dutchess notices with regret that the Honorable Sanford Smith, member of the Senate, failed to vote as requested by the members of the Society as regards the Optometry Bill.

Resolved, that a copy of this resolution be transmitted by the Secretary to the Honorable Sanford Smith, with the hope that in the future the recommendations of the medical profession of Dutchess County be considered in regard to medical legislation.

Resolved, that these resolutions be printed in the NEW YORK STATE JOURNAL OF MEDICINE.

The following amendment to the By-Laws, Chapter X, Section 1, was adopted July 8, 1908:

Motion to amend by striking out the word one and substituting the word two in the first sentence, which shall read, "Each member shall pay annually the sum of two dollars, which shall be payable on the first day of January." ["At the same time he shall pay the amount of the per capita State assessment fixed by the House of Delegates for the current year."] This second sentence here in brackets is added to complete the section as it would read in full.

Scientific Program.

Presentation of some cases of Tabes and Lateral Sclerosis with Insanity, by Doctor Harris.

Report of a case of Hysteria, with remarks, by Doctor Parsons.

Presentation of cases of Alcoholic Polyneuritis, by Doctors Miltimore and Merriman.

Presentation of a case of Pemphigus and of a case of Aphasia, by Doctor Raynor.

MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY.

THE REGULAR QUARTERLY MEETING WAS HELD AT CANAJOHARIE, N. Y., JUNE 24, 1908.

Scientific Program.

"Venereal Diseases," by Dr. J. Schiller, Amsterdam.

A general discussion of this subject followed.

Dr. Stover read a paper on the policies and ideas of the House of Delegates at the recent meeting in Chicago of the American Medical Association. He also spoke of the building and management of the *Journal* of the National Organization, of its great force as an educator, and its work in exposing fraudulent medicine.

Dr. Hicks gave a talk on the clinics which were held subsequent to the Chicago meeting.

The following resolution on the death of Dr. Thomas G. Hyland was adopted:

WHEREAS, it has pleased an all-wise and mysterious Providence to remove from the scenes of earthly activity our beloved friend and professional brother, Dr. Thomas G. Hyland; and

WHEREAS, we, the representatives of the Medical Society of the County of Montgomery and the Medical Society of the City of Amsterdam, and the staff of the Amsterdam City Hospital, have been authorized by the above-named organizations, to meet, confer and draft resolutions expressing our sorrow and regret for his sudden and untimely death; and

WHEREAS, Doctor Hyland was an able and talented physician, skilled in the prevention and cure of disease; courteous, gentle, sympathetic and well calculated to inspire hope and confidence in the sick, as well as in mankind in general; therefore be it

Resolved, that we, the representatives of the Medical societies above-named, convey to his sorrowing wife and daughter our tenderest sympathies; and be it further

Resolved, that we transmit to his wife and daughter a copy of these resolutions.

(Signed) H. M. Hicks,
E. J. Collier,
E. F. Bronk,
W. M. Dwyer,
W. R. Pierce.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

The Quarterly Meeting was Held in the Rooms of the Society of Natural Sciences, Buffalo Library Building, Buffalo, N. Y., June 15, 1908.

Dr. Edward Clark, President.

The Secretary read the minutes of the quarterly meeting, held April 20, 1908, and on motion, they were received.

The amendments to the By-laws which were offered at said meeting were then considered seriatim. Amendment No. 2 was changed to read, "When at least twenty members are present." The other By-laws were each adopted as read. On motion of Dr. Wall, all the minutes and the proposed By-laws were then approved and adopted. The Secretary then read the minutes of the meeting of the Council, held June 10, 1908, all of which were approved as read. The resignation of Dr. Harriett E. Sheldon was accepted.

In compliance with the direction of the Council, the Treasurer, Dr. Lytle, then read the names of all those who were in arrears. All were suspended by action of the By-laws. On motion of Dr. Wall, the entire subject matter of suspension and reinstatement was referred to the Council with power. The Treasurer then read the names of those who had not paid their dues up to May 1, 1908.

Dr. McKee, Chairman of the Committee on Membership, recommended for election as members of this Society, the following: Drs. Henry J. Siedler, David Cohn, Floyd Richardson, Albert W. Phelps, Anna M. Reinstein, Descum C. McKenney, Harry A. Wood, James A. Gardner, Frank M. Sweetland, Richard Hirsch, George B. Dandy, Albert E. Persons, John C. Kamp. Each name was considered individually, and all were elected.

The Censors, through Dr. Grant, reported progress. By a special motion adopted at the previous annual meeting, the nominations for 1909 were to be made at this meeting. The President called for nominations for each of the offices to be filled, with the following results:

For President, Dr. Charles A. Wall.

For First Vice-President, Dr. Grover W. Wende.

For Second Vice-President, Dr. Bernard Cohen.

For Secretary, Dr. Franklin C. Gram.

For Treasurer, Dr. Albert T. Lytle.

For Censors, Dr. Henry R. Hopkins, Chairman, and the following members: Drs. De Lancey Rochester, Francis E. Fronczak, Walter D. Greene and John H. Grant.

For Chairman Committee on Legislation, Dr. F. Park Lewis.

For Chairman Committee on Public Health, Dr. Ernest Wende.

For Chairman Committee on Membership, Dr. Thomas H. McKee.

For Delegates to the State Society for two years, Drs. Charles A. Wall, Arthur G. Bennett, Eli Long, Edward Clark, John H. Grant, J. D. Bonnar, Bernard Cohen, J. F. Rice and T. H. McKee.

For Delegates to the Eighth District Branch, Drs. James Stoddart, J. D. Bonnar, Albert T. Lytle, William H. Thornton, J. W. Grosvenor, Edward Blauw, William C. Krauss, Edward Clark, B. P. Hover, Frank M. Sweetland, William Irving Thornton, Bentley Bourne, F. H. Stanbro and Albert W. Phelps.

Dr. F. Park Lewis then offered the following preamble and resolutions:

Whereas, Ophthalmia Neonatorum, which is well known as a preventable and controlable infection of the eyes, is still producing a large amount of blindness, notwithstanding the greater care exercised by individual obstetricians, and

Whereas, The American Medical Association has recommended that an organized movement be conducted throughout the vaiorus State and County Medical Societies for the prevention and control of this disease.

Resolved, That the Erie County Medical Society approve the efforts that are being made in this direction, and

Resolved, That a committee, one member of which shall be the Health Physician of the city, be appointed by the President of this Society, and whose duty shall be to put the recommendations of the Committee on Ophthalmia Neonatorum of the American Medical Association into effect in the County of Erie as far as may seem to be practicable.

Dr. Wall moved that the resolution be so amended as to make this Committee consist of Dr. F. Park Lewis, as Chairman, with the Health Commissioner of this city, and one other member whom they shall recommend to the Council.

Dr. Lewis accepted the amendment, and the motion, as amended, was then adopted.

President Clark stated that formerly, when a member died, special meetings of the Society would be called to take appropriate action. Since the Society had become so large, this custom had fallen somewhat into disuse. He, therefore, with the consent of the Society, appointed a Committee on Necrology, whose duties it should be to prepare suitable resolutions upon the death of all members who died during the year, and present them to the Society at the annual meeting. He named, as such Committee, Dr. J. W. Grosvenor, Dr. De Lancey Rochester and Dr. William T. Getman.

Dr. Bonnar stated that the question of quarantine in cases of contagious diseases often became a hardship to the afflicted families and thought the Common Council and Mayor of this city should be memorialized on the matter, and the question of providing suitable hospital accommodations by the city. He, therefore, moved the following resolution:

"That this Society memorialize the Common Council and the Mayor on the necessity of providing a municipal hospital for contagious diseases."

Dr. Wall amended Dr. Bonnar's motion by empowering the President of this Society to appoint a committee of fifteen to take up this matter with the Common Council and the Mayor.

The motion as amended was then adopted. The President later appointed the following: Dr. J. D. Bonnar, Chairman, and Drs. Grover Wende, C. A. Wall, F. C. Gram, Ernest Wende, A. A. Briggs, P. W. Van Peyma, W. D. Green, H. R. Hopkins, H. G. Matzinger, F. E. Fronczak, W. C. Callanan, De Lancey Rochester, C. G. Stockton and D. W. Sherman.

The Scientific Session was called to order by President Clark at 8.30 P. M. on the same evening, with a large attendance of members. Five-minute talks were given as follows:

"Mental Changes Associated with Prolonged Visceral Diseases," by Dr. H. C. Matzinger.

"Tubercular Peritonitis," by Dr. DeWitt G. Wilcox.

"A Case of Paranoia," by Dr. S. A. Dunham.

"Intestinal Obstruction," by Dr. Marshall Clinton.

"Ophthalmia Neonatorum," by Dr. F. Park Lewis.

"The Laity and Disease," by Dr. E. C. Mann.

"A Plea for Support of the Buffalo Branch of the Society for Sanitary and Moral Prophylaxis," by Dr. J. A. Gardner.

MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

The Semi-Annual Meeting was held in the Village Office in Saranac Lake on Tuesday, June 9, 1908.

As many of the physicians were out of the county on that date, the meeting was immediately adjourned to Tuesday, June 23, 1908, at 2 o'clock P. M.

The adjourned Semi-Annual Meeting was held in the Village Office on Tuesday, June 23, 1908, at 2 o'clock P. M.

Members present—Drs. P. F. Dolphin, President; G. H. Oliver and J. A. Grant, of Malone; E. A. Moody, of Dickinson Centre; C. A. Hastings, of Constable; H. S. Goodall, of Lake Kushaqua; G. M. Abbott, E. R. Baldwin, L. Brown, H. M. Kinghorn, E. S. McClellan, A. H. Allen, and C. C. Trembley, of Saranac Lake. Non-members, E. G. Whipple, of Malone; Alexander La Vigne, of Cleveland, Ohio; A. H. Garvin, of Ray Brook; E. E. Keet and Brickner, of Saranac Lake; W. M. Hart, A. M. Amidon, W. A. Moulton, I. H. Engle, D. B. Schwartz, W. S. Carpenter, R. H. Owens, J. J. Craig, R. Roberts, J. H. Mandurf, G. H. Furbeck, E. H. Falconer, D. Smith, I. Kaufman, H. Seymour, of Trudeau, and R. H. Carhart of the Board of Health.

The following candidates were nominated: President, Dr. E. A. Moody, of Dickinson Centre; Vice-President, Dr. E. R. Baldwin, of Saranac Lake; Secretary and Treasurer, Dr. G. M. Abbott, of Saranac Lake; Censor, Dr. G. H. Oliver, of Malone; Delegate to State Medical Society, Dr. H. S. Goodall, of Lake Kushaqua; Delegate to Fourth District Branch, Dr. E. S. McClellan, Saranac Lake.

Drs. Reuben W. Van Dyke and Daisy H. Van Dyke, both of Malone, were elected to membership. Drs. Albert H. Garvin, of Ray Brook, and J. Woods Price, of Saranac Lake, applied for membership. Referred to the Board of Censors.

The Secretary reported that he had written personal letters to the eleven remaining physicians practicing in the county who had not signed the "Provisional Agreement" in regard to Life Insurance Medical examination fees. Four had signed, leaving seven who had not signed. After some discussion, by vote of the Society, the Secretary was instructed to bring all possible pressure to bear upon these members, and call their attention to the fact that they are the only ones in the county who have failed to respond—and report at the next meeting. By vote of the Society, a committee on legislation was appointed by the President, consisting of Drs. J. A. Grant, of Malone; A. E. Moody, of Dickinson Centre, and E. S. McClellan, of Saranac Lake.

Scientific Program.

"Personal Experience in Medicine," by Dr. Lawrason Brown, of Saranac Lake.

"The Relative and Absolute Signs of Pulmonary Tuberculosis," by Dr. E. G. Whipple, of Malone.

"Some Points in the Early Diagnosis of Pulmonary Tuberculosis," by Dr. A. H. Garvin, of Ray Brook.

"Tuberculin Tests," Dr. E. R. Baldwin, of Saranac Lake.

Discussed by Dr. La Vigne.

"Homogenization, etc., for Finding Tubercle Bacilli in Sputum," Dr. A. H. Allen, assisted by Drs. A. F. Miller and S. D. Blanchet, of Trudeau.

"Pulmonary Tuberculosis Complicated with Pregnancy," Dr. C. C. Trembley, of Saranac Lake.

Discussed by Drs. Brown and Brickner.

Dr. McClellan's paper, "Saranac Lake an Object Lesson," was read by title.

THE MADISON COUNTY MEDICAL SOCIETY.

THE REGULAR SPRING MEETING WAS HELD AT CANASTOTA, MAY 12, 1908, AT THE ROOMS OF THE BUSINESS MEN'S ASSOCIATION.

Scientific Program.

"Sanitary Conditions of the Panama Canal," by Dr. M. Cavana, Oneida.

"Secondary Anemia, result of Hemorrhoids," by Dr. D. H. Murray, Syracuse.

ONTARIO COUNTY MEDICAL SOCIETY.

THE QUARTERLY MEETING WAS HELD AT "THE KIRKWOOD," GENEVA, N. Y., JULY 14, 1908..

Scientific Program.

"Pulmonary Complications of Typhoid Fever," by Dr. C. C. Lytle, Geneva.

"Anesthetics," by Dr. G. W. McClellan, Canandaigua.

"When should Local be Substituted for General Anesthesia; Report of Complete Breast Excision, Hysterectomy, and many Abdominal and other Operations under Local Anesthesia," by Dr. M. B. Tinker, Ithaca.

"The Relation of a Sound Heart to Surgical Operations," by Dr. John Parmenter, Buffalo.

MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

THE REGULAR MEETING WAS HELD AT EXCHANGE HOTEL, SAUGERTIES, JUNE 30, 1908.

The regular June "outing" of the Society was held on Tuesday, June 30th, Mrs. Charles Montgomery inviting all the ladies to her home until 5 P. M., dinner being served at 5.30 P. M. at the Exchange Hotel. A short medical session was then held. Dr. A. A. Stern gave an account of the meeting of the American Medical Association in Chicago. Drs. J. J. Simonds, of Port Ewen, and James Krom, of Phoenicia, were elected to membership.

THE MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

THE REGULAR QUARTERLY MEETING WAS HELD AT THE SILVER LAKE SANITORIUM, SILVER LAKE, JULY 16, 1908.

Scientific Program.

"Epilepsy," by Dr. William P. Spratling, Sonyea.

"Abortion," by Dr. M. J. Wilson, Warsaw.

Report of the recent outbreak of "rabies" at Gainesville, by Dr. G. S. Skiff, Gainesville.

DEATHS.

When the good physician dies wisdom dies with him, for experience has taught him much that is not written.

HARMON J. ASHLEY, M.D., physician to the County Hospital and Almshouse of Catteraugus County; died at his home in Machias, N. Y., June 5, 1908, aged 58 years.

JOHN F. CARLETON, M.D., died suddenly of heart disease at his home in Waterloo, N. Y., June 18, 1908, aged 64 years.

MAXIMILIAN F. C. DRESCHER, M.D., of Brooklyn, N. Y.; died at his home July 7, 1908, aged 51 years.

CHARLES OSCAR MURPHY, M.D., at one time a practitioner in New York City; died in Boston June 13, 1908, aged 38 years.

MICHAEL J. NEVILLE, M.D., of Brooklyn, N. Y.; died at St. Catherine's Hospital, June 22, 1908, aged 48 years.

JAMES J. O'NEILL, M.D., of Buffalo, N. Y.; died at his home July 15, 1908, aged 56 years.

WILLIAM H. SHERMAN, M.D., chief surgeon to St. John's Hospital, Yonkers, N. Y.; died at his home, June 11, 1908, aged 49 years.

GEORGE L. SMITH, M.D., physician to St. Vincent's Hospital, New York City; died at his home, June 13, 1908, aged 43 years.

HORACE G. WESTLAKE, M.D., of Hillside, N. Y., where he had practiced for fifty-eight years; died at his home, June 7, 1908, aged 80 years.

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles

SOME OBSERVATIONS ON SYPHILIS.

By JOHN A. FORDYCE, M.D.

Professor of Dermatology and Syphilology in the University and Bellevue Hospital Medical College,

NEW YORK.

THE increasing frequency of extragenital syphilitic infections, especially in cities where they form from eight to nine per cent. of all chancres, demands a closer study of these lesions. It is important that surgeons and practitioners of medicine bear their possible occurrence in mind, for it not exceptionally happens that lesions of this nature are mistaken for malignant neoplasms, septic infections, or other types of granuloma. The clinical features of extragenital chancres, as well as their modes of evolution, are perhaps less well-defined than on the genital organs. It is often the case that too much stress is laid on some one or other characteristic which it is thought must be present to establish a diagnosis. This is especially true of initial sores about the finger nails, not infrequently seen in gynecologists and surgeons, where the diagnosis in many instances remains in abeyance until the outbreak of the secondary eruption on the skin. The writer has on several occasions seen such lesions treated by removal of the nail, surgical ablation of the lesion and even extirpation of the communicating lymph nodes under the supposition that the infection was of a different type, it being often mistaken in this location for tuberculosis or a septic infection. Owing to the anatomical structure of this region the induration is generally absent, but an early and painless enlargement of the epitrochlear or axillary lymph nodes following an infection in this locality should excite one's suspicion. Where the initial lesion is not evident, its site is sometimes indicated by a neighboring adenopathy, as for instance, a group of lymph nodes at the angle of the jaw would point to an infection of the throat, while a painless hypertrophy of the epitrochlear gland might indicate that a chancre has been present on the finger.

FIG. 1.—CHANCRE OF TEMPLE.

A cut of the forehead was sucked by a friend to "remove the poison." The latter at the time had mucous patches in his mouth.

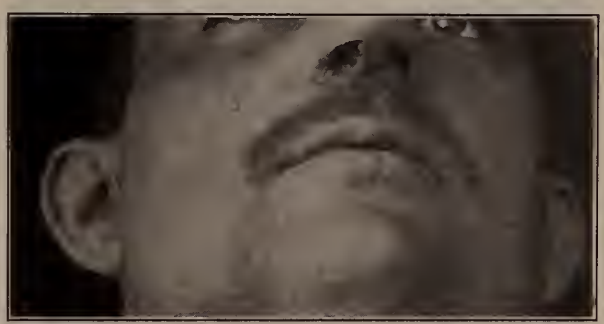

FIG. 2.—CHANCRE OF THE ANTERIOR NARES.

Among the extragenital sites which have presented themselves to the writer are the temporal region (Fig. 1), side of the neck, anterior nares (Fig. 2), upper and lower lips (Fig. 3), tonsils, fingers, back of hand, thigh, nipple, skin over the breast, inner canthus of the eye, central portion of the lower eye-lid and the chin (Fig. 4).

Primary sores of the lips are often protuberant, usually sharply circumscribed, eroded and sometimes encrusted. Ulceration or phagedena does not often attack them in this region, although a superficial ulceration may be evident. They are now and then covered with a thick crust, suggesting the rupial lesions of the disease. Chancres of the lower lip may be confused with epithelioma, but their occurrence in the young, their rapid evolution and early involvement of the communicating lymph nodes are features which should differentiate them from epithelioma. Labial chancres, too, are not infrequently seen in women, while epithelioma of the lip occurs scarcely at all in this sex.

In individuals with a congenital phimosis and existing balanoposthitis, a syphilitic infection will give rise to a diffuse, ill-defined infiltration of the glands and a hard swelling of the prepuce

FIG. 3.—CHANCRE OF THE LOWER LIP.

—the so-called indurating edema. A similar condition occurring in women involves the labia.

One cannot be too conservative in expressing an opinion regarding the nature of a chancroidal sore. The patient should be informed of the possibility of a mixed infection with the subsequent development of a specific induration.

It should be kept in mind, too, that the initial lesion of syphilis may be extremely insignificant and entirely escape the observation of the patient, or it may exist as a urethral infection with or without a complicating gonorrhea, as in a case recently seen by the writer in a young man with a slight urethral discharge and a thickening of the urethra about two inches behind the meatus. Smears made from the secretion contained both spirochaeta pallida and gonococci.

Since the discovery of the spirochaeta pallida, it is possible to establish a diagnosis much earlier than was formerly the case. Its diagnostic value, of course, is much greater in extragenital lesions where the nature of the affection is obscure than elsewhere. It is of great aid, however, in the diagnosis of urethral chancres, as cited above, or where a gonorrheal periurethritis simulates the induration of a primary lesion.

Chancres are not always typical, especially where an antecedent erosion or other lesion is inoculated with the syphilitic virus, in which case they may take on the conformation of the original lesion. This is illustrated in the photograph of multiple initial sores of the chin (Fig. 4). The one on the left is fairly typical, showing the central erosion covered by a crust and an elevated inflammatory border, while that in the middle of the chin is irregular in outline and suggests a parasitic sycosis rather than an initial lesion. Multiple chancres are observed especially about the nipple, where wet nurses have been infected by syphilitic children, and not infrequently they are seen to develop about the genitals on a pre-existing eruption produced by scabies. Such multiple lesions may appear simultaneously or in successive outbreaks. In the diagnosis of genital lesions, one must keep in mind the possibility of late specific neoplasms, such as the nodular syphilide or ulcerating gumma; also lichen planus, herpes progenitalis, epithelioma, etc., which might be confounded with primary lues. An unusual type of granuloma in any locality whatever should excite the suspicion of an initial sclerosis and concomitant evidence or sequelæ should be carefully looked for. Conservatism will often prevent mutilating operations which are entirely unnecessary.

The secondary eruption of syphilis, although usually developing primarily as a roseola, may appear as small or large papular, papulo-pustular or papulo-squamous lesions or as a multiform eruption. Its evolution is not infrequently influenced by some pre-existing affection of the skin, as a seborrhoeic dermatitis which renders the cutis more vulnerable and modifies the type of the exanthem. This is seen in the occurrence of sharply marginated lesions about the angle of the nose and forehead, diffuse scaling patches on the upper part of the chest and back and large scaling plaques over the face—the so-called *syphilide en nappe* (Fig. 5). In the writer's service in the City Hospital a combination of scabies, pediculosis and early syphilis is sometimes met with, where it is difficult to distinguish the lesions of the different infections; for example, the post-eczematous lesions of scabies may become the sites of syphilitic infiltrations,

FIG. 4.—MULTIPLE CHANCRES—CHIN.

Fig. 5.—Syphilide en Nappe.

assume a reddish-brown color and occur in patches over the hands, wrists and other portions of the body (Fig. 6). It is easy to see how mistakes in such cases can occur, as it is the general impression among practitioners that syphilitic eruptions do not itch, and when a patient presents himself with an affection which is markedly pruritic, the conclusion is immediately drawn that it cannot be luetic, the fact of the simultaneous presence of two eruptions being lost sight of.

Prodromal rashes, to which attention has been called by Klotz, Taylor and others, are sometimes encountered. They consist of single or multiple papular or papulo-pustular lesions of an indolent type, having no special predilection site and antedating the generalized eruption by fifteen to twenty-five or more days. In women flat condylomata may precede a general macular outbreak.

The pyodermias—lesions resulting from infection with pus organisms—notably ecthyma accompanying pediculosis vestimentorum—may be confounded with syphilis. In poorly nourished individuals ecthymatous lesions often extend deeply and result in marked scarring and pigmentation, especially noticeable on the lower extremities, but they may occur anywhere.

The secondary eruption of syphilis may also be confused with drug rashes, erythemata due to gastro-intestinal intoxication and the contagious exanthemata. An instance of the latter is illustrated in the following case: A patient was admitted to the City Hospital with the scar of an initial lesion dating back three or four months, enlargement of the post-cervical lymph nodes, a temperature of 104° F. and a generalized macular eruption of acute development. The diagnosis rested between an acute outbreak of a macular syphilide with a high temperature, which is sometimes met with, and rubella, a post-cervical adenitis being common to both affections. It should be borne in mind in considering the diagnosis of eruptions of this erythematous type that the skin may react in the same manner to various infections or toxic agents, and the question of diagnosis can only be determined by the presence or absence of concomitant symptoms or by awaiting future developments.

Klotz and other writers have also described large papular lesions which are markedly edematous and not unlike those of urticaria. They can be distinguished by their longer persistence, reddish-brown color, and absence of pruritic symptoms. They probably occur in individuals with a lessened vascular stability reacting to the specific virus by the outpouring of serum.

The clinical picture of tuberculosis of the skin has gradually extended and now includes affections which were not recognized a few years ago. The so-called papulo-necrotic tuberculide or *folliclis,* which occurs on the extremities and sometimes generalized, may closely simulate a papulo-pustular syphilide. The resemblance of the two forms is so striking at times that it is

Fig. 6.—Syphilis and Scabies.

impossible to differentiate them without going carefully into the history of the case and observing the evolution of the two eruptions. These tuberculides sometimes begin as cutaneous papules in the corium, undergo ulceration and give rise to sharply defined pigmented scars which are not unlike those of variola. Again, they may begin as superficial pustules which involve the corium by extension downward, producing much the same result in the way of scarring. The lesions are disseminated over almost the entire body or appear in groups like a relapsing syphilide. They are sometimes accompanied by tuberculous lymph nodes or other evidence of extracutaneous tuberculosis. The lesions of acne necrotica occurring along the border of the scalp might also be mistaken for a papulo-pustular syphilide, but their almost constant location, symmetry and tendency to relapses will help to clear up the diagnosis. Erythema induratum is another form from which syphilis is to be differeniated. It is seen especially in young girls, on the lower extremities, as cutaneous and subcutaneous nodules. They become necrotic in the centre, ulcerate and by coalescence and extension form irregular, more or less excavated indolent areas, rebellious to treatment (Fig. 7). The resemblance

FIG. 7.—ERYTHEMA INDURATUM (BAZIN'S DISEASE). Girl, 16 years old. Illustration shows an active lesion on the left leg with superficial ulceration at the margin of the patch. On the right leg numerous scars are present from older lesions which have healed spontaneously.

FIG. 8.—MULTIPLE GUMMATA. These lesions developed at site of operation performed four years before for varicose veins. The diagnosis rested between gummata and erythema induratum.

of these lesions to specific ones is illustrated in Fig. 8, which shows the ulceration and scarring following the breaking down of gummata of the skin. The latter are often the result of a local traumatism and subsequent lowered resisting powers, in the case illustrated the lesions having developed in the cicatrices following an operation for varicose veins.

Among other cutaneous affections which have been confused with the secondary rash of syphilis are some of the disseminated forms of pityriasis versicolor and pityriasis rosea. The therapeutic test which is so often employed for the differentiation of syphilitic from other eruptions is of slight value in the early rashes on account of their tendency to spontaneous disappearance and the influence that mercury exerts on eruptions not of luetic origin, like lichen planus.

Fig. 9.—Bromide Eruption in an Epileptic, Resembling Rupial Lesions of Syphilis.

Fig. 10.—Bromide Eruption Having Appearance of Serpigenous Syphilide.

Russian girl, aged 18; epileptic. She took bromide for six months before the lesion developed. Its edge is elevated and tender, and in places shows miliary abscesses. A papulo-pustular eruption was present on the face, especially about the chin.

In the later stages of the disease its value is greater.

The eruptions, usually grouped and localized, which appear toward the end of the secondary period or within the first two or three years after infection are known as relapsing forms and they may manifest themselves in various ways, viz., as superficial scaling patches which may be mistaken for psoriasis or some of the types of eczema, or they may assume ulcerating and encrusted forms which simulate in a marked degree the lesions produced by the iodids and bromids. In susceptible individuals the iodids may give rise to localized pustular and ulcerating lesions which become encrusted like the rupia of syphilis. Sometimes they produce subcutaneous swellings resembling gummata. The bromids, likewise, may give rise to multiple encrusted lesions, as shown in the accompanying illustration (Fig. 9), where they occurred in an epileptic who had taken bromids over a long period of

time. This patient also gave a history of lues, but it was possible to exclude the syphilitic nature of the affection by withdrawing the drug, after which the lesions slowly disappeared. The administration of bromid results not only in disseminated ulcerative and encrusted lesions, but also in the production of large fungating areas which clear in the centre and spread at the periphery much in the same manner as a serpigenous ulcerative syphilide. These lesions are seen on almost any part of the body, but have been observed more frequently by the writer on the lower extremities of adults, where they persist for months and are distinguished with extreme difficulty from their specific congeners (Fig. 10).

In the negro race cutaneous syphilis more often takes on curious forms, as illustrated in Fig. 11, where annular and gyrate lesions were present about the face. They sometimes simulate in a very close way the lesions produced by the tineas.

The pigmentations which remain after the involution of the early and the relapsing rashes may be similar to those produced by lichen planus, dermatitis herpetiformis or pemphigus.

FIG. 11.—ANNULAR SYPHILIDE FOLLOWING AN INITIAL LESION OF THE LOWER LIP FOUR MONTHS PREVIOUSLY.

FIG. 12.—PIGMENTATION FOLLOWING THE INVOLUTION OF A LARGE PAPULAR SYPHILIDE IN A PATIENT WITH CHRONIC NEPHRITIS. THE COLOR BECAME LIGHTER AFTER SEVERAL MONTHS.

When of syphilitic origin, they frequently have a wide distribution and a long duration. Such pigmentations are especially noticeable among the class of patients who frequent the City Hospital, in whom the disease is complicated with alcoholism and often a pre-existing nephritis (Fig. 12).

The nomenclature of tertiary syphilis of the skin is somewhat confusing to the non-specialist. It can perhaps be simplified if we eliminate the word "tubercular" and substitute "nodular"—the latter referring to an intradermic infiltration—while we reserve the word "gumma" for the deeper lesions of the skin and subcutaneous tissue. The localization in the skin or in the subcutaneous tissue necessarily influences to some extent the evolution or conformation of these lesions. The nodular syphilide assumes various outlines—crescentic, kidney or horseshoe shape (Fig. 13). It is not infrequently followed by breaking down of the infiltration, giving rise to ulcers which become encrusted and spread in a serpigenous manner, *i. e.*, scarring is present in one place while a new infiltration forms and is followed by ulceration in another.* This is known as the serpigenous ulcerating syphilide—in reality a gummatous infiltration of the skin. In other places the infiltration may be more diffuse with scattered nodules here and there.

Too much weight is laid by general practitioners on the absence of history of infection and of previous manifestations of the disease. In many cases no such history can be elicitated because the initial induration may have been so insignificant that it was overlooked and the

*In a previous communication the writer, as a result of the histological study of these lesions, offered the explanation that they were due to an extending thrombosis of the smaller vessels at the margin of the patch.

secondary stage so imperfectly developed that it, too, escaped observation. In women who become infected through the utero-placental circulation primary syphilis is, of course, absent, while secondary symptoms do not in many cases develop. In after years tertiary lesions appear—the so-called *tertiarismus d'emblée*. It is these late cases in both men and women that are often wrongly diagnosed lupus and treated by local destructive agents. Many such instances have come under the writer's notice, where irreparable scarring (Fig. 14) has resulted from mistaken ideas as to diagnosis and treatment. The case illustrated was plainly one of late syphilitic granuloma, but was treated for lupus and much time was lost, resulting in destruction of the lower lid and permanent deformity. A differential diagnosis between late serpigenous syphilides and lupus vulgaris is usually not difficult, but the accompanying illustration (Fig. 15) shows a doubtful case which had been vigorously treated with large doses of potassium iodid, mercurial plasters and ointments for a long time before the lesion responded to treatment. There were no lupus nodules in the scar tissue of the centre of the patch. The nose and cheek were the seat of fungating lesions which did not yield to antisyphilitic treatment until they were freely curetted. The long persistence of a granuloma in one locality with slow progression and little tendency to ulceration is presumptive evidence in favor of its tuberculous nature. Specific lesions generally show a greater disposition to ulcerate or to undergo involution. This rule, however, has exceptions, for some of them are notably persistent even with active medication. Fournier refers to syphilitic granulomata of fifteen or sixteen years' duration, and we recognize forms of interstitial glossitis which continue indefinitely. In certain cases the two affections may be so similar that even the most experienced observers are obliged to carefully consider the evidence which favors the one or the other, and may even be obliged to resort to the therapeutic test before a positive decision can be reached.

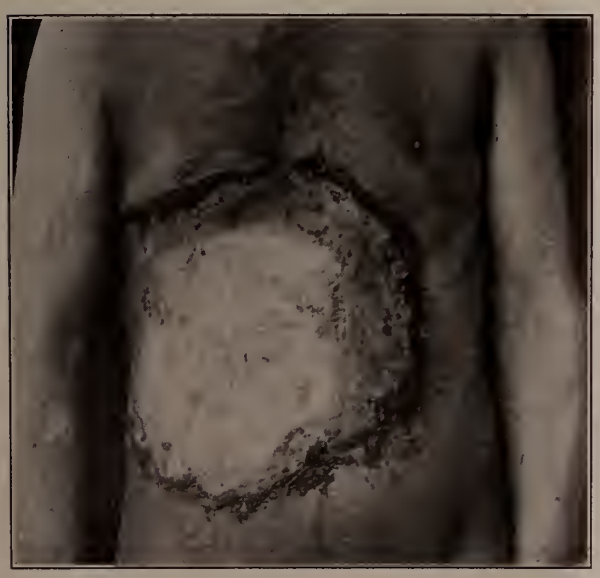

Fig. 13.—Serpigenous Ulcerating Syphilide.

Fig. 14.—A Nodular Syphilide of the Face which was Treated for Lupus Vulgaris. It Yielded Promptly to Specific Medication, the Contraction of the Scar Producing Ectropion of both Lower Lids.

Late lesions may sometimes present a picture similar to lupus erythematosus. Such an instance was recently seen by the writer in a woman with a lesion of four years' duration situated over the bridge of the nose and extending to the cheeks, not unlike the nodular form of lupus erythematosus. She gave no history of infection or of a previous cutaneous eruption. She had been treated with iodids for six months without result; however, the lesion yielded in about two months, when she was placed on mixed treatment in increasing dosage. Histologically, the tissue also resembled most strikingly that of lupus erythematosus in the focal character of the infiltration and the degeneration of the upper corium, the only evidence in favor of lues being the involvement of the larger vessels.

In all the stages of syphilis the lesions may assume a rapidly destructive character—the so-called phagedenism. This may be seen in the initial lesion, in the secondary and relapsing stages, as well as in the tertiary manifestations. The writer has observed instances in the secondary stage where the breaking down of the infiltration was so rapid that mutilation of important organs occurred before a therapeutic effect could be obtained. In such cases it has been noted that the therapeutic influence of the iodids in arresting the progress of the destruction is greater than that of the mercurials. Although the indications for the administration of the

iodids are not usually present until the later stages of the disease, experience shows that often within the first six months or year their effects are more rapid than mercury. These cases, to which the name malignant precocious syphilis has been given, may closely simulate the ulcerative and encrusted eruption produced by the iodids, ecthyma térébrant or other infectious processes of the skin. Late syphilis may manifest its phagedenic character in the destruction of fingers and toes (Fig. 16) following a periostitis or osteomyelitis.

Too little attention, perhaps, is given by the student of syphilis to the conditions brought about by an obliterative endarteritis, such vascular changes being responsible for localized gangrene, the symptoms of Raynaud's disease and erythromelalgia. Congestive areas of the skin induced by the involved smaller vessels may lead to a cutaneous atrophy though an antecedent infiltration may be absent, as in the case reported by the writer under the title of "Symmetrical Cutaneous Atrophy with the Coincident Development of Syphilis of the Skin and Nervous System" (*Jour. Cutan. Dis.*, 1904, Vol. XX., p. 155).

FIG. 16.—SYPHILITIC OSTEOMYELITIS OF THE TOES. Girl, aged 17. She contracted syphilis two years ago, and about one year ago developed a dactylitis of her toes. This extended until two of her toes and part of a third were destroyed. Photograph shows the ulceration undergoing cicatrization.

FIG. 15.—A SLOWLY SPREADING SERPIGENOUS SYPHILIDE, WHICH SIMULATED LUPUS VULGARIS, BUT FINALLY YIELDED TO ANTISYPHILITIC MEDICATION.

This paper is intended by no means to be a comprehensive discussion of the differential diagnosis of syphilis from other affections with which it may be confused. It simply touches upon some of the experiences which have been met with in the hospital and private practice of the writer, in the hope that they may be suggestive to others who are confronted with similar problems. It cannot be sufficiently emphasized, however, that the cutaneous manifestations of the disease are not its most important ones. Dermatologists, perhaps, are apt to lay too much weight upon the external evidences of the malady and forget that it is a general infection which may produce most serious lesions of the viscera and nervous system, in the latter case often irremediable. In looking, for instance, at a tertiary ulcer of the skin in a patient apparently in good health, and which heals readily under the influence of antisyphilitic remedies, we should constantly keep in mind that an analogous condition in the spinal cord or brain may destroy tissues essential to the normal function of the part or even to life.

ACUTE INTESTINAL OBSTRUCTION, WITH ESPECIAL REFERENCE TO POST-OPERATIVE OBSTRUCTION.*

By JOHN B. DEAVER, M.D.

PHILADELPHIA, PA.

THE opportunity of addressing this Society I regard not only as a pleasure but a privilege. It has been my good fortune to speak in this splendid meeting place before, therefore I am not a stranger here.

In choosing a subject I was influenced to speak upon Acute Intestinal Obstruction; a condition that is frequently met with in the experience of both the internist and abdominal surgeon. Acute intestinal obstruction is seen more frequently by the internist as a primary condition, and by the abdominal surgeon as a secondary or post-operative condition. As this subject interests both the medical as well as the surgical practitioner, I believe that we can consider it together profitably.

Strictly speaking, Acute Intestinal Obstruction is "a condition in which the lumen of one or more portions of the intestine is occluded, and the normal forward movement of its contents entirely suspended." (Boas.) In a broader sense, however, it will be seen at once that obstruction, *i. e.*, interference with the normal movements of the intestinal contents of such a grade as to be complete, can and does take place when there is no mechanical occlusion of the bowel—as for instance, in dynamic ileus.

Etiologically, acute intestinal obstruction may be divided into numerous classes, each determined by the pathological condition causing it. The etiology and pathology are therefore essentially identical, and I will briefly mention the more common causes of the condition under discussion. They can be divided into two great classes:

I. Those in which the obstruction is mechanical.

II. Cases of dynamic ileus.

In cases of obstruction other than those following operation, the first group is by far the most important. The four fundamental varieties of acute mechanical obstruction are: (Treves)

1. Strangulation—where the intestine is snared, as by bands or herniæ.

2. Torsion—where it is twisted, as in volvulus.

3. Invagination—*i. e.*, intussusception.

4. Obturation—closure, as by a gallstone, enterolith, foreign body or feces.

The first class is the one which furnishes us with the greatest variety of pathological condition. Thus we may have peritoneal adhesions, cords of omentum, Meckel's diverticulum, slits in the mesentery or peritoneal ligaments acting as strangulating agents. It was my misfortune, some years ago, to lose a case of chronic appendicitis because of an intestinal obstruction following the operation. At the autopsy a strangulation of the ileum was found, caused by the intestine slipping through a slit in the mesentery.

The internal herniæ, such as diaphragmatic hernia or hernia into the fossa duodeno-jejunalis, into a rent in the mesentery or omentum are occasionally found. Of course, the most frequent and typical example of this form of obstruction is found in strangulated external hernia, which, however, it is not my purpose to consider in this paper.

Whatever the underlying cause, the acute obstruction, when established, gives rise to a certain series of symptoms. They vary in severity according to the nature of the obstruction, and the other circumstances of the patient's illness. The general symptom group is, however, quite characteristic.

Before considering the symptoms it would be well for us to note the truth of Treves' dictum, that the obstruction itself is not the important thing in giving rise to the symptom complex—the manifestations of the lesion do not depend primarily upon it.

Rather they are evidences of a severe injury to the peritoneum and correspond to an acute peritonism. After this manifests itself we have the symptoms of the obstruction itself, and finally, if this be unrelieved, the terminal symptoms of an intestinal sepsis or auto-intoxication supervene. It is because the symptoms of peritonism are the primary ones that occasionally a difficulty in diagnosis arises at the very beginning of an acute obstruction. It becomes clear when the signs of occlusion or sepsis come on, but then it is often too late to follow a diagnosis by successful treatment. There is nothing more distinctive than the clinical picture of an acute obstruction, of some days standing—it is unmistakable—but in the first stage it may simulate quite a few of the other acute intra-abdominal lesions.

The subjective symptoms of acute intestinal obstruction are pain, nausea and vomiting and retention of gas and feces.

Pain.—The pain of acute intestinal obstruction comes on, as a rule, suddenly, and is generally referred to the neighborhood of the umbilicus. The location of the pain, with possibly a few exceptions, has no apparent connection with the seat of the obstruction. It is described as being much like a severe form of colic. Recent research upon the causation of abdominal pain by Lenander and others, which attribute pain in ileus not to a direct pain in the intestine itself, but to traction upon the mesenteric attachment of the gut, would tend to demonstrate still more clearly that the supposed location of the pain is absolutely no guide to the real location of the lesion. The older text books state that the pain is relieved by pressure. I have never found this

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to be so in any of the cases that have come under my observation, on the contrary the pain is increased. In complete obstruction the pain is continuous with marked exacerbations; in the incomplete form it may be intermittent. Attempts have at times been made to differentiate several varieties of pain in different forms of obstruction, but I have never been able to note great differences. Rare cases have been reported in which the pain has been intermittent, even in complete obstruction, or even entirely insignificant. This latter class of cases is indeed rare. The existence of very little pain would be quite liable to lessen greatly the certainty of a diagnosis of acute obstruction in any given case.

Vomiting is a very common symptom of obstruction. It rarely is the first symptom, as the pain almost always precedes it, but it soon supervenes. At first the vomitus consists of the stomach contents, next of bilious matter, and still later it is stercoraceous in character. It is to be noted, however, that this stercoraceous material is not truly fecal, but it is merely decomposed contents of the intestine. Stercoraceous vomiting is more often seen in the obstruction of the small than of the large intestine. The vomiting becomes more severe as the obstruction continues and may rarely even be bloody. It is not so common now to see the cases in which stercoraceous vomiting is well marked and of several days' standing, because as a rule the cases come to operation before this stage of obstruction has been reached.

Constipation in its true sense is absolute from the very start of the illness if the obstruction is complete. That is to say, the bowel does not empty itself of either feces or gas. Naturally some of the contents of the large bowel below the obstruction may be removed by enemata or other artificial means. Therefore we must not be deceived by the expulsion of feces or a small amount of gas immediately following the administration of an enema. In intussusception we often have a spurious diarrhea, at times bloody, at the onset of the disease. This is apt to be deceptive, especially in those cases in which a gastro-enteritis with a pronounced diarrhea has preceded the intussusception.

Tenesmus is at times associated with the constipation, almost exclusively in intussusception and in cases where the obstruction is not quite complete.

Objective Symptoms.—Collapse, in some cases owing to the acuteness of the pain and suddenness of the occlusion, may be found in the early stage of the obstruction. Generally I have not found it to be a marked feature until the obstruction has been established for some few hours at least. The temperature may fall or rise slightly. In my experience the temperature is normal or subnormal until peritonitis occurs; then it rises. If the peritoneal irritation is so great as to give rise to true shock, the pulse may show this by being rapid and weak. Often, however, in cases of acute obstruction seen at the very outset, the pulse is quite slow and of fair quality. In post operative ileus, where the patient is already exhausted, the pulse deteriorates more rapidly and is more significant than in a primary obstruction. The respirations may be accelerated, and become thoracic in character if a severe peritoneal irritation or beginning peritonitis are found. As the obstruction continues the patient's expression becomes anxious, the tongue becomes dry and great thirst is complained of. The amount of urine excreted is diminished if the obstruction continues. These objective symptoms mentioned, should, as a rule, not be seen by us. Collapse may occur at once, but our diagnosis should be made and our treatment instituted before a poor pulse, rapid respiration and anxious expression show themselves as the manifestations of a neglected intraperitoneal condition.

Tympanites occurs to some extent in practically all forms of obstruction. General tympanites is much more marked in obstructions of the large bowel than in those higher up. As this is one of the accompaniments of so many peritoneal conditions its diagnostic value is not great. Worthy of still less attention is the distention of one portion of the intestine. This is mentioned by some authors as being an aid to the diagnosis of both the presence and the location of an obstruction. It is worse than useless to rely upon this sign. It is, when present, more apt to be misleading than to help us to a correct estimate of the case.

Increased peristalsis is invariably present in cases of acute intestinal obstruction. It can be recognized in several ways. In a thin subject we can at times see the exaggerated peristaltic movements through the abdominal wall. Often by the application of the ear or stethoscope to the abdomen the peristaltic movements are audible. Occasionally they can be noticed reaching a certain point and then coming to a sudden stop. Exaggerated peristalsis is said to be generally much more marked when the obstruction is comparatively low down in the intestine.

The presence of a tumor is not a very reliable symptom, except in intussusception, where it is said to be present in fifty per cent. of the cases.

The foregoing list includes the important symptoms of intestinal obstruction as found in its various forms. Granted that they are present in one or another combination—and nearly all except tumor are present in practically every case—it is usually not difficult to diagnose the presence of an acute obstruction. The principal conditions from which we must differentiate acute intestinal obstruction are:

In simple colic the history, physical examination and transient character of this ailment do not leave us long in doubt.

Acute pancreatitis, renal and biliary colic at

times give us symptoms simulating the beginning of an obstruction, but usually show their true nature in a very short time.

Poisoning and cholera have been mistaken for obstruction, but rarely so, and are usually easily distinguished.

Appendicitis, beginning as it does with pain followed by vomiting, may at times simulate obstruction. The absence of absolute constipation, the early cessation of vomiting, combined with localized tenderness in the region of the appendix, should soon put us on the right track. An elevation of temperature and increased pulse rate is particularly marked in children in appendicitis, but not in obstruction, until later on, at least. The presence of a high leucocyte count would also argue in favor of some acute inflammatory trouble as against obstruction.

Acute pancreatitis at its onset may simulate a beginning acute intestinal obstruction. I have seen several such cases. The location of the pain and resistance in the epigastrium, the more marked collapse, with perhaps slight jaundice, and the rapid pulse should make us think of a pancreatitis. The tympanites is also chiefly in the upper abdomen, and the vomiting as a rule is very persistent.

I have seen a case which presented the symptoms of an acute obstruction, in which at operation there was found an ovarian cyst, twisted on its pedicle, which was not large enough to be palpated.

Practically no other conditions give rise to symptoms liable to be confused with those of acute intestinal obstruction. The diagnosis of an obstruction of some sort, is then, as a rule, not usually difficult, except in acute cases where much morphia has been given.

The differential diagnosis of the various forms of primary intestinal obstruction is most unsatisfactory. Beyond the probable differentiation on the basis of age, etc., intussusception is the only one which gives symptoms peculiar to itself. The relative severity of pain or rapidity of onset in the various forms, or the nature of the pain or presence or absence of distention are too variable by far to be useful in any except differential diagnosis. A previous operation would naturally lead us to expect the obstruction to be due to bands of adhesions.

But, as will be seen later, this differential diagnosis is of no importance in reference to treatment.

So far, I have been speaking of what might be called primary obstruction, *i. e.*, that form in which the obstruction comes on suddenly without an immediately preceding cause. In many ways, however, the subject of post-operative obstruction offers a field of greater interest. It is to some degree constantly occurring. Its treatment is to some still an open question. Recent thorough studies of it in an experimental way, while throwing much light on the method of its causation, have led some enthusiastic operators into statements and deductions based on very little clinical material or experience.

I divide cases of post-operative ileus into three classes:

1. Those following immediately after operation.
2. Those the result of mechanical intestinal obstruction.
3. Those the result of septic peritonitis.

The obstruction following immediately after operation is in most cases due to excessive handling of the viscera, or at times apparently caused merely by prolonged anesthesia and operation. Such an obstruction might occur with equal frequency in clean and septic cases. It is a true form of dynamic ileus, produced directly by the causes mentioned. Most important of all the factors is, as Cannon and Murphy have shown experimentally, the question of handling. Their researches show that while prolonged anesthesia alone and simple exposure of the gut to the air, in animals, had no very great effect on peristalsis, even slight handling of the stomach and intestines caused very marked gastro-intestinal paresis. This occurred even when the viscera were handled intra-abdominally or under saline solution. When they were removed from the abdomen and gently handled the effects were more marked. And an extreme degree of paresis resulted from rough handling of the intestines. It has seemed to me at times that simple traction by retractors carried out too forcibly, and causing irritation of the parietal peritoneum, has caused some intestinal paresis, other causative factors being apparently absent. And not alone by mere digital or instrumental handling can the viscera and parietal peritoneum be injured. The rough or careless introduction of gauze packs can give us the same bad results, as can also the inexpert placing of materials for drainage. It is not enough to be aseptic within the abdominal cavity, we must also be gentle. Surgeons are prone to think and act as if with asepsis anything is permissible within the abdominal cavity, but this is to my mind an entirely wrong attitude. Whatever may be the true reason of a paresis following manipulation, whether it proceeds directly from some purely local cause or indirectly from the spinal cord, its occurrence is an undoubted fact.

Post-operative obstruction due to mechanical causes occurs generally in septic cases. It may be due to newly formed adhesions or to gluing together of coils of bowel or bowel and omentum by plastic exudate. Naturally this is rare in clean cases. The greater the area infected, the more it is disturbed, and the more roughly it is invaded, the greater will be the likelihood of an obstruction. Insufficient drainage of septic abdominal fluids, pus and sero-pus, would lead to circumstances favoring its occurrence. This is but another point showing us the importance

of good drainage in any case where any drainage is indicated. Much of the drainage, especially where gauze is used, defeats its own intention, and keeps in septic material which it should carry off. Then again, drainage gauze if applied so as to irritate normally or abnormally contiguous gut surfaces, will also tend to give rise to conditions favoring the occurrence of obstruction. I have known gauze drains to obstruct directly the intestinal lumen, so that their removal alone caused all symptoms of obstruction to subside. In this possible mechanical obstruction by gauze and its insufficiency for the drainage of amounts of fluids and its tendency to irritation we have the strongest argument for the use of tube drainage, when drainage is really indicated. It is surer and quicker and less liable to pave the way for complications.

Post-operative obstruction as the result of sepsis is not uncommon—indeed it is more common than both the other forms. The spread of a peritonitis or beginning of one after operation, seems at times to be unavoidable. And in the presence of a marked peritonitis at time of operation, one which is widespread and virulent, it seems often to be impossible to avoid obstruction. Naturally, the more the infection is spread during the operation, the greater is our liability to produce a general peritonitis and its sequel—peritonitic obstruction. And after it subsides, it leaves the patient in danger of having an obstruction occur at some future time by adhesions or bands formed during the course of the peritonitis.

It is often a matter of difficulty to determine which of the three factors mentioned is the cause of a post-operative bowel paresis. At first, *i. e.,* immediately after the operation, we may be in doubt as to whether we have a simple paresis or one due to a beginning peritonitis—later on, whether it is due to a local peritonitis, the result of a forming secondary collection or of some mechanical cause. Often two or more factors are associated.

Between obstruction due to paretic distention or obstruction due to bands, kinks and so forth, diagnosis is usually clear, particularly if the patient is seen early in the course of the disease. A diagnosis from obstruction due to peritonitis consequent upon the formation of a secondary collection of pus, on the surface would look as though it should be readily and easily made, yet this is not always true. Obstruction due to embolism and thrombosis of the vessels of the mesentery is a diagnosis difficult and often impossible to make.

Mechanical ileus has a delayed invasion, from a few days to several weeks after operation. The onset is sudden, the pain is sharp and localized; tenderness and meteorism are confined at first to one region, vomiting may not come on at once, but is conspicuous as the case progresses.

In peritonitis the invasion is early, pain, restlessness and anxiety are observed from the first, vomiting is one of the first symptoms; meteorism is general; epigastric distention is first noticed; the pulse is fast, it may be wiry; the temperature is elevated; constipation may not be absolute at first or even later on.

In mechanical ileus due to adhesions etc., the prognosis is good. The early recognition of the condition determines the prognosis.

Before considering the treatment of the various forms of acute intestinal obstruction allow me briefly to call your attention to a number of cases which have come under my observation in the last few years.

In the past three years there have occurred in my wards at the German Hospital seventeen cases of acute obstruction not immediately following operation. Etiologically they were classed as follows:

Adhesions from former operations	8	cases
Dynamic ileus	3	"
Intussusception	2	"
Stenosis of bowel	2	"
Adhesions following appendicitis—not operated upon	1	"
Strangulation by peritoneal slit	1	"
	17	cases

Of these 17 cases, 15 were operated upon, the remaining two being moribund on admission. Of the 15 operated cases 8 recovered—3 cases of dynamic ileus, one of intussusception occurring during typhoid fever, one of stenosis of the bowel, and 3 of the 7 adhesion cases.

The mortality therefore was under 50 per cent.

In this same period of time, in which there have been in my wards over 4,000 laparotomy cases, we have had 8 cases of obstruction immediately following operation, about one-fifth of one per cent. of the total.

Of these, 6 occurred after acute appendicitis—all drainage cases—one after a supra-vaginal amputation of cervix for fibroid and one after resection for a diverticulum of the sigmoid.

Of the 8 cases, 4 were caused directly by new adhesions, 3 by angulation of the bowel as a result of adhesions, and one was a case of dynamic ileus. The case of dynamic ileus followed the hysterectomy, and was probably brought on largely by the too free use of morphine immediately after the operation.

The results in these cases were not as good as in the primary obstruction. But two or 25 per cent. of the cases recovered. This is due largely to the very grave nature of the primary lesion.

At the Children's Hospital, on the service of by brother, Dr. H. C. Deaver and myself, there have been in the same period of time 10 cases of acute intestinal obstruction; all were operated on and all recovered. One of these was due to adhesions following several years after an operation for appendicitis. All the others were

strictly post-operative. Of these remaining 9 cases 8 were due to adhesions, and one was a case of dynamic ileus.

The discrepancy between the results in the adults and children is hard to explain, even knowing as we do, the greater powers of resistance that the young sometimes exhibit.

As to the treatment of acute intestinal obstruction, I shall consider that of the primary and post-operative forms separately, dwelling at greater length upon the latter.

When, in a previously healthy individual, or rather, one not recently operated upon, we are able to diagnose an acute intestinal obstruction, there is but one treatment. The patient's only hope lies in surgical intervention at the earliest possible moment. Not when the obstruction has been present four or five days, with fecal vomiting and increasing intoxication. Not as a last resort, but as a first treatment. It is to be regretted that often the surgeon is called when the pathological process has advanced to the point where restoration of the parts is impossible. The importance of an early diagnosis is paramount.

I regret to say that the use of morphin is often responsible for delay. An acute abdominal pain which calls for a second dose of morphin to relieve it is, in my experience, more often the result of a lesion which is more safely dealt with by opening the abdomen than by expectant treatment. I believe that the administration of morphin is often responsible for disastrous results in cases of acute obstruction. Purgatives were known to be harmful even in the times when abdominal surgery did not exist. The older physicians realized their helplessness in acute intestinal obstruction and were always hoping for some rational form of therapy. Surgery has brought it—then why should we use methods which decades ago were found entirely inadequate, useless, harmful. The treatment of such purely surgical and mechanical conditions by medical means should not even be considered by any rational practitioner.

One of the most important steps in the preparation of the patient, I regard as lavage before anesthesia. And here I raise my voice against the practice of lavage under anesthesia, on account of the great risk of regurgitation into the trachea and a resultant septic pneumonia, if not immediate drowning.

The operation must of course be complete, anything short of this being useless. The two conditions constituting important factors in the pathological condition, if it is allowed to advance, are obstruction to the fecal circulation and the absorption of toxic material from the distended portion of the bowel above the obstruction. It will be readily seen that the relief of the obstruction must be dexterously and rapidly done, also the emptying of the distended bowel of toxic material accomplished if the best results are to be obtained. If the patient is in such poor condition that this cannot be done, and that we can only relieve the bowel by an enterotomy, hoping later to be able to do more, the prognosis will be less favorable. Unless the patient has almost become beyond all operation it is wise, with appropriate stimulants before and during the operation, to attempt at least relief of the underlying condition. Very often the obstructive band or adhesion, if such be the cause, can be quickly found and relieved. It is of course desirable to do as little surgery as possible to relieve the patient, and not add the shock of a grave and complicated proceeding to the already existing depression.

When we have to perform a resection or intestinal anastomosis the operation becomes longer and more complex, therefore more grave in its prognosis. This is especially true where resection is indispensable. The patient's chances are in exact ratio to the length of time the obstruction has existed before the operation and to the complexity of the operation and the length of time it consumes.

The treatment of post-operative obstruction must really begin before the operation, if I may so put it.

When we have a case of appendicitis or cholecystitis, or any inflammatory condition within the peritoneum, we invite the occurrence of a post-operative obstruction if we allow the disease to reach the stage of suppuration and peritonitis. A case of appendicitis operated upon while the trouble is intra-appendiceal is far less liable to have obstruction after operation than one in which a localized peritonitis is allowed to come into existence. So that often a surgeon invites a post-operative complication by delay before the first operation.

During the operation itself all unnecessary handling of viscera and evisceration should be avoided. The intestines, if necessarily drawn out of the abdomen, should not be allowed to become dry, or to become chilled, but should be covered as far as possible by gauze pads or towels saturated in hot water. All traction on or stripping of the gut should be avoided if it is possible, and minimized when absolutely necessary. Infection, when present, should be limited by judicious handling, and by the gauze protective pads. But in introducing the packs it is necessary to do it with all gentleness, lest we injure the peritoneum and set up an inflammatory or iritative process.

If the operation be done in a septic case we should be sure to have sufficient drainage. If much septic fluid is present we should not rely on gauze drainage alone, but supplement it by the use of glass or rubber tubes. If gauze is used we must be sure that it is so placed as not to interfere mechanically with the action of the bowel in peristalsis, also that the gauze be covered with rubber tissue or rubber dam

interposed between the serous surface and the gauze.

I do not use injections of eserin after abdominal operations, as if everything goes well, we do not wish to stimulate the intestine to over activity immediately after the operation, even if this were possible. Especially is this not to be desired in septic cases—those with an existing peritoneal infection.

In cases of obstruction due to agglutination and consequent angulation of coils of intestine, I have upon more than one occasion relieved the condition by an entero-enterostomy, in this wise side-tracking the site of the obstruction.

After the operation in serious abdominal cases, food, even liquid, should be given sparingly for the first week and I often give no solid food for two weeks, when things again approach the normal and drainage has been removed. For the first two days after operation a little water or ice is the only thing I allow, and often not this. The use of saline by the bowel will go far in relieving the thirst and furnish the body with necessary fluids, while when given by the Murphy method it will also alleviate peritoneal inflammation, lessen the danger of a peritonitis following operation. or greatly benefit an already existing one. I have come to use saline more and more in this way, and have found it to be of great value.

A word of warning would not be amiss as to the use of morphin after operation. As we have seen, one of the causes of post-operative obstruction seems to have been due to the excessive use of this drug, and while I have found that it is at times necessary to administer a small dose of morphin to relieve the patient's pain, its frequent use carries with it an element of danger in the tendency to cause paresis of the bowel.

If, however, in spite of all precautions an obstruction does take place after operation, there is but one treatment—immediate operation. Let us not confuse with true obstruction that slight distention often occurring after operation, the occurrence of which is very common. The latter class of cases is those. probably, in which some surgeons have found such marvelous results from single doses of eserin and then announced this drug a cure for post-operative ileus.

When obstruction is really present, surgical interference is the only hope of the patient. Eserin, in repeated doses, with the use of the ice bags to the abdomen, I have thought valuable in relieving distention, but in true obstruction it is useless. Before leaving this subject I would warn you to be most careful in using this drug, because of its unfavorable action upon the heart. I generally give it in conjunction with strychnin.

The statements made about the use of eserin in so-called obstruction hold good also in the use of atropin under similar circumstances. One of the misapprehensions of the medical man, and I regret to say it appears in the writings of men of reputation, is the belief in, if not advocacy of atropia in intestinal obstruction. This theory is based entirely on theoretical grounds, and I have no hesitancy in stating that I believe it has been responsible. and still is responsible with those who give it, for the loss of many human lives. If physicians who still believe in medication in the treatment of acute mechanical intestinal obstruction would stand at the side of the operating surgeon and see these cases operated upon I feel sure they would abandon such belief in favor of surgical interference.

If an obstruction does occur. it should be diagnosed and operated upon at its onset in order to give the patient his chance. I have often operated for obstruction immediately after the onset of severe pain which could not be otherwise accounted for, or relieved in a reasonable time. When we are compelled to wait for the classical picture of obstruction after operation the situation is often hopeless.

At the operation itself there are two essential procedures:

1. To relieve the cause of obstruction.
2. To establish or re-establish sufficient drainage when infection is present.

In post-operative obstruction the first is accomplished as a rule without difficult surgical procedures, as we are not so apt to have the unusual initial lesions to deal with that we find in primary obstruction. We must look for evidences of infection, in already infected cases for the presence of bands beginning to form or new adhesions, or the insufficiency or bad placing of drainage material. Opening of the bowel to relieve it of its contents is rarely necessary, because as a rule the patient has had practically no food to accumulate.

The prognosis of acute intestinal obstruction varies entirely with its nature and the length of time it has lasted before operation. In the primary form the nature of the underlying cause changes the aspect of the case a great deal. But even here by far the most important factor is delay—time wasted in useless medication—which loses the patient his only chance of recovery. Operation should immediately follow diagnosis. At best, ileus is a grave condition—every hour or minute lost increases its gravity.

In the post-operative form the same is true. Immediate secondary operation should follow the diagnosis. Reliance on drugs is based on single cases insufficiently studied out, on the misinterpretation of experimental work, and a lack of understanding of the whole clinical side of the question.

AVULSION OF THE BICIPITAL TUBEROSITY OF THE RADIUS.*

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WITHIN the past four years I have encountered three cases of avulsion or fracture of the bicipital tuberosity, unattended by other injury of the elbow joint.

This variety of fracture being, among surgical writers, one of the unrecognized injuries of the osseous system, apology for bringing the subject to your notice will not be attempted and, without further introductory remark, brief histories of these cases are submitted for your consideration:

CASE I.—Healthy, well nourished child, one year old, grasped by its hands, arms extended and, without other support, lifted from the floor over the back of a high chair.

Examination, two hours after injury, disclosed loss of voluntary movements in the right upper extremity. Forearm supinated, elbow semi-flexed and moderately swollen, the point of greatest swelling being over the upper anterior aspect of the forearm, immediately below the joint flexure. The biceps muscle was contracted and the terminal tendon was in a state of fixed tension.

Under anesthesia, passive motion showed that the head of the radius rotated with the shaft of the bone and a faint but distinct crepitus was elicited. Manipulation, finally revealed separation of the bicipital tuberosity, pressure over its site, with the forearm semi-flexed, inducing crepitus at will. The other bony structures of the elbow joint were carefully examined without further injury being found. A posterior right-angled splint was applied and maintained for four weeks after which all mechanical restraint was removed. Seven weeks after the receipt of the injury, the joint function was perfect.

CASE II.—A well developed, male child, three years old, weighing about forty pounds, was lifted by its hands, without other support, from the floor and swung over its father's shoulder.

Half an hour after receipt of the injury, right upper extremity showed loss of voluntary movement. Forearm supinated, elbow semi-flexed, rigid and swollen. Swelling greatest, anteriorly, just below the bend of the elbow. Spastic contraction of the biceps muscle with tenseness of its terminal tendon was noted, the same as in Case I.

Passive movement, under anesthesia, showed that the radial head rotated with the shaft of the bone. Crepitus was readily elicited and a careful search disclosed separation of the bicipital tuberosity. No other injury could be discovered.

A posterior elbow splint, as in Case I, was applied and continued for five weeks, when all restraint was removed. Some stiffness of the elbow joint resulted, which completely disappeared during the month following.

CASE III.—A strong, muscular boy, nine years old, fell a distance of four feet, from a suspended riding saddle, striking the floor with the palm of the left hand, the extremity, as he informed me, being fully extended.

Three hours after the accident, the left upper extremity showed, almost complete loss of voluntary movement. Elbow rigid, semi-flexed, forearm partially supinated, radial head rotating with shaft of bone, terminal tendon of the biceps muscle elevated and tense. There was noticeable swelling over the head of the radius, posteriorly, suggestive of displacement, but palpation showed that it was in its proper place and evidence of fracture or epiphyseal separation was unobtainable. Pressure over the terminal tendon of the biceps caused severe pain and was most pronounced at the point of its insertion upon the bicipital tuberosity. There was some swelling at this point which was considerably increased forty-eight hours later. Crepitus could not be elicited and the injury was considered an incomplete or partial avulsion of the terminal tendon of the biceps from the bicipital tuberosity. Careful examination failed to disclose other injury. A right-angled, anterior splint was applied, which was removed and re-applied at the end of the third week and continued until the twenty-eighth day, when it was dispensed with. Considerable stiffness of the elbow joint resulted which, at the end of eight weeks from the time of the injury, had fully disappeared, there being no deformity, except a slight thickening over the site of the bicipital tuberosity. There was no interference of motion, the joint function being perfect.

In the opening part of this paper I stated that this form of injury was not recognized by surgical writers. A search of the literature at my command failed to show mention even of avulsion of the bicipital tuberosity and to secure the fullest possible information on this subject, I wrote to the office of the Surgeon-General concerning its literature.

Under the date of October 9, 1907, Dr. Robert Fletcher, Principal Assistant Librarian of the Surgeon-General's office, wrote the following reply:

"There is little or nothing in works on surgery in reference to the particular injury you describe. I think, however, that many cases described as fracture of the radius below the tuberosity were actually of avulsion of the last. One particular case, the reference to which is subjoined, while it has the heading mentioned, is, I think, undoubtedly a similar case to those which you have described. I am sure that you are remarkably favored in having seen three such interesting cases. The entire literature in our Index Catalogue with reference to injuries of the radius has been looked through, but I can furnish you no parallel case to your own."

The case referred to by Dr. Fletcher as being a similar case to those which I have described is found at page 795, Vol. lviii, *New York Medical Journal*, 1893, and is entitled "Fracture of the Radius Immediately Below the Bicipital Tuberosity," by I. S. Haynes, M.D. As I am strongly inclined to agree with Dr. Fletcher that the case described by Dr. Haynes is one of avulsion of the bicipital tuberosity, the report of the latter is given in full:

"Harry R., aged four years, July 8, 1891, fell from a bicycle on to his right arm. Just how not known. Examination, a few minutes after accident. Voluntary movements of the forearm and elbow lost. Forearm between pronation and supination at right angle to arm. If it is extended, a swelling appears about an inch below the bend of the elbow over the radius. At this

* Read by invitation before the Auburn City Medical Society, March 19, 1908.

point there is abnormal mobility and greatest pain, but no crepitus elicited.

Diagnosis.—As above.

Treatment.—Plaster-of-paris splint applied, with forearm completely supinated and flexed to ninety degrees with the arm.

New splint July 15; removed August 4; union perfect.

Pronation and supination only one-third and slight stiffness at the elbow, which disappeared after three or four weeks without interference, giving perfect movements at elbow and between the radius and ulna."

Some years ago, when more dependent than now, upon the description of surgical writers for a correct diagnosis of fractures, I encountered, in a child about three years of age, a fracture just below the anterior bend of the elbow, which I thought to be a fracture of the coronoid process of the ulna. This impression of the injury I believe was incorrect, as dislocation of the elbow did not occur, and to the best of my recollection, the crepitus which was obtainable in this case was over the site of the radial tuberosity, rather than the site of the coronoid process. Another reason for believing that the case was not one of fracture of the coronoid process, is that this variey of fracture is one of extreme rarity, and in the few cases which have been known to occur—about a dozen in all according to some excellent authorities—were associated with backward dislocation of the forearm, and in several of these cases, while reduction of the dislocation was easy, retention was impossible with the methods then in use. However, there are a few specimens to be found in the museums showing fracture of the coronoid process of the ulna, but only one or two of these cases were uncomplicated by other injury.

The history of the cases given indicates that this form of injury is confined principally to the early period of life, the eldest subject of the group being only nine years old. It is, however, reasonable to suppose that no period of life is exempt from this accident, as muscular force applied to the biceps may avulse the bicipital tuberosity just as muscular force may produce avulsion of the humeral tuberosities.

In conclusion, I cannot refrain from expressing the opinion that, although surgical writers have failed to mention avulsion of the radial tuberosity, this injury is not, in my opinion, so infrequent as it appears to be, and, without doubt, many so-called cases of elbow sprain—notably the "jumped elbow"—were, in reality, cases of avulsion of the bicipital tuberosity. It is, therefore, evident that the subject of osseous avulsion, in its widely different forms, has not received the attention which its importance demands.

PHYSICAL THERAPY WITH ESPECIAL REFERENCE TO THE TREATMENT OF LATERAL CURVATURE.*

By ARTHUR HOLDING, M.D.

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UP to the time of Lister's measures of antisepsis, mechanical methods in medicine lacked exactness, but immediately following, mechanical applications for the relief of human ills multiplied rapidly. Modern surgery, aided by anesthesia, has gone so far as to allow us to enter the previously forbidden confines of the skull, peritoneal, joint, pleural, and pericardial cavities in the living subject and there to adopt mechanical methods to correct existent ills. In more recent years Rontgen, Finsen, Lorenz, Bier, have instituted methods which require mechanical skill. The extensive use in surgery of electricity, both for diagnostic, lighting, and cautery purposes have also aided in placing mechanical agencies among the most prominent in therapy to-day.

In our country massage and corrective gymnastics have not received their due attention. Just as the devotees of "similia similibus, etc.," were beacons which lighted us off the shoals of excessively large doses of medicine, so has a more recent therapeutic cult called the profession's attention forcibly to these neglected branches and particularly to that much overlooked, maltreated, neglected lesion, scoliosis or lateral curvature.

We recognize the importance of having the lines of the foundation and framework of a building true and correct, but deviation from the normal lines in the vertebral column and framework of the human being frequently escapes our observation entirely.

As a result of the examination of 307 supposedly normal boys and young adult men during the past year by a corps of medical examiners, 78 cases of postural defects and 19 cases of pronounced scoliosis were found expressed; in percentages, 22 per cent. showed postural defects; 6 per cent. had scoliosis. My experience in such examinations would lead me to believe that scoliosis is even more common than these figures indicate, especially among people suffering from poor health. I find as a rule that the boy showing defective posture has either a lateral curvature, lordosis, flat thorax, or abnormal antero-posterior curves of the spine, which need recognition and correction.

I will not take your time to dwell on these mild cases, consideration of which would come more properly in a discourse on public health and hygiene, but will proceed directly to the consideration of scoliosis. I am convinced that no lesion of the body causes more vague, indefinite

*Read before the Schenectady County Medical Society and the Albany Clinical Club.

and alarming symptoms to the patient before the underlying curvature is diagnosed; no lesion is more frequently overlooked by the physician; nor is any lesion more tedious nor more discouraging to treat and get creditable results than is scoliosis.

Realizing the inadequacy of the use of braces or jackets for the cure of such cases, inasmuch as the body must be developed, strengthened, and trained to hold itself *actively* in a corrected position rather than be held *passively* in a corrected position and allowing the muscles to atrophy from disuse, a Corrective Department was organized in the Child's Hospital at Albany, mainly through the efforts of Dr. A. W. Elting. This department was thoroughly equipped with apparatus and placed in charge of graduates in corrective gymnastics, who give their undivided attention to this work. Each day personal exercises are given to each individual patient in putting him through his corrective work. These patients are referred to this department by their family physicians, many of the patients coming considerable distances from the city.

A thorough physical examination with complete mensuration is made of each patient at the beginning and end of each course of treatment to note progress.

To the physician the most interesting points in these cases are probably the diagnosis and treatment. In this relation I will outline briefly a few observations whose value have been proved in our experience.

Diagnosis.—The consideration of the primary and compensatory curves with the more important rotation on the bodies of the vertebræ, producing torsion, I will not dwell on, as they are thoroughly described in the text books on the subject. When these are present there is no difficulty in making the diagnosis. No physical examination of any obscure medical case should be considered complete unless it included an examination of the back. In such an examination, particular attention should be directed to (1) a symmetrical shoulders, (2) a symmetrical scapulæ (as to their prominence or distance from the line of the spinous processes of the spine), (3) condition of the muscles of the back (especially the erector spinæ) whether flabby or presenting a symmetrical band of contracted muscles, and (4) differences in the loin angles. If a patient is stripped to the hips and his arms are allowed to hang at his sides, a triangular air space is noticed between the inner side of each arm and the angled line of the body at the loin—"the loin angle." A marked difference in the shapes of these two triangles should prompt attention to the spine.

Observation of these details will frequently lead to the recognition of the patients ill-health when a cursory examiner would overlook the underlying condition and cause the patient to be treated as a neurasthenic or be given the routine "tonic" to the end, that eventually the patient is little benefited and soon goes on his or her way, drifting to other physicians looking for relief.

For measuring and charting the deformities, we use among others, two simple but effective devices: (1) adhesive strap lateral curve chart, (2) antero-posterior curvature chart.

Treatment.—The treatment is divided into a number of general sub-divisions:

1—Any differences in the length of the legs or weakness in the foot is corrected by properly modeled shoes or foot-plates.

2—The patient's muscular sense is re-educated. He is taught to sit, stand, and walk in the true erect position rather than in the acquired, deformed position which seems erect to him.

3—Attention to proper dress; suspending the clothing from the shoulders instead of from the waist; guarding against too much clothing; attention to the general health.

4—Systematic training of the spinal and other muscles, including development of the thorax. This is the most important sub-divison. Under this head, one of the first indications is to relieve any spasm of the erector spinæ muscles and supple the spine by suspension and rotary exercises, causing free motion of the individual vertebræ upon one another. Of next importance, is the employment of such exercises as will forcibly tend to correct the deformities. These must necessarily be rather strenuous and between each of these forcibly corrective movements is given a breathing exercise or leg movement with the spine held in a corrected position by a suitable posture. After twenty to thirty minutes of such exercises the patient lies on a couch with sand-bags so placed as to correct the deformity. This period of rest lasts about fifteen minutes.

5—Subsequent home treatment to prevent relapse in the improvement that is to be obtained.

6—Attention to any defects in vision.

7—Correction of any vicious habits. That of biting the finger nails is a particularly common example of vicious habit. If this cannot be overcome by simpler methods, the wearing of gloves suffices.

8—Good nutritious diet. If the appetite is capricious simple nutriment should be insisted on. A bowl of bread and milk or cereal with milk or cream should be ordered for breakfast and the patients be made to persevere in taking a good breakfast even if they complain of some nausea or discomfort at first. This applies especially to those who have been in the habit of taking a half-slice of toast and a cup of tea or something equally absurd for breakfast.

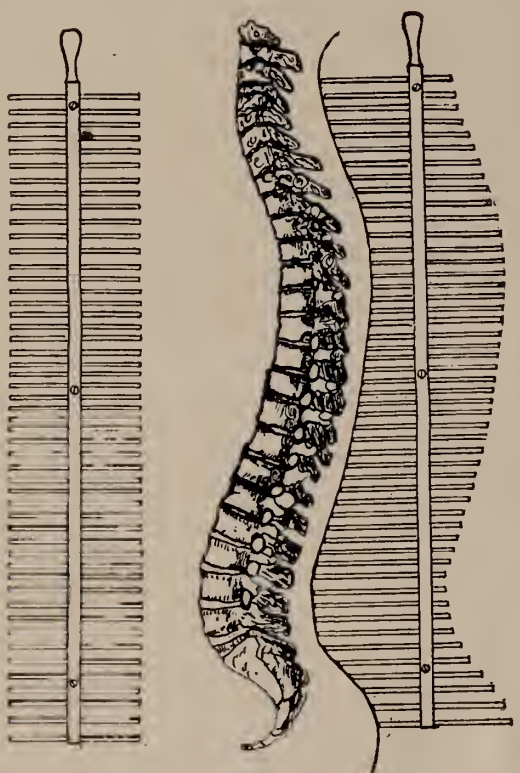
9—Pain, backache, or tender spots usually disappear as soon as muscular contractures in the back are relieved.

The indiscriminate use of vibrators which has come into vogue of late is to be condemned. The vibrator does more stimulating than relax-

ing. It is indicated in asthenic cases but often does harm when applied to contractures in muscles; here constant inhibitory pressure is indicated. The vibrator is a useful adjunct but not a universal panacea. The human hand is a much more scientific and efficient apparatus than any vibrator.

For measuring and charting deformities, we use, among others, two very simple but efficient devices: (1) an adhesive strap lateral curvature chart; (2) an antero-posteriior curvature chart.

The adhesive strap lateral curvature chart is made by placing a common piece of rubber adhesive strip of sufficient width to cover the spinous processes at the point of maximum deformity on either side of the spine; and long enough to extend from the occiput to the sacrum. As soon as this strip has adhered to the skin a mark is made on the adhesive strap over the tip of each spinous process. The strip is then detached and kept in a book as a permanent record of the deformity. Later records are made in a similar manner to chart the improvement under treatment.



SIMPLE DEVICE FOR CHARTING ANTERIOR-POSTERIOR CURVATURES OF SPINE (THE COMMONEST DEFORMITY IN MAN). THE HORIZONTAL PEGS SLIDE WITH EASE THROUGH THE VERTICAL ARM.

TYPICAL CASE REPORTS.

E. P., aged 26, complained of pain in back, malaise and depression, indigestion, acid eructations, constipation, flatulence. After drifting from one physician to another, seeking relief, he finally consulted an osteopath by whom he was treated one year with improvement in all his symptoms. He was not cured however. He was sure he had been helpel in regard to his symptoms but he did not feel that he had gained any in strength. He then consulted a physician who referred him to the Corrective Room. His treatment here resulted in complete relief of all symptoms and a gain in strength. At present he continues to come to the department simply "because it makes him feel so good."

A. G., aged 14, male; sligt primary and compensatory lateral curvature, antero-posterior curvature, malaise, constipation. Under a course of treatment at the Corrective Room lasting four months, this patient's height was increased three and one-half inches and all his girths and breadths were developed in proportion.

THE PATHOLOGY AND DIAGNOSIS OF PANCREATITIS.*

By HENRY GOODWIN WEBSTER, M.D.
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THE observation of the pancreas in both health and disease is no new study, for Wirsung in 1642 contributed an accurate description of its essential anatomy and contributions to our knowledge have been frequent ever since. But whether from lack of technical skill, ignorance of microscopical technic, or misplaced confidence in the sufficiency of naked eye examinations, it is only since Langerhans in 1869 published his masterly researches in its histology that definite advances have been made. In 1890 von Mering and Minkowski proved the association of diabetes mellitus with pancreatic disease, while Opie in 1893 announced that the Islands of Langerhans presided over the glycolytic function of the glands. His studies have thrown a flood of light on the intimate relation between disease of the biliary passages and pancreatitis, a work that has been still further developed by Robson, Moynihan, and Cammidge, whose recently published work on the pancreas furnishes a comprehensive epitome of our present knowledge of its surgical pathology, symptomatology, and diagnosis. A host of other observers must share the credit for studies of the physiology of the pancreas and its secretions and their manifestations in the body's economy.

ANATOMY.

For an intelligent appreciation of the symptoms arising from pancreatic disease the anatomical relation and intimate structure of the gland must be borne in mind. It is usually described as consisting of three portions—head, body, and tail—the latter portions being directly continuous while a constriction intervening between the head and body forms the neck. The gland is hidden behind the stomach at the level of the first lumbar vertibræ, is retroperitoneal, but emerges to the right of that viscus, where the head, of a flat oviod shape, is embraced by the second and third portion of the duodenum opposite the second and third lumbar vertibræ. The neck, about three cm. in length, extends obliquely

*Read before the Brooklyn Pathological Society March, 1908.

upward to the left to join the body which extends transversely to the left, merging into the tail to end at the hilus of the spleen. Anteriorly from right to left the organ is in relation with the duodenum, gastro-colic omentum, transverse colon, and stomach. Posteriorly it rests upon the inferior vena cava, left renal vein, aorta, superior mesenteric vessels, thoracic duct, left kidney, and supra renal capsule. The splenic artery and vein are in relation to the posterior surface and upper border throughout their entire length as is the hepatic artery. The fourth portion of the duodenum and the beginning of the jejunum are inferior, while above and to the right of the neck and head are the gastro-duodenal and superior pancreatico-duodenal arteries. A relation of the utmost importance exists between the common bile duct and the posterior surface of the head which is grooved to accommodate the duct. Helly maintains that while the groove is deep and distinct in thirty-eight per cent. of his examinations, in sixty-two per cent. the duct was completely embraced by pancreatic tissue. It will be seen readily how tumefaction of the pancreas in the latter condition will compress the common bile duct and cause jaundice. Microscopically the gland is made up of acini grouped into lobules which drain into a common duct. A fine connective tissue stroma roughly defines the lobule, while the individual acini are less definitely separated by delicate prolongations of similar connective tissue. Opie states that the islands of Langerhans occupy a central position in the lobules and distinct from the acini in structure and appearance, have no ducts, connect directly with an efferent blood vessel, and are regularly more frequent in the tail where they appear one to each lobul, observations that are in the main supported by the more recent investigation of DeWitt and others. The lobules drain into one of the two main ducts. Wirsung's, the larger, can be traced through the central portion of the entire gland. It emerges through the head, parallels the common bile duct, and after running for two cm. through the wall of the duodenum joins it to form the ampulla of Vater at a point from eight to twelve cm. below the pyloris. The union of the ducts may occur as far as eleven mm. from the orifice of the diverticulum, or the ducts may open separately on its apex. Opie in a hundred cases found an average length of three and nine-tenths mm. Certain cases of acute hemorrhagic pancreatitis result from the plugging up of the orifice by a small calculus which diverts the bile backward along Wirsung's duct to the pancreas. Santorini's duct, the smaller of the two, drains the larger of the two lobes which form the head of the pancreas. It enters the duodenum through a smaller papilla just above that of the Vater, but is patent in only about fifty per cent. of the cases examined. It almost always anastomases with Wirsung's duct within the head, being at times the larger, and may serve as an outlet when occlusion of the main duct occurs.

The blood supply of the pancreas is generous, being derived from large branches of the splenic, hepatic, and superior mesenteric arteries; namely, the superior and inferior pancreatico-duodenal, besides numerous smaller branches. It is noticeable that the efferent vessels empty directly into the splenic and superior mesenteric veins, both tributaries of the portal system. It is innervated for the most part by branches from the solar plexus of the sympathetic with some fibres of the vagus from the cerebrospinal system.

PHYSIOLOGY.

The physiological functions of the gland need to be reviewed only in so far as they bear on the symptoms of its disease. Its external secretion contains a proteolytic ferment, trypsin; a diastasic ferment, amylopsin; and a fat splitting ferment, steapsin. There are also recognized a milk curdling ferment and probably a fifth that attacks lactose. While some physiologists claim that the secretion is activated through the nervous system there is evidence to show that the acid chyme flowing over the mucous membrane of the first part of the duodenum excites a substance that acts directly on the secretory cells of the pancreas through the blood and Bayliss and Starling have extracted a substance called by them "secretin," comparable in some of its properties to andrenalin, which injected into the blood causes active pancreatic secretion. It is also conceded that the tryptic ferment in pancreatic juice is inactive in the absence of enterokinase, a constituent of the intestinal secretion, and that the fat splitting ferment is most active in the presence of bile. If gastric digestion which acts more particularly on the connective tissue of proteid be deficient. so that meats reach the intestine insufficiently disintegrated, or if the normal acidity is much diminished the action of the trypsin is correspondingly delayed, while the saponification of fats is interfered with when the flow of bile is interrupted. Given a normal gastric juice, as determined by the stomach tube, and reasonable hepatic activity we should be able to determine the condition of the pancreatic digestion by observation of the proteid and fatty constituents of the feces.

PATHOLOGY.

The pancreas being a complex organ is subject to a wide variety of diseases from simple interference with its secretion to total destruction of the gland. Acute pancreatitis, as classified by Fitz, includes hemorrhagic, suppurative and gangrenous forms. Chronic interstitial pancreatitis includes the syphilitic variety and two types described by Opie as interlobular and interacinar. All are of varying degrees of intensity. Hyaline degeneration, malignant disease. and cysts with

fatnecrosis, and pancreatic calculi complete the list.

Acute hemorrhagic pancreatitis presents an effusion of blood within the substance of the gland varying in amount from small foci of hemorrhage to complete destruction of the organ. It has been experimentally produced by injecting various substances, notably bile, through the duct. Suppuration may occur in isolated points or generally through the gland, which may be transformed into a single abscess. If the hemorrhage, which seems to be the primary lesion in the three forms first mentioned, be moderate, inflammatory changes with proliferation of connective tissue may occur and the gangrenous form may supervene. Where the initial hemorrhage is sufficient to cause an early fatal issue there are no histological changes except the general disintegration of the parenchyma. As the case to be presently reported does not fall into this class this portion of the subject may be dismissed with a very brief summary of the essential symptoms.

The onset is violent. There may be a sudden severe pain referred to the deep epigastrium with shock and collapse followed by death in a few hours; or there may be a history of previous biliary colic with an attack in no wise different but rapidly progressing into the first mentioned condition. Tenderness to deep pressure may be elicited and an elongated indefinite tumor may be palpable.

Cysts occur in the substance of the pancreas, or they may occupy the lesser peritoneum or present in any one of several positions determined by the peritoneal reflections beneath which they originate. They may be due to obstruction or occur in the course of chronic interstitial pancreatitis. Position diagnosis is not always easy, but may be made after chemical analysis of the aspirated fluid.

The pathology of malignant disease, the most frequent of pancreatic neoplasms, does not differ from that of cancer arising elsewhere, except as the type is modified by the glandular structure that it attacks. Small, round cell carcinoma of the scirrhous type originating in the ducts near their opening is the most common form; while secondary involvement may follow carcinoma of the stomach, duodenum, or liver. Colloid and adenomatous types are met with as is secondary sarcoma, though the primary form is rare. Carcinoma is important in respect to its diagnosis from chronic interstitial pancreatitis. Fat necrosis is an interesting condition often met with in pancreatic disease. White or yellow opaque, rounded areas of varying size in marked contrast to the fat in which they occur are found in the abdominal adipose tissue, usually close to the pancreas, though sometimes as far removed as the subcutaneous or pericardial fat (Chiari-Balser). They are due to fatty acid crystals deposited by the action of the steapsin of the pancreatic juice.

The condition known as hyaline degeneration is seen especially in connection with cases of pancreatic diabetes. The cells of the parenchyma, particularly of the islands of Langerhans, are replaced by hyaline material, of uncertain, though probably of tonic origin. It sometimes accompanies interstitial pancreatitis.

In chronic interstitial pancreatitis we find a growth of new connective tissue invading the gland either around the lobules—inter-lobular form—or around the individual acini—inter-acinar form. The growth is relatively slow and by its increase compresses the lobules and acini respectively, causing interference with their secretory power. Opie contends that the inter-acinar form by its more direct effect upon the individual acini tends to destroy the islands of Langerhans and is an active factor in producing glycosuria, as the glycolytic ferment that is supposed to be their peculiar product is either not secreted or cannot be discharged into the blood. Pronounced general arteriosclerosis not infrequently accompanies this form.

SYMPTOMS.

The symptoms of chronic pancreatitis, whether interstitial or carcinomatous, comprise those arising from impaired secretion as evidenced in the intestinal tract, in certain chemical changes in the urine and feces, in constitutional changes in the body and local manifestations appreciable by physical examination.

The case history is rarely helpful, as it usually is suggestive of gastric, hepatic, or intestinal disease. Indeed almost any chronic disturbance of metabolism may be indicated and one case occurring in the writer's experience was regarded for months as profound malarial poisoning until malignant neoplasm of the body of the pancreas was discovered at operation after a tentative diagnosis of deep abdominal suppuration had been made.

In the presence of tumor, fever, pain and tenderness and such pressure symptoms as hemorrhoids, ascites, gastric stasis, jaundice, enlargement and displacement of the stomach, spleen, or other contiguous organs, a previous history of gradual wasting, intractable gastritis, frequent massive light-colored stools, and frequent epigastric pain should lead one to consider pancreatic disease.

Robson and Cammidge emphasize the occurrence of sharp pain under the left scapula as a valuable confirmatory sign. Jaundice has been previously mentioned. It occurs in cases where the head of the pancreas includes and presses upon the common bile duct, and where associated with pain is indicative of interstitial inflammation rather than cancer. Occasionally a marked tendency to hemorrhage from the mucous membrane comparable to the hemolysis of cholemia but more severe, is met with. Should a tumor be appreciable, or local pain and tenderness be pres-

ent, they will be eliciited on deep pressure just above and to the right of the umbilicus.

Remembering that ulcer of the stomach may by the direct extension of inflammation initiate pancreatitis, we should suspect such a complication in long standing cases of gastritis, especially if after subsidence of the early symptoms anorexia, nausea and vomiting, pyrosis, pain, and especially a distaste for fats and meats persists.

Should there be a previous history of cholelithiasis the presence of possible injury to the pancreas due to the forcing of bile into Wirsung's duct during the passage of a stone should receive careful consideration particularly if there is not a complete disappearance of symptoms in the intervals; and jaundice should never be dismissed as solely due to biliary, hepatic, or duodenal disease particularly when persistent.

Interference with pancreatic digestion causes marked changes in the composition and constitution of the feces, especially in the fats and proteids. The gross appearance of the stools is usually altered so that the movements are bulky, light colored, soft and even mushy and full of unchanged fat, which may coat the surface and appear in masses throughout the substance of the stool. They may be over frequent and are peculiarly offensive. In pronounced cases masses of undigested muscle fibre may be evident to the naked eye. If tested with litmus soon after being passed the reaction is found to be acid instead of the normal alkaline or neutral.

The pressure of muscle fibre should be sought for under the microscope where the search is much more likely to be successful. The change from the normal fatty, actid and soap crystals also is thus rendered more readily apparent, for they are found to be much less frequent while fat droplets are greatly increased. In cases that are not pronounced these changes are best determined by chemical analysis, either by the Soxhlet method which is exact but requires considerable time and technical skill, or by a much shorter process devised by Cammidge, the details of which are giiven in Robson's and Cammidge's recently published work on the pancreas. While the excess of fat is in itself suggestive, it is the great excess of neutral fat over the fatty acids that point to pancreatic disease.

Robson and Cammidge claim that light or clay-colored stools do not necessarily mean absence of bile, which may be determined by the reaction stercobilin, while the characteristic color may be restored to alcoholic stools by heating over a water bath. They claim that the light color is primarily due to large excess of uncombined fat. In the differential diagnosis between carcinoma and pancreatitis, as the result of an analysis of a hundred cases verified by laparotomy, steatorrhea was marked in all cases, and twenty-four cases of malignant disease with jaundice gave a very high percentage of neutral fat as compared with the fatty acids. Stereobilin was present in the inflammatory and absent in the malignant cases.

Urinalysis may disclose a fat splitting ferment described by Opie; glucose or one of the other sugars; possibly indican, though this is a substance particularly indicative of intestinal putrefaction and is of minor diagnostic value in pancreatitis; oxaluria, to which a number of investigators attach great diagnostic importance; diminished phosphates; acetone and diacetic acid, and the so-called "pancreatic reaction."

In 1904, Cammidge obtained "golden yellow crystals occurring in sheaves and rosettes" after boiling with HCl., diluting and neutralizing with lead carbonate and finally with sodium acetate and phenylhydrazin hydrochlorate. A difference in the crystals was noticed varying from coarse in cancer, through intermediate in chronic, to fine in acute pancreatitis. The method and results were assailed from many quarters and condemned as useless. In their recent volume Cammidge has modified his former method to what he denominates as the "C-reaction," which is still so involved as to require considerable technical skill and a convenient laboratory.

As to results, two hundred and fifty tabulated analysis give fifty negative findings in fifty normal urines, four positive in sixteen cases of pancreatic cancer, sixty-seven positive in sixty-seven cases of acute and chronic pancreatic disease, twenty-one negative in twenty-one cases of biliary calculus, and ninety-two negative in ninety-six cases of miscellaneous diseases not pancreatic. Further experience must be added before general confidence can be placed in this method; but its occurrence with other symptoms should have positive value.

An apology is due for this extended preface to the history and analysis of one case only, but as the case record is unusually complete I venture to present it.

The patient, a woman of fifty-two, a widow, was admitted to the Methodist Hospital June 29, 1907. *Family history* negative. *Previous history* includes various childrens' diseases, pneumonia, small-pox, pleurisy, and grip. No record of jaundice, menstrual history includes two pregnancies, both terminated by miscarriages at four and a half months. No other suggestion of venereal infection. Probably moderately alcoholic though denied.

Present illness dates from a fall early in January, 1907. She fell across a roll of oil cloth, striking lower abdomen which became much distended and very painful. Following day ecchymosis appeared on knee and elbow, while the right knee showed evidence of synovitis for two months or more. A physician was called who by medicine relieved the abdominal distention. Careful inquiry fails to elicit a history of nausea, vomiting, or hematuria. She is confident that the bowels moved naturally thereafter. Some degree of distention and abdominal pain have persisted since. On March 17th she suddenly vomited "fully two quarts" of dark fluid blood. Just previously a small hemorrhoid had appeared and since then has been regularly bleeding with defecation. She had been operated on for hemorrhoids seven years before and had remained free for the entire period. Jaundice was first noticed three weeks ago.

It has varied in intensity. The urine is scant but there is frequent vesical tenesmus. Some little edema of the ankles has been present for about three weeks. There has been a sharp pain in the left groin occasionally for about the same time. Abdominal pain and tenderness have increased of late. Diet has been milk and vichy, but up to three weeks ago she enjoyed meat.

General Examination on admission to Hospital: Large well nourished woman in middle life. Musculature flabby. Skin dry, rough, and scaling. Icterus general, including conjunctivæ and tongue, which has white filmy coating. No discharge. No tumor, except small movable nodule in skin over right tibia. Small external hemorrhoids. No glandular enlargement. Heart extends from five and a half left of midsternum to right sternal edge. First aortic sound is slightly reduplicated otherwise negative. Pulse a trifle small and suggestive of aortic regurgitation. Rate one hundred.

Lungs showed no abnormal signs—expansion good.

Abdomen was distended, tympanitic, rigid. Entire colon much distended. Stomach area apparently crowded up and to the left. Liver, especially left lobe, moderately enlarged. Spleen not palpable. No distinct tumor, but sense of resistance to right of umbilicus. Distension renders examination unsatisfactory. No ascites.

On admission the urine was dark amber, aromatic, acid, 1.026, slight trace albumin, no sugar. Microscopically, few red and white blood cells and epithelium. Reacts for bile. Frequent subsequent examinations failed to detect sugar, acetone, or di-acetic acid. The total urea could not be estimated as no accumulated specimen could be obtained. An excess of phosphates was noted once. Albumin was not constant, nor were the red and white blood cells, but all appeared and disappeared together. The total output was undoubtedly influenced by the active catharsis, the movements averaging four fluid stools daily; but on three occasions when only one stool was had the estimated total urine was less than fifteen ounces, and this in spite of daily doses of liq. ferri et ammon-acetate and large amounts of fluid by both mouth and rectum. Insufficient knowledge of Cammidge's reaction rendered the one attempt to use it futile. Examination of the blood June 30, showed erythrocytes 3,360,000; leucocytes, 11,840; hemoglobin 65%. Differential leucocyte count: polymorphonuclear 71%; large mononuclea 9%; small ditto 24%; and eosinaphiles 1%.

Temperature on admission 98.6. The following day it reached 100, and continued irregularly at about that figure for one week. A week of normal temperature followed with one sudden rise on the 19th to 101. It reached normal two days later, rose suddenly to 102.2 on the 23d continuing at that level until the 27th when it became subnormal and ran up again rapidly to 102.6 at death.

The pulse averaged 100, reaching 120 on the 18th and then falling again to 100. Its quality was generally poor, regular but small and compressible. The respirations were constantly over frequent, averaging 30. On July 2d some dullness with distant breathing was discovered over portion of the right lower lobe posteriorly with prolonged roughened expiratory murmurs over the same portion of the right upper lobe that probably accounted for the respirations. The signs persisted for six days.

The stools at first were large and light yellow, returning to the same appearance whenever the cathartics were omitted. On July 6th there was a sudden unexplained diarrhea with 10 stools. Inspection suggested an increase of fats. No chemical analysis was made. The milk diet precluded the possibility of finding muscle fibre. Nausea was occasional. No vomiting. Frequent saline irrigations brought away much gas. On more than one occasion "yellow tissue-like" material, seemingly mucus, followed the irrigation.

On July 7th the jaundice deepened noticeably and about the same time wakefulness and restlessness, controlled by veronal, appeared. On the 12th she complained of physical weakness and prostration. The quality of the pulse became decidedly weaker. Examination of the abdomen from day to day failed to reveal any physical change, though the tenderness to the right of the umbilicus persisted.

On the 17th profuse sweating appeared and a stuporous condition developed. On the 21st she had some difficulty in swallowing, the respirations became more labored and the stupor deepened. On the 22d there was blood in the stool. Pancreatic disease was suspected, but urinalysis and careful physical examination revealed nothing new. A large golden yellow evacuation was noted. Pulse poor in quality. Active stimulation did not improve it. On the 23d delirum developed. On the 24th blood again appeared in the stools, with mucus, seemingly from the lower bowel. On the 25th the pulse failed decidedely and serum began to ooze from both thighs. The stupor increased, respirations at times suggested the Cheyne-Stokes type and she sank steadily until death occurred in the morning of the 28th.

Post mortem findings. A complete autopsy was refused. Examination of the abdomen showed great distention with some vascular injection of the intestines, some ascitic fluid, and a staining of all the viscera with bile. The liver was enlarged and section showed fatty infiltration with well distributed hypertrophic cirrhosis. Gall-bladder moderately filled with bile. No calculi. The head of the pancreas was much enlarged and of a firm tough consistency, the condition extending well into the body. Kidneys were inspected but not incised. They seemed a little small, but not markedly changed. Spleen was apparently not altered. Heart examined through the diaphragm showed pale, flabby musculature. Lung tissue deeply congested in spots.

Section removed from the head of the pancreas showed under the microscope much increase of the connective tissue with compression and distention of glandular elements.

Diagnosis, Chronic interstitial pancreatitis.

I believe that in this case hemorrhage occurred into the head of the pancreas as a result of direct external traumatism, setting up a moderate acute process. Possibly bile was forced into the ducts at the same time. Chronic interstitial changes resulted with the local and constitutional manifestations just detailed.

WHAT CAN WE DO TO LESSEN THE DEATH RATE OF PULMONARY TUBERCULOSIS?

By LOUIS VAN HOESEN, M.D.

Health Officer,

HUDSON, N. Y.

THIS disease, standing at the head of the list of causes of death in nearly all parts of the world, claims in our State an annual assessment of more than 13,000 lives. Every part of the State contributes its share of victims to this deadly infection, although density of population increases the relative rate of this levy on human lives. New York State's rural death rate from tuberculosis for 1907, being 125.5 per 100,000, while the combined city death rate reached 190 per 100,000.

The acute infectious diseases, all combined, cause less than one-half as many deaths, and yet are surrounded by all possible restrictions to

prevent their dissemination. The attention paid to pulmonary tuberculosis in this respect has been little or none, and the indifference of the public to this seriously fatal disease seems to demand more careful consideration from the profession of medicine. The attitude of the general public toward tuberculosis appears to harmonize with the old proverb, "What can't be cured must be endured." The physicians of this nation on whom the people depend for information concerning diesase, can do much toward overcoming such ideas and our united and earnest efforts would undoubtedly show that the death rate in civilized America, of this, as well as other preventable infectious diseases, can be greatly reduced.

The physician's first duty in dealing with tuberculosis is that of making a diagnosis at the earliest possible period of the disease. Advanced cases of tuberculosis can rarely if ever be cured, and recognizing the disease at this stage only enables us to adopt the preventative measures for protecting others. Our patients can justly expect of us the exercise of sufficient skill and care to diagnose this disease while yet their chances of cure have not been sacrificed by delay. Dr. John H. Pryor, of the Raybrook Sanitarium, reports of the incipient cases cared for at Raybrook, 82 per cent. apparently recovered; of the moderately advanced cases, 22 per cent. apparently recovered; while of the advanced cases, none apparently recovered. Considering these facts we cannot help seeing the burden of responsibility resting upon the physician who through any neglect, fails to diagnose his cases in the very earliest possible stage of the disease. Dr. Pryor also says, "A large proportion of the medical profession do not, can not, or will not, detect the presence of pulmonary tuberculosis in the incipient stage." That such a statement can be truthfully made is a mark of shame upon the profession, as it virtually charges our profession with being responsible for a large proportion of the enormous death rate from this malady. This certainly is a serious charge, and if our profession must plead guilty, then surely a consideration of this subject is important enough to occupy the attention of every medical society.

A considerable number of cases of consumption reach an advanced stage before a physician is consulted, yet there is little doubt but that many cases in the incipient stage are overlooked through carelessness or lack of ability on the part of physicians.

We know that men who have opportunities to make large numbers of autopsies, report finding frequently the healed lesions of tuberculosis in the lungs of persons dying of other diseases, which proves that the disease is frequently curable, and if the profession always recognized it in its earlier stage, it would give a far better percentage of cures than it does to-day.

In nearly all chronic diseases there is a stage in which the border line between healthy and pathological conditions is but faintly drawn, a condition where only the most careful and painstaking examination will detect disease. Let us perfect ourselves in recognizing tuberculosis at this stage, and our efforts will be rewarded in the saving of many lives; and no man will be able to charge the medical profession with being to any extent blamable for the high death rate of pulmonary tuberculosis.

No royal road to diagnosis has yet been constructed. Careful exaimnations of all persons who present any symptoms even remotely suggestive of pulmonary disease, and frequent examinations, where possible, of persons associated with those known to be tubercular are duties which we cannot neglect without just censure.

The various methods of diagnosis by injection or inoculation of tuberculin or its modifications are already being discarded. Franz has shown that the ophthalmo-tuberculin test of Calmette by instillation of one to three mg. of the tuberculin solution into the conjunctiva, gives positive results in from 61 to 68 per cent. of healthy soldiers of the Austrian army, and this author states that he believes that the use of 10 mg. would give positive reaction in every case tested. While the injections of tuberculin are very probably more satisfactory than Calmette's method, yet with the grave doubts which exist as to whether or not they are injurious when sufficient amounts are employed to be sure of securing the reaction, most cautious physicians will employ this method of diagnosis but rarely.

The presence of bacilli in the sputum, while an excellent confirmation of a diagnosis, can but seldom be depended upon to diagnose the stage of incipiency. Any considerable quantity of expectoration, or enough to exhibit the bacillus, is almost certain to accompany a stage of the disease well beyond the period of incipiency, and as you know the bacillus may not be found in sputum of even well advanced cases.

We have then to fall back upon the results of physical examination, and our success in determining the presence or absence of the disease will depend upon our care and ability in making such examinations. Dr. Pryor says: "Many physicians never seem to recognize or examine an incipient consumptive. Their education was confined to the study of the advanced lesions and the later signs and symptoms."

Let us consider the accepted meaning of incipient tuberculosis and perhaps we will agree with Dr. Pryor that too frequently we do not discover the disease in this stage. The definition of incipiency adopted by the National Association for the Study and Prevention of Tuberculosis is as follows:

"Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe.

"No tuberculosis complications. Slight or no Constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight),

"Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest.

"Expectoration usually small in amount or absent.

"Tubercle bacilli may be present or absent."

This definition considered in the light of Dr. Pryor's statement makes it appear that the one condition of importance which the large proportion of physicians fail to recognize. is the slight initial lesion in the form of infiltration of one apex or a small part of one lobe.

There is but one way to discover such a lesion, and that is by a careful physical examination of the naked chest. Perhaps too often we neglect to make proper physical examinations on account of hurry, unwillingness of the patient to expose the chest or indifference on the part of the physician. All are equally inexcusable.

Any attempt to describe the methods of making a physical examination of the chest would seem superfluous. The text books so well explain how to inspect, palpate, auscultate, and percuss in making examinations for diseases of the chest, that little could be added. Skill in making such examinations can only be acquired by practice, and the man of acute senses can by making frequent examinations greatly increase his ability to recognize the very slight lesions of early tuberculosis. There is no difficulty in diagnosing the case with hectic fever, great loss of flesh, etc., in the advanced stage, and to the patient but little benefit.

Among the more important considerations of a careful examination of the chest are these:

Have the patient's chest entirely bare if possible.

Examine every part of the lungs, but particularly the apices both above and below the clavicles, anteriorly and posteriorly.

Auscultate both with natural, and forced respiration.

Always compare the sounds heard on one side with the corresponding part of opposite side, and with well portions of the same lung.

Notice particularly any prolongation, or elevated pitch of the sound of expiration.

Employ the comparison of the transmission of the whispered voice in cases of doubtful patches of infiltration.

Take plenty of time, and if in doubt repeat the examination.

Having recognized incipient tuberculosis, what system of treatment do we adopt? No doubt very frequently the patient receives a prescription, together with mor eor less meagre and indefinite instructions concerning his methods of life. In the mind of the patient this bottle of medicnie is the important feature of his treatment, and the instructions of the physician concerning his habits of life, and surroundings are little heeded. This shiftless manner of dealing with the disease is usually the fault of the patient who thinks he has no time to devote to any more careful treatment for so slight an illness. Continuing in this indifferent method of treating the disease the patient usually goes on into an advanced stage, and then beginning to be alarmed about his condition, he is prepared to go for some climatic treatment, hoping to check a condition which has been advancing during many weeks of neglect; and which might easily have been controlled when first recognized had the patient been persuaded to give up work and devote his time to getting well.

The essential agencies in overthrowing tubercular infection are rest, good food, and pure air.

Physical exertion increases tissue waste, and many authorities are claiming that the progress of the disease is greatly accelerated by work, on account of the increased toxemia resulting from more rapid liberation of toxines produced by exercise. How often we meet with cases where the support of a family depends upon the work of the afflicted member. In these cases the problem is a difficult one, but we must teach these families that what is to be done toward a cure must not be postponed. Procrastination is almost sure to cut short a life by many years, in order to save loss of a few months employment.

Personal inspection of the sleeping rooms of patients is very necessary, as in most instances the patient's ideas of what constitutes perfect ventilation, are very vague. Some arrangement by which the patient is forced to breathe out-door air at all times should be provided. The various window-tents are highly commendable.

Without going into all the details of the subject. it seems that much better results could be obtained if the physician can personally supervise these regulations of the supplies of air and nutritious food.

No doubt many of us have seen benefit result from the use of tonics, creosote, etc., and most physicians will employ these remedies with undoubtedly some good results. But while using these medicines let us not lose sight of the great importance of employing the far more effective agencies, rest, nourisinhg food, and pure air to the very limit of their power for good.

Suitable climatic change is also of inestimable value, and cannot be to early employed. Even in advanced cases there is occasionally remarkable benefit to be obtained from residence in a suitable climate. Sanitarium treat-

ment for the poor which the State now provides, makes it possible for these patients if early diagnosed to avail themselves of all these chances of cure.

When we consider the subject of prevention of this least prevented of all the preventable diseases, the attitude of the medical profession to the accomplishment of this purpose at once commands the position of greatest prominence. With the altruistic ideals of our profession we cannot conscientiously ask or act in the spirit of Cain, "Am I my brother's keeper ?"

The first step in the prevention of consumption, after a case of this disease is diagnosed, is a plain and clear statement to the patient and his family of the nature of the disease, and the precautions to be observed to avoid infection of others. If the doctor says, "You have only a little bronchial trouble," or, "your lungs are not very strong," he leads the patient to believe that no danger of spreading a fatal infectious disease exists. Can we expect the patient to observe the necessary precautions against spreading the disease after such information from the doctor? Has the physician performed his duty to his patient and his associates? Is it better to avoid arousing the fears of the patient, and let everybody associated with him take their chances of being able to resist the infection; or shall we honestly and promptly inform the patient that he will communicate his disease to his family and friends unless he is careful to obey strictly the instructions he receives? I believe all honest minded physicians will agree that any attempt to conceal from the patient the nature of his disease is apt to promote neglect of the necessary preventative precautions, and is a culpable neglect on the part of the physician, of an important duty.

To enter into the details of the preventative instructions to be given to our patients would consume considerable time, and I believe the most effective method of communicating such information lies in impressing the patient and family with the importance of the intsructions, and giving to them the circular published by the State Department of Health on this subject.

One example of the indifference with which physicians deal with pulmonary tuberculosis, is shown in the manner in which reports of existing cases are received by local boards of health. It is safe to say that 25% of the reports of cases of consumption, required by most local boards of health, are only made on the death certificate blanks. This of course seriously hampers any attempt to control the disease or obtain reliable statistics on the part of the State Department of Health. And it almost seems as if the physicians did not recognize any such disease as consumption, except the fatal form; and then only positively diagnosed after death. This may appear somewhat overdrawn, yet on the register of contagious diseases of the City of Hudson, can be seen records of only eight cases of this disease reported for the year 1906, while fifteen cases were reported by death certificates. I believe you will all agree that it is the physician's duty to report his cases of tuberculosis promptly, and aid in every way in his power, the efforts of the State and local health departments to control and lessen the disease.

The principles involved in the prevention of consumption, are to avoid if possible the introduction of the bacillus into the body; and to increase as much as possible the natural resisting powers of those exposed, or predisposed to infection.

Thorough disinfection or destruction of the sputum, and all excretions of advanced cases, will greatly lessen for everybody, the dangers of inhaling the germs, and the physician can do much toward obtaining such results.

As to the introduction of the disease by way of the alimentary tract, there are no doubt dangers from diseased cooks, waiters, and infection of uncooked food by careless exposure; but the principle food material to suspect is cow's milk.

The dispte over the nature of the bovine bacillus in its danger to mankind is aroused largelv by a desire to save the financial loss to dairymen whose herds are affected. It has been proved that cows can acquire the human form of bacillus, and also that infants occasionally show the bovine type of bacillus. There can be little doubt but that milk of an animal having an infectious disease is unfit for human food, and the force of our influence should be brought to bear against its use.

The whole subject of tuberculosis demands not more theories and experiments alone, but more active interest on the part of the public, and more attention to instruction of the people on the part of our profession.

Let us constantly and conscientiously preach the precept, "What can't be cured must be prevented." Let us on every occasion endeavor to disseminate information of value in the prevention of this disease, and we can be certain that some cases of consumption will be prevented, and unnecessary suffering and death avoided.

THE PRACTICAL VALUE OF SOUR MILK.*

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THE dietetic and remedial value of sour milk has been known for many centuries. Mention is made of curdled milk in the first chapters of the Bible, and such milk has

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been a common article of diet in several Eastern countries since remote antiquity. In the biography of Francis I of France, is quoted the fact that this king had fallen into an alarming state of languor and weakness which was successfully treated by an exclusive sour milk diet after all other remedies had failed. In modern times we find sour milk consumed not alone by the people of Eastern climes, but by the inhabitants of our own country. Especially is this so in rural districts where buttermilk always has been a favorite beverage and for a number of years physicians have employed various forms of fermented milk in the treatment of disease. Formerly the therapeutic use of soured milk was entirely empirical, then the science of chemistry shed considerable light on the subject, but recently and largely through an increase in our knowledge of the intestinal flora in health and disease the true value of sour milk has been better understood.

The present day use of sour milk is based upon three properties: first, the fact that the casein of soured milk has been transformed and subdivided in such manner as to produce a smaller and more easily digested curd than that of sweet milk. Second, as a result of the carbohydrate fermentation soured milk contains lactic acid, and third, such milk if properly prepared is free from injurious bacteria and contains large numbers of harmless and in all probability decidedly beneficial lactacid organisms. On account of the ease with which the casein of soured milk is digested and absorbed it is of decided advantage in the dietary treatment of many types of gastrointestinal disorders and also in the exhaustive diseases such as tuberculosis, etc. The lactic acid contained in fermented milk prevents, within certain limits, the development of putrefactive and pathogenic bacteria and such milk therefore is safer than sweet milk of questionable origin and purity. Lactic acid in the intestines will reduce or restrain proteid putrefaction so that soured milk is of service in many cases of intestinal putrefaction, infantile diarrhea, etc. It is the ability of fermented milk to control intestinal putrefaction with its gastrointestinal disturbances and resulting autointoxication that I desire to dwell upon this evening. But before entering into a discussion of the actual use of soured milk it would seem advisable to consider very briefly the etiology, diagnosis and pathogeny of intestinal putrefaction.

It is now the consensus of opinion that intestinal autointoxication is due to the action of certain bacteria both upon the proteids and the carbohydrates or, in other words, intestinal putrefaction, which may be either proteolytic or saccharolytic. In the splitting of the proteids by organic ferments we first obtain the by-products of ordinary proteolytic digestion but this splitting process is continued to the formation of indol, skatol, gas and many toxic substances the nature of which is at present unknown. In the fermentation of the carbohydrates there is usually a much greater volume of gas produced than in the case of proteid disintegration and it is accompanied with the formation of butyric and other irritating acids. In cases of pure saccharolytic fermentation no indol is formed and hence no indican can be found in the urine although the ethereal sulphates are usually present in excess.

The recognition of intestinal putrefaction is based both upon the individual symptoms presented and by an examination of the urine. In infants, for instance, intestinal putrefaction is usually accompanied by gastrointestinal disturbances such as vomiting, diarrhea, and when persistent, by malnutrition and a retardation of growth. In adults acute intestinal autointoxication is generally productive of that class of symptoms designated by the term biliousness, while the chronic form may cause anemia, neurasthenia, neuritis, cutaneous disorders. Riggs' disease, kidney irritation, arteriosclerosis and various other conditions. In many instances, however, particularly in the early stages of the chronic type no other sign is present beyond an excessive and constant indicanuria and when an extensive putrid process elsewhere in the body can be excluded the presence of an excess of indican in the urine is positively indicative of intestinal putrefaction. It must, however, be remembered that an indicanuria only signifies the proteolytic type and does not exclude the presence of saccharolytic fermentation. The diagnosis is only complete clinically when the urine is tested for all the aromatic products and the individual symptoms and therapeutic results obtained are taken into consideration.

The symptoms, diseases or conditions produced by or associated with intestinal putrefaction are too varied and complex to be classified, and it will be impossible in the time at my disposal to enter into a detailed description of the pathogeny of the subject. It will, however, only require a few moments to abstract from a previous paper in which I reviewed the literature to some extent (*New York Medical Journal*, March 14, 1908). The dental profession has recognized an intestinal autotoxic factor in the production of pyorrhea alveolaris and gingivitis. It is believed that toxines elaborated by intestinal putrefaction modify the blood circulation and nerve supply the end organs of which the gums and alveolar processes are examples. The neurologist considers intestinal autointoxication to be the cause of many disorders of the nervous system, particularly neurasthenia, neuritis and various reflex symptoms. The optomologist, the

otologist and the rhynologist all recognize an intestinal autotoxic factor in the genesis of the diseases lying within their domain. Probably more attention has been devoted to intestinal putrefaction in pediatric practice than in any other branch of medicine. The treatment of infantile diarrhea, malnutrition, etc., in accordance with our present knowledge of the action of the intestinal bacteria has been very gratifying. Among the diseases lying within the domain of the general practitioner and thought to be occasionally caused or at least exaggerated by intestinal putrefaction may be cited certain types of chronic arthritis, muscular rheumatism, anemia, renal irritation, disorders of the nervous system, gastrointestinal complaints and many conditions which result from faulty metabolism. In fact it is now considered that recovery from most any disease can be greatly retarded by the presence of intestinal putrefaction for the simple reason that the overworked organs have an additional toxemia with which to deal. The symptoms of intestinal autointoxication not infrequently closely simulate other diseases, and one often meets with a case presenting many of the features of typhoid fever. Several cases of anemia are on record which were successfully combated only after attention had been directed to an associated indicanuria. In this connection it might be stated that it is the opinion of several investigators that among the unknown products of intestinal fermentation there are toxic bodies which possess a hemolytic action, while others exert their influence upon the nervous system. It might also be stated that indol itself has been proved to be decidedly toxic to the organism. In dermatological practice we find indicanuria to be more or less constantly associated with many cutaneous eruptions. It has been impossible as yet to establish a direct relationship between intestinal putrefaction and the cutaneous diseases, and although I have investigated this subject for a considerable period, I have thus far been unable to arrive at any satisfactory conclusion. It may be stated, however, that indicanuria is found in most of the cases of dermatitis herpetiformis and pompholyx, and when treatment has been directed against the intestinal putrefaction the results have been very encouraging. I have, at present, a very interesting case of dermatitis herpetiformis under observation in which the symptoms appear to improve in direct ratio to the disappearance of the indican. Indicanuria or other evidence of intestinal putrefaction is very frequently found to be present in cases of erythema multiforme, pityriasis rosea, urticaria, prurigo, pruritis, etc., and it is quite possible that the development of these diseases may at times depend upon the enterogenic toxines The fact that the administration of laxatives and salol proves so efficacious in diseases like erythema multiforme and pityriasis rosea appears rather significant. Much to my surprise I have found psoriasis to be less frequently associated with evidence of intestinal autointoxication than is the case with many other cutaneous diseases. The further study of a larger number of such cases may modify this observation. The urine should always be tested for indican in obstinate or relapsing cases of exema, and when present it should receive serious attention. I have seen several cases of this kind which were not controlled until the intestinal putrescence was corrected. A careful consideration of the therapeutic achievements obtained in many of the cutaneous eruptions when associated with intestinal putrefaction would make it appear that besides certain known causes and various hypothetical and autotoxic factors, intestinal autointoxication should also receive attention. Not only must one consider the enterogenic toxines as etiologic factors, but the possibility of their being the cause of a continuance of the symptoms after the more generally recognized and accepted causes have been overcome must also be thought of.

Before returing to the sour milk question there is one more subject I desire to touch upon; the interpretation of indicanuria. Among all the medical problems with which the physician has to deal the determination of the true significance of indicanuria appears to be one of the most perplexing. Certain conclusions are no sooner arrived at than they will be upset by apparently contradictory evidence. The enthusiastic student may at first be startled by the fact that all of his cases of neurasthenia, neuritis, eczema, etc., are associated with an excessive indicanuria and will be convinced that his patients recover with a greater degree of rapidity when treatment is instituted in accordance with his new knowledge. He will soon learn, however, that these diseases may exist in their most severe type without being accompanied with evidence of intestinal putrefaction. Again he will discover that in many diseases where a pronounced indicanuria is present the symptoms may continue unaltered even after the indicanuria has disappeared. The proper interpretation of indicanuria requires some thought and the mere fact that intestinal putrefaction has been shown to be an etiological factor in disease is no excuse for one to be empirical or optomistic and I might also add that the valuable work already accomplished in this line should prevent one from becoming pessimistic. In a given case an indicanuria, if present, may be the sole cause, it may be a contributory cause, it may simply be the means of exaggerating or continuing the symptoms after the more accepted causes have disappeared and finally, it may have no bearing at all on the individual case. These facts may, I think, be explained by a consideration of the synthesis of the intestinal toxines in the organism. It has been shown that indol, skatol, and other products of intestinal putrefaction are oxidized and paired off chemically in the liver, in

the epithelial cells of the intestines, in the kidneys, muscles, lungs, etc. If these tissues are unimpaired and able to successfully cope with these substances so that they will be promptly paired off and eliminated, no harm will be done other than an increased strain upon hard working and important organs. For this reason an individual might tolerate an indicanuria for years before its baneful effects become manifest. But when the organs and tissues involved in the synthesis of these toxic bodies have been injured by disease or overwork then one is likely to notice evidence of disturbed metabolism. The phenomenon of indivdual susceptibility or toleration in the case of intestinal putrefaction is probably not unlike that accompanying excessive alcoholic indulgence or the steady use of many of our important drugs.

In returning to the sour milk problem the first question that arises is how does such milk influence intestinal putrefaction? In the first place we know that lactic acid has been of considerable service in the treatment of the putrefactive and fermentative types of infantile diarrhea. Furthermore I know from personal observation that dilute lactic acid if given in sufficient quantity will greatly modify an indicanuria. We have then in the lactic acid of fermented milk one agent that tends to prevent putrefaction of the proteids in the intestines. I have, however, never been able to convince myself that lactic acid has as powerful or as permanent an effect as sour milk. To explain the more pronounced action of fermented milk Cohendy, Metchnikoff, Combe, Tissier, and others, as a result of numerous observations are of the opinion that certain lactacid organisms are able, under favorable conditions, to colonize in the intestines and displace or rather prevent the multiplication of the putrefactive organisms, and clinical observation certainly seems to confirm this hypothesis, especially in the proteolytic type of intestinal putrefaction. As an additional fortification it may be stated that it appears to be possible to modify an indicanuria by the administration of pure cultures of certain lactacid organisms, especially when they are given for a considerable period of time and combined with a farinaceous diet to favor their development. In looking through the literature it is found that the majority of investigators are agreed in these facts but it will be necessary to continue these investigations before this hypothesis can be said to rest upon a firm scientific foundation.

It is my experience that milk fermented through the action of native bacteria is not as efficacious as when acted upon by some of the energetic foreign organisms. There are many preparations of fermented milk on the market, some of which are to be commended while others are to be avoided. It is up to the physician to thoroughly investigate these products before advising their use, and too much reliance should not be placed upon the literature which accompanies them. Any one desiring to study the numerous commercial fermented milks is respectfully referred to an article by Dr. H. G. Piffard (*New York Medical Journal,* January 4, 1908). In regard to buttermilk it should be stated that the product sold by the city retail milk dealers is not the same as the old-fashioned country buttermilk, which is obtained by the churning of spontaneously soured cream. In the former case the cream is separated by centrifugal force and the skimmed milk soured by the addition of a starter (native lactacid organism) churned to break up the curd and sold as buttermik. I agree with Piffard when he says there is no reason why such milk if properly prepared should not be beneficial and wholesome. It should be remembered that buttermilk, whether from city or country, contains only native bacteria, and it is doubtful if these organisms possess the ability to permanently colonize in the intestines. If there is any value in the theory of the permanent displacement of putrefactive bacteria by lactacid organisms it will be found in the case of the powerful foreign germs, but in default of better means ordinary buttermilk will be of some service. Although lactacid organisms act as a conservator of milk this action is limited. Streptococci, yeasts and other organisms will grow in sour milk and after a time the lactic acid bacteria die and the putrefactive germs, if present, gain control. For this reason many physicians, in fermenting milk at home, prefer milk which has been thoroughly sterilized. Such milk, bacteriologically considered, is certainly safe, and it is a very simple matter to keep a culture of Oriental bacilli growing in this milk by each day adding a little of the product of the previous day. Raw milk is preferred by many because it has not been modified by heat. Most raw milks contain yeast and many contain streptococci. The action of these organisms upon the economy has not, to my knowledge at least, been extensively studied. The streptococci of milk apparently do no harm, but it would seem to be advisable to exclude them if possible. Metchnikoff objects to yeasts on account of the formation of alcohol, but, as Piffard points out, the production of alcohol is so small as to be well within physiological limits. Although certain wild yeasts may be harmful most varieties simply produce alcohol and carbon dioxid, and in the case of some Oriental bacilli the presence of a pure yeast appears to be essential for the purpose of imparting a pleasant flavor and perhaps to check an overproduction of acid. As a rule it is impossible to run a culture of foreign organisms from day to day in other than sterile milk for the reason that the native bacteria will soon gain control. When employing raw milk it is advisable to keep a culture of the desirable organisms in sterile milk or some other suitable medium and to add a little of this to the sweet milk each day.

Milk to be artificially soured may be sterilized, pasteurized or untreated, according to the desire of the physician. The cream may be removed or the milk left intact, as may be thought best in individual cases. The starter may consist of native or foreign lactacid organisms in pure culture or combined with yeasts. After the milk has been infected it is placed in a clean pitcher and allowed to remain at a temperature of from 75 to 90 F. (depending upon the organism employed) for from 12 to 24 hours, when the curd will have formed.

This curd may now be placed on ice until cold and then stirred until it attains the consistency of cream, when it should make a very pleasant drink. If preferred the solid product may be eaten, and when a little nutmeg and salt are added it makes a very palatable food. Cultures of lactic acid forming organisms have been placed on the market in the form of tablets and capsules by several firms, some of which utilize foreign organisms while others employ native bacteria. The capsules or tablets may be taken by the patient and some of them can be used as a starter to sour ordinary milk. Although good results have attended the use of these preparations in mild cases too much must not be expected. A much greater degree of success will be obtained by the use of properly prepared sour milk.

Soured milk has proven efficacious in the treatment of certain types of infantile diarrhea, gastointestinal disturbances and malnutrition. In these cases it checks the intestinal putrefaction and by being easily absorbed and digested it aids digestion and assimilation. For the same reason it has been found of considerable service in the modified feeding of healthy infants and in the dietary treatment of the exhaustive diseases. By overcoming the intense intestinal putrefaction which always accompanies typhoid fever and being of such value as a food it has been of no little service in this disease. It has also been of benefit in cases of neurasthenia, in the cutaneous diseases, in anemia, and, in fact, in any disease which is caused or modified by the presence of proteid putrefaction, or where an easily digested and quickly absorbed food is required. It has been noted by several investigators that people who have freely indulged in sour milk attain a very old age, and Metchnikoff advances the opinion that such milk, by inhibiting intestinal putrefaction, which he asserts is one of the causes of arteriosclerosis, will, to a large extent, prevent premature senility. If this is found to be true we have, indeed, in sour milk, the nearest approach to the long-sought elixir of life.

It is doubtful if fermented milk is of as much benefit in saccharolytic as in proteolytic putrefaction. The fermentation of the carbohydrates, in some instances at least, can continue in the presence of an acid medium, but the mere fact that soured milk is practically free from carbohydrates should make it of value to those individuals who cannot tolerate any farinaceous food and at the same time proteid decomposition will be prevented. There are some individuals who do not seem to be able to tolerate lactic acid. In these cases it is possible that one has to deal with a very irritable mucosa resulting from the action of butyric and other acids from carbohydrate fermentation and an increase in acidity enhances the symptoms. In many of the patients I believe that a continuation of sour milk will be of benefit, or perhaps superior results may be obtained by preceding the milk by the use of intestinal antiseptics, digestive mixtures, suitable diet, etc.,

In concluding this paper I desire to say that many cases of intestinal putrefaction can be overcome by means of dietetic and hygienic measures and also by the use of intestinal antiseptics, digestive mixtures, etc., but when it is considered that soured milk is such a powerful agent and that this milk is entirely harmless it would certainly seem that such treatment should be the method of election. What we are now in need of is experience resulting from extensive and careful clinical observation and it is to be hoped that this will be soon forthcoming.

616 Madison Avenue.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

By JAMES J. WALSH, M.D.

NEW YORK.

(*Continued.*)

THOMAS SPENCER.

Dr. Thomas Spencer, the twelfth president of the New York State Medical Society, served for two terms in 1832 and 1833. Dr. Spencer is one of the self-made men of the beginning of the nineteenth century, who succeeded in obtaining a good education in spite of the fact that he had to depend largely upon his own efforts to obtain sufficient funds to enable him to go to school. He is one of the many New Yorkers of that period who taught school for a time, in order, later, to be able to attend the medical lectures and take up the practice of medicine.

He was born in the town of Great Barrington, Berkshire County, Mass., October 22, 1793. His father, Eliphalet Spencer, a native of Connecticut whose occupation was that of a millwright, was a man of more than ordinary intellectual strength and physical energy. Imbued with the spirit of patriotism, he served during the Revolutionary War in the Connecticut regiment, and fought at the battle of Saratoga, and witnessed the surrender of Burgoyne.

At the age of nine, Tom had acquired the

elements of arithmetic under the instruction of his brother Joshua. In 1806 he had the advantage of three months' schooling for the purpose of studying English grammar, and never forgot the mortification of being outstripped by one of the school girls somewhat older than himself.

At the age of nineteen, he was instructed in the art of surveying by his brother, General Ichabod Spencer, who was just then embarking in the profession of law, and who accordingly left this part of his business to his younger brother. About the same time, he commenced the study of medicine with Dr. Dix of Delphi. By his business in surveying and by school teaching, he was enabled to provide for himself the means of pursuing his professional studies. In the winter of 1814 and 1815, he attended a course of medical lectures at the College of Physicians and Surgeons for the Western District, located at Fairfield, in this State, and in the ensuing spring he received a license to practice from the Medical Society of the County of Herkimer.

He at once engaged in practice in the town of Lenox, and very shortly it extended into the towns and counties surrounding. He was elected to the several offices of the medical society of the county of Madison, and was also chosen its delegate to the State Medical Society.

In 1820 he attended a second course of lectures at the medical college at Fairfield, and having received the degree of Doctor of Medicine, he resumed his labors in the village of Canastota. He early attained a high degree of reputation as both physician and surgeon, and performed a great amount of labor with an ardent zeal and untiring perseverance.

In 1824 Dr. Spencer was elected to the Assembly of the Legislature of this State, and attended its sessions during that year, it being the last year that the Presidential Electors were chosen by that body. He was a leading member of the House, and took an active part in its debates. In 1832 he was, as we have said, elected president of the State Medical Society, and was reëlected the succeeding year.

Curious as it might seem to us now, during his incumbency in the office of president of this society in the winter of 1822-23, Dr. Spencer attended a course of lectures at the University of Pennsylvania, going occasionally to the lectures of the Jefferson Medical College, then in its infancy. His article on cholera was written in Philadelphia in ten days, just preparatory to its delivery in this city. It was respectfully reviewed and noticed in Cincinnati, Philadelphia and other medical journals of the day. In a letter written to Dr. Spencer by Dr. H. H. Childs, Professor of the Theory and Practice of Medicine in the Berkshire Medical College, so recently as August, 1852, he says: "Your publication on cholera in 1833 gave me much light and contained more that was true and valuable in practice than any of the numerous articles of that period."

It was during the session of the State Medical Society in 1834, that the Hon. John C. Spencer, late Secretary of War (not a relative of the subject of this sketch), then a trustee of Geneva College, made a proposal to Drs. Spencer and Morgan to found a Medical College under the University powers of Geneva College. This was accomplished, and the first course of lectures was delivered in the spring of 1835 to twenty-two students, Dr. Spencer filling the professional chair of Theory and Practice of Medicine; Drs. Edward Cutbush, John G. Morgan, Willard Parker and Charles B. Coventry occupying the other professorships.

This professorship he continued to occupy for fifteen years, and he bent his whole energy to build up, give character to and sustain the institution. Through his energy large endowments were obtained for the literary as also for the medical department, a fine building erected, and ample appliances provided for the latter. To him, more than to any person, is due the credit of the early, successful and flourishing condition of this institution. He removed to Geneva in order that he might be more convenient to the college, where for many years he engaged in active professional duties, and enjoyed a high degree of reputation as teacher and practitioner.

In 1847, when the Mexican war broke out, Dr. Spencer was appointed Surgeon of the Tenth Regiment of New York and New Jersey Volunteers, commanded by the gallant Col. Temple of Albany, and served for nearly one year and a half on the northern line of the army, which was in command of Generals Taylor and Wool.

At Matamoras he organized a field hospital and brought everything in connection with it, its appliances and appurtenances, to a great degree of perfection. In a matter so under his own control he doubtless felt a just pride and he was gratified in hearing the Quartermaster-General, who had been in the service about forty years (Henry Whiting), say to General Taylor, Col. Temple and their officers, that he had never seen in a field hospital anything like the comforts for the sick as in that appertaining to the Tenth Regiment.

Soon after his return from Mexico, Dr. Spencer settled at Syracuse but removed shortly to Milwaukee, in order to be near the Rush Medical College, Chicago, where he received the appointment of Professor of Theory and Practice of Medicine. After delivering a single course of lectures there during the winter of 1849 and '50, he was induced on account of ill health to resign his position and return to Syracuse. The Board of Trustees, however, elected him Emeritus Professor.

Dr. Spencer relinquished his practice in Syracuse to accept a professorship in the Phila-

delphia College of Medicine about 1852, and accordingly removed to that city, where he continued to reside until the period of his death, which took place on May 30, 1857, he being in his sixty-fifth year.

His disease was pneumonia. His illness continued for twelve days, fatal symptoms having developed themselves on the eighth day. The conviction that he must die was succeeded by perfect calmness and fortitude. He gave directions relative to his business and sent messages to his friends with undisturbed deliberation, and when his two attending physicians assured him of the hopelessness of his case, with his customary self-reliance he dictated several prescriptions for himself.

Dr. Spencer was about six feet in height, with a strong frame, a bronzed complexion, a high forehead and keen black eyes. He had a habitual disregard for his personal appearance. The mantle that he wore in Paris was the same thread-worn cloak that served him by day and by night in his laborious practice in Canastota, and his clumsy India-rubber shoes, the special horror of Parisians, were in admirable keeping with his whole garb, which told the story of a plain, hard-working, practical man; yet, in whatever company he might be, his fine forehead and brilliant eye everywhere commanded the deference which men seldom fail to render to declared intellect.

JAMES McNAUGHTON.*

Dr. McNaughton was born in Kenmore, Scotland, on the 10th of December, 1796. His father, a wealthy farmer, gave him the advantages of a good early education in the parish school. Here he was fitted for the University of Edinburgh, the medical department of which he entered in 1812, he being then but sixteen years of age. During the four years of his student life that followed, he devoted himself assiduously to the study of his chosen profession, with the intention of entering the navy, his brother being, at the time, engaged in the same. The defeat of Napoleon, however, which gave peace to Europe, blighted his prospects, and in 1817, after graduating from the university, he felt, as he subsequently expressed it, "at a loss to know what to do with himself." Feeling that his youth would be an impediment to successful practice in his own country, and having besides some desire to see a little more of the world before settling for life, he yielded to the solicitations of a large body of emigrants, about starting from his parish, to go with them to America. The captain of the vessel in which they were to sail offered him the position of surgeon, with the privilege of returning, if he felt disposed so to do, in the fall. This was an opportunity not to be lost; the offer was gladly accepted, and the party left Greenock on the 28th of May, arriving at Quebec, after a stormy passage, and a narrow escape from shipwreck, on the 16th of July, 1817. With no intention of remaining in this country, he hurried to Albany, for the purpose of visiting some relations in Montgomery county.

In Albany there was no one whom he had ever seen, and only one person of whom he had ever heard. To him (the late Mr. Archibald McIntyre, at that time, and for many years previous, Comptroller of the State) he had a letter of introduction, and upon him he called. Mr. McIntyre received him with all the cordiality and kindness so characteristic of this distinguished man, urging him to make Albany his home, and assuring him, in case he should decide to do so, of his assistance and support. This, after some deliberation, he consented to do, and he probably never regretted his decision. He soon acquired an extensive practice, and entered upon a career of eminent usefulness that continued through a period of fifty-seven years. Many of the leading physicians in Albany, at that time, were considerably advanced in age, and as none of them were specially desirous of cultivating the practice of surgery, to which he aspired, Dr. McNaughton, coming from one of the most celebrated medical institutions of the world, soon established a reputation as the leading surgeon, not only in Albany, but in a wide region of country surrounding it.

In 1820 Dr. McNaughton was appointed professor of Anatomy and Physiology in the College of Physicians and Surgeons of the Western District of New York, located at Fairfield, Herkimer County. This institution, established eight years previously, was the sixth medical school founded in America. During his connection with it the number of students in attendance increased from one hundred to over two hundred and thirty. In 1839 the Albany Medical College was established; and, the succeeding year, the school at Fairfield having been discontinued, Dr. McNaughton was called to the chair of the Theory and Practice of Medicine in the Albany College. This position he continued to hold up to the time of his death, discharging the duties incumbent upon him with great ability and acceptance. He was thus, for a period of fifty-three years, a public teacher of medicine, and during the whole time never missed a week of lectures, from sickness or other cause.

In 1832, when Albany was invaded for the first time by Asiatic cholera, Dr. McNaughton was made president of the City Board of Health, and took an active part in the organization of hospitals for the reception of the sick. He was unwearied in his attendance upon all who sought his aid, devoting his

*Abstracted from sketch by Professor Willis G. Tucker, Transactions 1875.

whole time to the discharge of those duties which devolved upon him during the fearful ravages of this dreadful pestilence. It was during this epidemic that he published a paper in which he embodied his views concerning the treatment of this disease. This paper was largely called for and regarded as an authority upon the subject of which it treated.

Dr. McNaughton was twice elected president of the Medical Society of the State of New York, and served as president of the County Medical Society, and as Surgeon General of the State. He was associated with Drs. March and Arnsby in founding the City Hospital, and at the time of his death was one of the governors of Union University, president of the faculty of the Albany Medical College, and of the staff of the Albany Hospital. He was an occasional contributor to the medical journals, and director or trustee of many monetary and charitable institutions. As a physician, judged by whatever standard, he stood in the first rank; as a citizen, during a long residence in Albany he identified himself with every movement which could further its prosperity or increase its growth; as a philanthropist, he was benevolent and a friend to the friendless; as a patriot, he gave abundant proof of his love for his adopted country; as a Christian, he was steadfast in all his religious duties, and one of the most efficient members and office-bearers of the church to which he belonged.

In his domestic relations, Dr. McNaughton was most fortunate. He married the beautiful and accomplished daughter of his early friend and counsellor, the late Mr. Nicholas McIntyre.

In his death, the profession lost one of its most honored and highly esteemed representatives, his family a kind husband and a devoted father, the city of Albany one of its oldest and most respected citizens, the institution with which he was connected its president and valued teacher, and the church to which he was attached one of its oldest and truest members. To all he bequeathed the memory of an unsullied reputation, and the recollection of a well-spent life.

LAURENS HULL.*

Laurens Hull, M. D., was born in Woodbury, Conn., June 6, 1779. His father was Dr. Titus Hull of that town. The attention of young Hull was directed early to medical subjects, from the fact that during his minority his health was extremely delicate, and even so late as his thirty-second year he had frequent attacks of hæmoptysis. It was on this account that he determined to make the science of medicine his study and occupation. His early education was limited, but he made the best possible use of the ordinary advantages of a common school to which was added some twenty-one days under a private tutor, which completed his preparatory instruction. At the age of nineteen he entered the office of Dr. David Hull of Fairfield, Conn., remaining there about two years. He received his diploma as Doctor of Medicine in 1802, and soon afterward removed to Augusta, Oneida County, N. Y., where he entered the office of Dr. Amos G. Hull, and continued his medical studies. In September, 1804, he removed to Bridgewater, Oneida County, and commenced the practice of medicine on his own account. In 1806 he took part in the organization of the Oneida County Medical Society. Of the members present at that organization, Dr. Hull was the only survivor in 1864. In 1817 he was a delegate from Oneida County to the State Medical Society. In 1824 he was elected a permanent member of this society. In 1826 he was elected a Fellow of the University, and in 1827 received the honorary degree of Doctor of Medicine from the Regents. During the same year and also the year following, he was vice-president of the State Medical Society.

Dr. Hull was president of the State Medical Society in the years 1839 and 1840. His annual address, in the former year, was on the subject of Quackery, and it may be boldly asserted that there are few papers in the published Transactions of the Society showing a more logical mind or more clear view of the subject treated. Those members of the society who have the volume of Transactions for 1839, will find themselves well repaid by perusing it. The subject the following year was "Improvement in Medicine," an eminently sensible, practical and ably written paper, proving clearly that Dr. Hull was no anti-progressive clog upon the wheels of advancing science, but one who believed fully in the doctrine of progress.

Although Dr. Hull achieved much in the noble profession to which he devoted the larger part of his active life, accomplishing enough to satisfy a moderate ambition, he also won triumphs in civil and political life. In 1813, and again in 1825, he was elected a member of the Assembly from Oneida County, filling the position with credit to himself and to the satisfaction of his constituents. In 1816 he was a delegate to the fist State convention, held in the State, to nominate a Governor and Lieutenant-Governor. In the year 1836 he removed to Angelica, Allegany County, and became interested in manufacturing pursuits, pretty much abandoning the practice of medicine. In 1837 he was elected State Senator from the Sixth District, then comprising nine counties. This position he filled with great credit. Those who were associated with him in senatorial duties and in the court for the correction of errors, of which Senators were then ex-officio members, bear testimony to the zeal

*Abstracts from sketch by C. M. Crandall, M.D., Transaction 1867.

and fidelity with which he discharged every public duty, carrying with him in the responsible position which he had been called to fill the same sturdy virtue and unbending integrity that had ever characterized his private life.

About 1857 Dr. Hull retired from active business, hoping to spend the remainder of his days in the quiet walks of domestic life. In May, 1858, he was greatly afflicted by the death of his estimable wife, after a union of nearly fifty-five years. In August, 1862, he met with a severe accident by which he fractured the neck of the femur within the capsular ligament, thus rendering him permanently disabled, sadly interfering with his previously active habits and dooming him to the use of crutches. Though a severe trial to one of his active disposition, he bore his affliction with a patience and fortitude alike remarkable and commendable.

During the years 1864-65 the doctor's health began to decline more rapidly, and he was finally confined to his room. With the failure of his physical energies, his mental faculties gradually grew weak, his mind frequently wandering, dwelling much upon the friends and the scenes of the past. On his eighty-sixth birthday, however, he conversed rationally and clearly for some hours with his family and friends, listened attentively to the reading of a letter from Dr. McCall of Utica, an old and valued friend, and soon after sank into delirum which continued till an hour or two previous to his death, which occurred January 27, 1865.

Dr. Hull was a firm believer in the truths of Christianity, and was ever able to give "a reason for the hope that was in him." At the time of his death and for several years previous, he was president of the Allegany County Bible Society. He was always a friend and contributor to the various benevolent operations of the time. Politically he was first a Federalist, then a Whig, and lastly a Republican. He was gratified in the often-expressed and cherished desire of his heart, to live long enough to see the great rebellion crushed, and the Federal Union preserved. The interest he took in the State Medical Society is known to all the older members, who will bear testimony to the fidelity and zeal with which he labored in the society and in the Senate to promote its interests.

Dr. Hull was in every proper sense a self-made man—the architect of his own fortunes and position. He possessed a remarkably retentive memory with great perseverance and energy. What he did, he "did with his whole might." His industry was untiring, his faith unswerving, his integrity unyielding. As a physician, he performed every duty his position imposed; as a politician, in public life, his virtues shone conspicuous; as a Christian, he was devoted and faithful, dying with all its hopes of a blessed immortality. Few men starting out on the journey of life with the same limited advantages, have filled so many positions of honor and trust and finished up so perfect a life.

SUMNER ELY.

Dr. Sumner Ely, who was elected president of the Medical Society of the State of New York, in February, 1840, was born at Lyme, Conn., May 22, 1787. He was the fourth in direct descent from Richard Ely, the first of the name who came to this country, and who emigrated from Plymouth, England, about the year 1660, and settled at Lyme, where he purchased large landed estates, a portion of which is still known by the name of the "Ely Meadows."

His father was a farmer, and he the third in a family of five children. He was for a short time the private pupil of the Rev Frederick W. Hotchkiss, at old Saybrook, where he completed his preparation for college. He entered the sophomore class at Yale in 1801, and was graduated in 1804, at the early age of 17 years.

Having completed his college course, he entered the office of Dr. Thomas Broadhead, of Clermont, Columbia County, in this State, as a student of medicine. Dr. Broadhead was, at that time, a popular teacher of medicine, engaged in an extensive practice, and the facilities which his office afforded for acquiring a thorough practical, as well as theoretical knowledge of the profession, induced many young men, living at remote distances, to resort thither for instruction; for in addition to a well-selected library, his cliniques were considered the best that any country office afforded.

Here he spent nearly five years, devoting, however, a portion of the time to teaching in an academy, by way of aiding him in his pecuniary resources, and on August 30, 1809, took his diploma at Catskill, from the Greene County Medical Society. It is not now known why his examination was had in the County of Greene, while his studies were mainly, if not entirely, pursued in the County of Columbia. It is probable, however, that this became necessary in consequence of a temporary residence acquired by teaching.

In July, 1810, Dr. Ely commenced the practice of his profession at Clarksville, Otsego County, N. Y., then an obscure country town, in a rural district, remote from any great thoroughfare.

Although an entire stranger in that locality, and without family influence to introduce him into practice, he was not long without patients. Affable in his deportment, social in his habits, and possessing a vigorous and well-cultivated mind, he soon found himself surrounded by numerous friends.

For the first twenty-five or thirty years of his residence in Clarksville, Dr. Ely gave his

undivided attention to the practice of his profession, and became a very popular and successful practitioner. The surrounding country was then but sparsely settled, and his ride extended to the distance of many miles into the adjacent towns, in a hilly and mountainous district, and over roads then but poorly graded.

Dr. Ely was always on terms of intimacy with his neighboring practitioners, by whom his opinions were ever held in the highest respect. Often called in consultation, his urbane and gentlemanly deportment, his open and frank manners, and the kindly interest which he always manifested in the successful issue of the case under consideration, made him very popular as a counselling physician.

The Otsego County Medical Society was organized in 1806. Dr. Ely became a member in 1811, and from that time to the day of his death continued one of its most firm and undeviating supporters. For a period of over forty years its regular meetings, annual and semi-annual, always found him in his place. Ever prompt in the discharge of any duty assigned him by the society, he spared no pains to make its sessions useful and interesting. The archives of the society still preserve the durable mementoes of the zeal and assiduity which he manifested in maintaining the dignity of the profession, and promoting its usefulness and popularity. He successfully held, and for a long period of years, every office within the gift of the society. In 1832 he was made a delegate from the county to the State Society, and in 1836 he was elected a permanent member of this society.

On August 2, 1837, he received the honorary degree of M.D. from the Geneva College, and in January, 1838, was made an honorary member of the Medical Society of that college.

In February, 1840, he was elected president of the State Medical Society, and on the 14th of March, 1843, a Fellow of the College of Physicians and Surgeons of the University of the State of New York.

He was ever devotedly attached to the profession of his choice, and a most determined opponent to quackery and to every attempt to legalize it. He labored assiduously, both in the County and State Societies, to elevate the profession by raising the standard of qualification, and insisting on a higher grade of preparatory as well as professional education.

But his popularity was not solely professional. He took a deep interest in the subject of popular education, and especially in the elevation and improvement of common schools, and gave much of his time to the furtherance of his plans of improvement.

For a very considerable period of his life he held, almost continuously, the office both of trustee and inspector of schools for his town; and the encouragement he has often afforded indigent young men will be attested by many who were indebted almost entirely to his interest in their behalf, as well in personal instruction as in pecuniary aid, for both their elementary and professional education.

In 1836 he represented his Assembly district in the Legislature of this State with distinguished ability, and in 1840 was elected Senator for the then fifth senatorial district. This office he held for four years, and became a prominent, useful and efficient member of that distinguished body, which then, in addition to its legislative powers, constituted the highest legal tribunal in the State—the court for the correction of errors. In his legislative capacity he never forgot his duty to our profession, but firmly and successfully resisted the importunity of the irregular practitioners to be allowed to participate in the honors and emoluments of men of true science.

In person he was prepossessing, and in stature noble and commanding, standing six feet and one inch in height, with a frame at once robust, vigorous and athletic; and he retained the full possession of his strong mental and physical powers till within a few days of his death. A few weeks previous to his death he received an injury upon his head by a fall, to which at first he paid little attention, but which finally resulted in a fatal inflammation of the brain, of which he died on February 3, 1857, being then in the seventieth year of his age.

JOHN B. BECK.

As the seventeenth president of the New York State Medical Society Dr. John B. Beck served one term in 1841. He is best known as an historian of the early days in medicine, and most of those who have written with regard to pre-revolutionary medical history, have consulted his presidential address before the society which treated of this subject very fully. Dr. Beck is a typical example of how much a medical man of the early part of the nineteenth century could accomplish with the apparently limited opportunities at command at that time, and succeeded in making for himself an enduring name in medical history.

John B. Beck was born September 18, 1794, at Schenectady. He was the third son of Caleb Beck and Catherine Theresa Romeyn, only daughter of Rev. Theodorick Romeyn, D.D., long principal of the Academy of Schenectady, and one of the most active founders of Union College.

While yet a child Dr. Beck lost his father, and from that period the care of his education and that of his four brothers Theodorick Romeyn, Nicholas, Lewis and Abraham, rested chiefly with his excellent mother. How well this estimable lady performed her task, was seen not

more in the elevated positions which each of her sons attained in their professions, than in the loving respect which they cherished for their mother.

In 1804 Rev. Dr. Romeyn removed to New York, his nephew accompanying him. Here the young man's education progressed under the same kind and judicious care. In 1809 he entered Columbia College, of which his uncle was then a leading trustee, and the cherished John M. Mason, D.D., then the leading mind of his profession in the city, was Provost. Here the industry and ability of young Beck soon secured him warm approbation and, in due time, the cordial friendship of Mason. In 1813 Beck graduated with the highest honors of his class. He ever retained a kindly feeling for his alma mater, and when, in subsequent years, it manifested its appreciation of his general ability, by appointing him one of her trustees, he took an active part in every effort to sustain and elevate her reputation.

Immediately after his graduation Dr. Beck accompanied his uncle in a voyage to Europe, and spending some time in London he there applied himself to the study of Hebrew, under the instruction of the Rev. Mr. Humphries, a grandson of Doddridge. In this study he made such advances as enabled him, in after life, to take an intelligent interest in Biblical criticism. On his return from England, having determined to study medicine, he entered the office of Professor David Hosack, of whom he soon became a favorite pupil. It is pleasant now to think that, though the part they respectively took in medical politics soon estranged the able pupil from the distinguished teacher, yet each retained to the end of life a high estimate of the learning and ability of the other. In 1817, Dr. Beck graduated from the College of Physicians and Surgeons, New York, presenting as his thesis that treatise on Infanticide which, subsequently incorporated into the great work on medical jurisprudence by his brother, T. Romeyn Beck, laid the foundation of his fame as an author. Of this tract it is no more than literal truth to say that it exhausted the subject; and subsequent writers have done little more than reproduce copies, more or less imperfect, of this the standard work in infanticide in the English language.

In 1822 Dr. Beck, in company with Drs. Dyckman and Francis, established the *New York Medical and Physical Journal.* To this journal he devoted a large portion of his time, and in it were published many able articles from his pen. Among them may be specially mentioned: his paper on Laryngitis, several reviews on the Contagiousness of Yellow Fever, a favorite doctrine of his great teacher, Dr. Hosack, and then the leading *questio vexata* of medical science, and others on the Modus Operandi of Medicines, in which the doctrine of their absorption into the blood was ably sustained. Dr. Beck continued as the chief editor of the *Medical and Physical Journal* for seven years, being associated in the latter part of that period with Dr. Peixotto. In 1826 he was elected Professor of Materia Medica and Botany in the College of Physicians and Surgeons, New York, then newly organized, in consequence of the simultaneous resignation of all the previous faculty. This step, the crowning act of a long series of dissensions, threw upon their successors a weight of responsibility difficult to bear. The names of Post, Hosack, Mitchell, Mott, Macneven and Francis, were known throughout the country. The whole influence of these names was thrown against the new organization, and it had in its very inception to struggle against the imputed odium of having driven these distinguished men from positions they adorned. Of this responsibility Dr. Beck was prompt to take his full share, and his ability as a controversialist was too well known, and had been too sorely felt, not to insure to him a full share in any odium which the friends of the old could throw on the leaders of the new organization. But it was not alone against the influence of names that the school had to struggle; active rivalry was soon attempted and a new medical school, the Rutgers Medical College, was organized with Hosack, Mott, Macneven and Francis in their old departments, while the places of Post and Mitchell were filled by John D. Godman and Dr. Griscom.

In the struggles which followed Dr. Beck bore his part nobly, and it is doing no injustice to his distinguished associates to say that no man did so much in sustaining the college. In his own department he was impregnable; of those who desired that he should fail as a public teacher, few hoped it, and those few were miserably disappointed. His success, from the first, was signal, and his poularity as a lecturer went on steadily increasing till the close of his career. But it was not alone, though of course chiefly, as a public teacher that Dr. Beck served the college; he was the zealous promoter of its interests, the ready defender of its policy.

In 1835 he was appointed one of the physicians of the New York Hospital, a situation which he filled for ten years, discharging his duties with fidelity and zeal. His services at the hospital had a very favorable effect on Dr. Beck's reputation as a physician. Hitherto his brethren had known him only as, for his age, a learned physician, a practiced and able writer, and a judicious and attractive lecturer. At the hospital, he proved no less sagacious in investigating disease at the bedside, than skilful in the application of remedies to its cure. Dr. Beck was and aimed to be rather judicious in the use of a few remedies, than able to overwhelm disease by a multitude of them.

(*To be continued.*)

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Editorials.

PUBLIC POLICY AND THE MEDICAL PROFESSION.

THERE is one important fact that the public should know, and that is that there is no great work in process of development which means more to the people than the advancements of medical science. If society were wise it would not place obstacles in the path of this development, but it would render every aid. One of the greatest reflections upon the ability of the people to take care of themselves is the fact that most of the medical and sanitary measures which have been adopted for their protection have been fought for by the medical profession against strong opposition. In this country, were it not for the fact that medical men have labored unceasingly to compel the adoption of laws for the prevention of diseases, our country would be riddled by pestilence.

Frequently, in this fight which our profession is making for the people, we lose, and some danger to public health is permitted to enter society. But ultimately, by the slow process of education, it is often made manifest to this great heterogeneous conglomeration, called the public, that a revision of their action is necessary, and they adopt the policy which medicine advised. This is often done after the lesson has cost a great price. It is not appreciated that there is just one profession, just one branch of society, the relations of which as a whole to the public are for the public good. Individually we may be inspired by that beneficent egoism which exists in all men, but as an organized class, what is recommended by the medical profession for the public good has the merit of true philanthropy which no profession or class approaches. Medicine is not striving for the acceptance of any particular scheme, theory or doctrine of social betterment; it is not laboring to fasten upon the State any particular superstition; its aim is simply to learn all that can be learned about the laws of health and apply them to the end that pain may be lessened, sickness prevented, physical efficiency promoted, and death postponed. There are a few pessimistic philosohpers, of the school of Schopenhauer, Hartman, and Saltus, who do not agree that these are desirable things, but the great majority of human creatures desire them all.

Were society wise it would give the men who are striving for these things every help. Unwisely it does not. Here it makes laws to the prejudice of public health; there it hinders the adoption of policies for the saving of lives. In New York State we are cognizant of such things. In Vienna recently the mayor of the city made the public statement, in the presence of a small-pox epidemic, that more persons had died from the vaccinations than from the small-pox. The local medical society collected data and showed the mayor that there was not a case of death or serious injury following the vaccinations, but the mayor declined to retract his words. The harm which the public often does itself through its chosen representatives is beyond calculation. If we go a little farther east in India we find sixty-two million natives dead from starvation and plague, because the English government sends the grain out of the country to pay for maintaining the enormous military show and declines to heed the pleas which her humane medical profession has been making for more than a hundred years which would save the suffering millions of this Anglo-afflicted land. The Japanese gave heed to medical council and saved her people. If we return to our own country we find that in every municipality where typhoid fever exists, the medical profession has advised the people what to do to stop it; usually they have pleaded with them. Have they ever advised the people wrongly? No. Have they ever

been unduly sanguine that the mortality could be reduced? No. Has the public ever accepted their recommendations without a vast deal of palaver and delay while the people kept on dying? No. And isn't it a spectacle to be viewed with emotions of pity and shame, that in every large community there are people dying who would be well and happy were the recommendations which the medical profession has placed in the hands of the people acted upon?

THE EXAMINATION SYSTEM.

ONE of the blighting influences upon the study and teaching of medicine is the examination system. Its pernicious effects may be seen from the beginning to the end of the modern medical curriculum. Unfortunately, the examination fetish is steadily gaining a stronger hold upon medical education. Dr. Lauriston E. Shaw, before the Harvean Society,* said that its influence is wholly detrimental to our true aims and that the present methods of conducting examinations have a demoralizing effect upon both the student and teacher; and, moreover, that this is the case, notwithstanding the fact that the peculiar features of medical education make it easier than in almost any other branch of study to free ourselves from the trammels of the present system. The task of reaching a general agreement upon the failures of present methods to secure our highest aims, though difficult, should not discourage us. The harmful influence of the examination system upon learning has long been recognized by educational experts, and this view is daily gaining more general acceptance. The true aim of education, according to Matthew Arnold, is "to develop the power of our minds and to give us access to vital knowledge." Does the modern examination discover the powers of mind or the possession of vital knowledge?

An examiner who has never seen the candidate before can not by asking a few questions discover "the powers of his mind," and therefore he can not determine whether he is educated or no. At most, by this "external examination," only to a very limited degree can the powers of the mind be tested. One power of the mind can, perhaps, be tested by this means—that is the power of passing examinations—the ability to keep one's store of facts on the surface and to pour them out speedily in the presence of a stranger or on paper—the power which is essentially created and promoted by the cramming process. It is a mixture of memory and cheek. It is just as illogical, says Shaw, continually to worry a man, who is trying to develop the higher faculties of his mind, with investigations as to his memory as it would be periodically to test the lifting power of a man who is learning to play the fiddle. The student is studying medicine to perfect himself in the observation and treatment of disease, not to cultivate his memory.

"We tell whether a man has been well educated not by what he knows but by what he can understand."

This subject was editorially discussed in the JOURNAL about a year ago (Vol. 7, No. 6, p. 244). One of the difficult problems to solve is this question of examinations which we well know is as yet but imperfectly worked out. It is not the answer to questions that we should want but rather some knowledge of the fitness of the candidate to practice medicine. This can not be discovered at one sitting. Whether we shall adopt a rational examination system depends upon what we determine to be the object of the examination.

*N. Y. *Lancet*, February, 35, 1907.

THE ANTIQUITY OF IMMUNIZING THERAPY.

FROM time beginning before history there has been a disposition on the part of men to seek the remedy for diseases in the realm of the cause. This was often inspired by the belief in spirits and other occult influences which were involved in diseases. From this sprang the application of the curative principle as a preventive. In the prescientific period men were ever groping for help for diseases. To secure immunity was a goal striven for by the most primitive peoples. These efforts even involved the principles of immunizing sera. Wainwright tells us that Galen used the flesh of the viper as an antivenene; and Mithridates fortified himself against disease by taking all the then known antidotes. Galen also experimented upon condemned criminals, and succeeded in rendering them and himself immune to snake bite by taking the blood

of animals which had been fed upon venomous snakes. Andromachus, physician to Nero, resorted to the same expedients. Dioscorides advised those bitten by mad dogs to drink the blood and eat of the liver of the animals which had bitten them.

The doctrine of immunity is not new. In Romeo and Juliet, Shakespeare contributes the following couplet to the literature of immunity:

BENEVOLIO—"Take thou some new infection to the eye,
And the rank poison of the old will die."

DELAYED THERAPY.

MAY we not ask ourselves the question: Are we not too often belated in our therapeutics? If a lesion is due to the absorption of ptomain-like products are there not symptoms due to the presence of these products before an anatomic lesion has developed? and is not that the condition to be treated in preference to the anatomic lesion?

For many years following the advancements of pathological anatomy we treated the lesion. Now the study of pathological physiology has taken us a step farther back. We must now shake off the yoke of the tyrannical doctrine which, by making of disease a consequence of the lesion, has greatly hampered our therapeutic activity.

The lesions of arteriosclerosis are preceded by a phase of functional troubles, due to a state, more or less pronounced, of vascular hypertension. This is the so-called stage of presclerosis, when as yet there are no lesions, and what is still more important, this is the stage when treatment is really efficacious in doing the only thing there is to do, namely, to ward off the impending anatomic damage to the arterial system. Apoplexy, neurasthenia, valvular disease and angina are but the terminal phases of conditions which are amenable to treatment and with which the physician should concern himself most seriously.

PROPRIETARY PREPARATIONS.

PROPRIETARY preparations will be much less in vogue when students of medicine are taught therapeutics in the same serious spirit that they are taught the other branches of medicine. If the student has not well in hand his therapeutics when he leaves college, he falls an easy victim to the ready-made prescription habit. It is an unfortunate commentary upon the general practitioner of medicine that it is he who is made to keep alive the proprietary business in the same manner that the general public is made to keep alive the patent medicine evil. Both are made dupes of commercial interests.

TWO WAYS OF KILLING PEOPLE.

ABOUT six hundred years ago when London had a population of only fifty thousand the citizens petitioned King Edward I to prohibit the use of soft coal, and he responded by making the use of soft coal an offense punishable by death. That is the way things were done six hundred years ago. People were killed by order of those who had in their hands the enforcement of the law. Now they die for want of enforcement of the law.

TUBERCULOSIS PREVENTABLE.

IF tuberculosis is preventable, why then is it not prevented? Are not the thousands who are to perish during the coming year worth the saving? If we knew that we should be among the number, should we not think it a terrible thing? Is it not strange that we are not willing to live hygienically until *after* we have contracted the disease?

DUSTLESS ROADS.—In this "horseless age" the sprinkling of the streets with water is going out of fashion. Thirty-three miles of Boston's thoroughfares are now either under oil, calcium chloride, or "tarve," a mixture much used on suburban highways. In New York top dressings of oil have been tried successfully in the parks. To the automobile's propensity of stripping the highway of its surface covering we shall owe the abolition of street dust altogether, and if this is accomplished the automobile may be hailed as a blessing which has annihilated both space and dust.

HONORS TO AMERICAN PHYSICIANS.—Dr. Carl Beck has been decorated by the King of Sweden with the Order of the North Star. On July 17th a reception was given Dr. and Mrs. Louis Livingston Seaman of New York City at the Peers' Club, Tokyo, under the auspices of Baron and Baroness Ozawa. During Dr. Seaman's stay in Japan he received three decorations; two given by the Japanese Red Cross Society and one, the "Rising Sun," conferred on him by the emperor.

Observations

ON THE PRECEPTOR.

I wish that we might have restored to us in some way the old relation of preceptor and pupil. Personality is such a strong factor in teaching, it is a great loss to sacrifice it. Teaching is becoming a composite and complicated function—like much of our modern-day processes, it is gaining in efficient machinery but losing in inspiring personality. I would not say that students are not taught better now than ever before, nor would I say that shoes are not made better now than in the olden days, but the passing of the dear old cobbler, who was my neighbor, and who hoed in his garden after supper, has deprived me of just that much human kinship. The medical student needs to hear the living voice of the master.

It is of great value to a young man to have a *whole man* as his ideal. Let me explain: The student now divides his time equally among many teachers. He admires this one's diagnostic acumen, that one's painstaking honesty, and the splendid therapeutic technic of another; but when all are done and he goes to work for himself his ideal, if he has any, is a composite, not a loved and respected individual; and a composite lacks bowels.

The broad field of medicine will never again be mastered by any single man. Students have long ago ceased to go to Leiden to study with Gaubius. The student in his college work will always come under the influence of a number of teachers each excelling in his special branch. But it is possible for him when he enters into practice to enjoy the advantage which the modern stress of the times has deprived him of. Then if he can, as an assistant or an associate, become attached to some practitioner, whom time and experience have made both wise and venerable, he is, indeed, a fortunate youth. This is one of the reasons why the doctor's son enjoys an especial advantage; he has a preceptor whom he respects and who loves him. We can best have ideals by seeing them in reality.

* * *

ON THERAPEUTIC UNWISDOM.

Here is a fine example of therapeutics gleaned from the *Critic and Guide*. A patient consulted a practitioner for treatment of his headaches. The physician was not one of your ordinary doctors who prescribe headache powders and let it go at that. No, he was an astute and thorough one; he asked the patient if he drank coffee. (Are not all of the magazines and trolley cars full of warnings against coffee? There's a reason.) The patient pleaded guilty. Enough! That is the cause of your headaches. The doctor advised the patient to stop drinking coffee. Then bethinking himself of the medical treatment—for who would think of treating headache without medicine?—and being well read enough to know that acetanelid was no longer in good repute among the most advanced practitioners, he wrote a prescription for the great synergist in the treatment of headache—caffein! Thus, as a result of the consultation, the patient was instructed to stop taking ⅛ gr. of caffein twice daily, which was producing the headaches, and take 2 grs. three times daily to stop them!

Items

EDITED BY

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Tuberculosis Camps.—The first tuberculosis day camp of the American National Red Cross was opened in Schenectady on June 29th, under the auspices of the Schenectady County Subdivision of the New York State Branch of the Red Cross. A Red Cross day camp will be opened in Albany within a short time and another in New York City on October first. Other Red Cross day camps are located in Washington, D. C., and Wilmington, Del. The Schenectady Red Cross day camp is located in a pine grove on high flats in the southeastern part of the city. It has two permanent wooded buildings—an office and a kitchen—and on platforms a large dining tent, two hospital tents—one each for men and women—and two conical tents for night campers. A medical visiting committee, whose members visit the camp in turn for an hour or two a day, are Drs. C. F. Clowe, H. L. Towne, Peter McPartlon and J. H. Collins. The camp is in charge of a superintendent, Miss Sarah B. Palmer, R.N., who was in charge of the floating hospital in New York City for three years. The camp has a cook to prepare the noon meal and the milk, eggs, etc., served at other hours of the day. The camp opened with six patients and now has fifteen, the probable limit this year. The camp will be open until November first and perhaps longer. The design was to take only incipient and moderately advanced cases but it has been difficult to draw the line in the new undertaking, and the camp now has some fairly advanced cases. Several patients sleep at the camp. The camp has received its patients from the municipal dispensary. Home supervision will be given by local organized charities.

The Albany Red Cross day camp opens on Kenwood Heights on land furnished by the Albany Hospital for Incurables. The camp arrangements are in charge of the day camp committee, of which the medical members are Drs. Howard Van Rensselaer, Henry Hun and Charles K. Winne. The camp's limit this first year for the day camp alone will be about fifteen patients. Incipient and moderately advanced cases only will be handled in the camp. The

Red Cross day camp committee is, for purposes of co-operation, a sub-committee of the local tuberculosis committee of the State Charities Aid Association.

The New York City Red Cross day camp is to be located on the roof of the Vanderbilt Clinic, a dispensary department of the College of Physicians and Surgeons at the corner of 60th Street and Amsterdam Avenue. The Clinic will fit up the roof at an expense of $10,000 and will supply medical supervision to the camp. The New York County Red Cross will supply nurses, attendants and nourishment to the forty or more patients to be received. Inasmuch as the Clinic is a member of the Association of the Tuberculosis Clinics of the city, the Red Cross will thus be brought into the organization. The camp will open October first and will continue during the day all the year around. After the first few months, it is probable that the camp will be open day and night. Supervision will be given by members of the regular staff of the Clinic. Incipient and moderately advanced cases will be received and when the camp is running the twenty-four hours of the day, probably more advanced cases can be handled.

In establishing these camps the American Red Cross joins hands not only with the National Association for the Study and Prevention of Tuberculosis, the State Charities Aid Association and other organizations already engaged in the field, but with the other members of the International Red Cross, the German and the Russian Red Cross, which has been engaged for ten or twelve years in tuberculosis work. The day camp idea is really a contribution of the German Red Cross, and it is therefore peculiarly appropriate in its being made the chief phase of the American Red Cross's work. It was adopted only after investigation and consultation with the leading experts and after recommendation to the Red Cross by the National Association for the Study and Prevention of Tuberculosis. The day camp is of approved value in this country as well as abroad. The first day camp in this country was opened in Boston some three years ago and has given such a good account of itself that it has been taken over by the new Consumptive's Hospital in Mattapan. Other camps have also been conducted in Boston, Salem, and Washington. In New York City the old ferry-boat "Southfield" was used last year by the Charity Organization Society and this year by Bellevue Hospital. The camp has in fact come to be recognized as an indispensable part of every progressive plan for the relief and control of tuberculosis and therefore offers a wide field for useful work on the part of an organization so large and influential as the Red Cross, while at the same time its relative inexpensiveness and simplicity will not require the raising of large sums or the maintenance of a large force of workers, thus diverting the energies of the Red Cross from its first, if not more important obligation of assisting the medical department of the Army in time of war, and of serving as the official emergency relief organization of the people in time of great national calamity.

The Red Cross—national and local—has practically no funds with which to carry on this work since it retains for its own use no part of the millions of dollars which pass through its hands and which are given for the specific purpose of mitigating suffering in given localities, as San Francisco, China, Japan, etc., and since its membership dues are merely nominal—one dollar per annum—and hardly meet the expense of organization. The relatively small emergency fund at national headquarters is available only for war and disaster, and the endowment fund only for national calamities of the greatest magnitude. Tuberculosis is a calamity, second to none other, but the terms of the national charter do not permit the deflection of the funds to this use. The Red Cross is therefore appealing for voluntary contributions, and is confident that these contributions will be received in amounts sufficient to conduct a large number of day camps similar to the ones already instituted.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.—This congress will be held in Washington, D. C., Sept. 21-Oct. 12, 1908. One week of the congress, September 28 to October 3, is to be devoted to section work. The program of the section on Surgery and Orthopedics, under the presidency of Dr. Charles H. Mayo, Rochester, Minn., is as follows:

Construction of Hospitals for Tuberculosis Patients. Mr. Meyer J. Sturm, Chicago.

Tuberculosis of the Larynx: The Type which is capable of Recovery, and the Principles of Treatment. Dr. W. E. Casselberry, Chicago.

A Brief Note on the Value of the Ophthalmic-Tuberculin Test in the Question of Surgical Treatment of Orbital disease. Dr. Charles A. Oliver, Philadelphia.

Tuberculosis of the Choroid. Dr. Sydney Stephenson, London.

Tuberculosis Affecting the Cornea. Dr. Oscar Dodd, Chicago.

Tuberculosis of the Ear. Dr. Clarence J. Blake, Boston.

Tuberculosis of the Cervical Lymph Nodes: Report of 275 Cases Treated by Radical Extirpation. Dr. Chas. H. Dowd, New York City.

Tuberculous Glands in Children. Mr. H. J. Stiles, Edinburgh, Scotland.

Retroperitoneal Tuberculous Glands and Their Relation to the Spinal Symptoms. Dr. C. F. Painter, Boston.

(*a*) *Traitement des Adénites Tuberculeuses.* (*b*) *Traitement de la Tuberculose du Testicule.* Dr. Cazin-Chef, Paris.

Surgical Tuberculosis of the Lungs. Prof. Sauerbruch, Marburg, Germany.

Tuberculosis of the Lungs and Pleura. Dr. S. Robinson, Boston.

Tuberculosis of the Breast. Dr. Wm. Rodman, Philadelphia.

Tuberculous Arthritis of the Hip Joint. Dr. Stephen H. Weeks, Portland, Me.

The Treatment of Tuberculous Hip Disease by Weight Bearing and Fixation by the Lorenz Short Hip Spica. Dr. H. Augustus Wilson, Philadelphia.

The Question of Non-Interference in the Passive Abscesses of Tuberculous Joint Disease. Dr. Morton F. Shaffer, New York City.

Vaccine Therapy in Joint Tuberculosis. Dr. E. H. Ochsner, Chicago.

Indications for Operative Treatment of Bony Tuberculosis. Dr. A. Codivilla, Paris, France.

Tuberculous Arthritis of the Knee Joint. Dr. Mauclaire, Paris.

Tuberculose Medio-Tarsienne et Pied Plat. Dr. A. Jeanne, Rouen, France.

De la Méthode de Mosetig dans le Traitement de Tuberculose Osseuse. Dr. Nové-Josserand, Lyon, France.

Tuberculosis of the Vas, Epididymitis and Testicle. Dr. John B. Walker, New York.

Tuberculosis of the Bladder. Dr. Wilhelm Karo, Berlin, Germany.

Tuberculosis of the Bladder. Dr. Bransford Lewis, St. Louis.

Tuberculosis of the Kidney. Dr. Arthur Dean Bevan, Chicago.

Tuberculosis of the Kidney. A Preliminary Study. Dr. Ramon Guiteras, New York City.

Tuberculosis of Intestines and Appendix. Prof. Henri Hartmann, Paris.

Acute Forms of Abdominal Tuberculosis. Dr. D. N. Eisendrath, Chicago.

Tuberculous Adnexa. Prof. Samuel Pozzi, Paris.

Tubercular Peritonitis. Dr. J. B. Murphy, Chicago.

Experimental Testicular Tuberculosis. Dr. Chas. Esmonet.

Surgical Bearings of Tuberculin. Dr. R. W. Philip, Edinburgh, Scotland.

Surgical Tuberculosis. Dr. E. H. Bradford, Boston.

The Prevention, Diagnosis and Surgical Treatment of Tuberculosis Sinuses and Abscess Cavities. Dr. Emil G. Beck, Chicago.

The Value of Fresh Air in Conjunction with Artificial Hyperemia in the Conservative Treatment of Surgical Tuberculosis. Dr. Willy Meyer, New York City.

The Importance of, and How the State of Minnesota Cares for Its Indigent Children Suffering from Tuberculosis of the Bones and Joints. Dr. Arthur J. Gillette, St. Paul.

Outdoor Treatment of Surgical Tuberculosis. Dr. De Forest Willard, Philadelphia.

La Cure d'Altitude et la Cure Solaire de la Tuberculose Chirurgicale. Dr. Rollier, Lucerne, Switzerland.

Tuberculosis of the Muscles, Fascia and Tendons. Dr. James F. Mitchell, Washington, D. C.

Tuberculosis of the Gall Bladder, Pancreas, Stomach and Liver. Dr. L. W. Hotchkiss, New York City.

Rational Spinal Support. Dr. Henry W. Frauenthal, New York City.

Clinical Contribution on the Pharmacotherapy in the Surgical Tuberculosis by Hypodermic Treatment. Dr. Gualano.

INTERNATIONAL ANTITUBERCULOSIS ASSOCIATION.—Preceding the section work, and in connection with the International congress, the seventh annual meeting of the International Antituberculosis Association will be held at Philadelphia, September 23-26. This association is a delegate body composed of representatives of the various countries, appointed by their respective governments or antituberculosis associations. The program is as follows:

September 23, 8 P. M.: "Social Life and Tuberculosis," by Prof. Dr. Pannwitz, Berlin.

September 24, 8 P. M.: "The Evolution of the Treatment of Pulmonary Tuberculosis," by Dr. C. Theodore Williams, London.

September 25: "Provision for Advanced Cases of Tuberculosis," by Dr. Biggs, New York City, and Dr. von Leube, Würzburg; "Prophylactic Measures in Tuberculosis," by Lawrence F. Flick, Philadelphia, and Dr. Nathan Raw, Liverpool; "Hygienic Requirements for Sanatoria," by Dr. Lawrason Brown, Saranac, N. Y., and Dr. Pannwitz, Berlin; "Antituberculosis Education," by Dr. Livingston Farrand, New York City; Dr. G. A. Heron, London; Prof. A. Calmette, Lille, and Dr. Kirchner, Berlin; "Tuberculosis and Traffic," by Dr. Sherman G. Bonney, Denver.

September 26: "Tuberculosis and Legal Rights," by Dr. Samuel G. Dixon, Harrisburg, Pa.; "The Red Cross Society in the Crusade Against Tuberculosis," by Dr. Pannwitz, Berlin, and Miss Mabel T. Boardman, Washington; "Notification of Tuberculosis," by Dr. Walsh, Philadelphia; lecture on *"Les nouvaeux procédés de diagnostic précoce de la tuberculose,"* by Prof. A. Calmette, Lille.

Each day there will be receptions, banquets and other social functions.

THE NEED OF THE CAMPAIGN AGAINST TUBERCULOSIS: A SPECIFIC INSTANCE.—How poorly equipped the State is at present to deal properly with tuberculosis cases, is day after day vividly impressed upon those engaged in the campaign to secure control over the disease. Many cases might be cited to show the lamentable lack of facilities for caring for consumptives. The following is an illustrative case:

A young mother with two infants of tender age, became ill. A local doctor examined her and suspected that it was tuberculosis, but he could not be sure without having the sputum examined by a bacteriologist. The patient was too poor to pay the cost of such an examination; while the doctor did not know that he could have the examination made without charge by sending the sputum to Albany. Valuable time was lost before the examination was finally made. It confirmed the doctor's diagnosis. What to do with the woman was the question. Her husband was very poor and at that time out of work, and they were living in crowded quarters, in every respect unsuitable as a habitation for a consumptive.

The local doctor thought the disease was not so far advanced but that his patient could be cured if she could be sent away to the Adirondacks; but where she could be sent in the Adirondacks, or how she could be sent there, he did not know. A lady became interested in the case, who, knowing of the existence of the State Hospital for Incipient Tuberculosis at Ray Brook, corresponded with the superintendent. Time, valuable time, that which a patient in the first stages can least of all afford to lose, was lost in learning what to do in order to secure admission to the hospital. First, the application had to be made by the Superintendent of the Poor. Then the young woman was notified that she must travel about twenty miles to another town for the purpose of being examined by the official examiner for the Ray Brook institution. More than three weeks had now elapsed since the first discovery of the case, and the superintendent at Ray Brook, after receiving the report of the examiner, decided that the case was no longer an incipient one, and therefore not entitled to admission.

All this, naturally enough, was disheartening to the patient, and she was steadily losing hope and courage, She would not go to the County Hospital for tuberculosis patients because this is connected with an almshouse. Finally she decided to go to her mother's home with her two children. There she is living at the present time. Now the chances of saving her life are very poor.

If there were in this city, as there should be in every city and town in the State, a dispensary, a visiting nurse or nurses, and a bacteriol-

ogist to make examinations of the sputum without charge, it is altogether probable that the disease in this case would have been discovered in its incipient stage and that the patient would have been promptly placed in the State Hospital, or under other conditions which would immensely increase the probability of her recovery and absolutely protect the family from infection. When the well approved measures for cure and prevention which it is the object of the campaign against tuberculosis to secure, are generally adopted througout the State such cases as these will be impossible.

TUBERCULOSIS PAVILION ERECTED BY ORGANIZED LABOR.—On August 29th, an event took place in Albany that marked an epoch in the campaign against the "Great White Plague," when the Central Federation of Labor of that city dedicated its tuberculosis pavilion. This is the first pavilion of its kind erected by organized labor, and it is considered by those interested in the crusade against this disease, as one of the most important events in the campaign which is being waged throughout the civilized world. The occasion was celebrated by an elaborate demonstration in the form of a parade of the Labor Unions of Albany, Troy, Cohoes and Schenectady. Dedicatory exercises were then held at the pavilion on Kenwood Heights. The meeting was called to order by Mr. Michael J. Sullivan, President of the Central Federation. After an opening prayer by Right Rev. Richard H. Nelson, Bishop Coadjutor of Albany, the report of the Building Committee was read by Chairman Wm. A. McCabe. President Charles Gibson of the Albany Tuberculosis Committee presented the key of the pavilion to Gov. Hughes. The Governor in turn, after a brief talk, presented the key to Mayor Gaus, who placed it in the custody of the Board of Directors. There followed an address by the Hon. Homer Folks, Secretary of the State Charities Aid Association on "The Scope of the Campaign Against Tuberculosis." John Mitchell spoke briefly on the "Mission of the Labor Movement," after which an oration was delivered by Secretary of State, John S. Whalen, and prayer by Rabbi Samuel H. Goldenson, followed by the benediction pronounced by Rev. Father John F. Donahue.

During the day, working girls, stationed all about the city, distributed souvenir buttons containing a photographic cut of the pavilion with the words, "Labor's gift to humanity. What is yours?" Everyone was asked to wear one of these souvenirs. The young ladies were provided with cash boxes to receive contributions.

The notable and unique feature of the parade, was a dramatization of the famous historical picture, "The Spirit of '76"—brought up to date. This picture was given a new version by the Albany Unionists. The drum corps representing the "Spirit of '76" was preceded by a colonial figure carrying a banner bearing the inscription:

"SPIRIT OF '76, 1908.
DRIVE OUT THE GREAT WHITE PLAGUE."

That labor should see the importance of joining forces in combating this disease, that claims for its victims thousands of the wage earning class, speaks eloquently for the intelligence of the American Labor Union. These men are keenly alive to the economic phases of tuberculosis, to the fact that unsanitary work shops and unhygienic home conditions, unceasing and grinding toil at a wage that is insufficient to provide proper and wholesome food, that these social and economic conditions are the predisposing causes of tuberculosis.

A LOCAL CAMPAIGN AGAINST TUBERCULOSIS.—To illustrate what one of the boroughs of New York City is doing to combat tuberculosis, the following leaflet, issued by the Brooklyn Bureau of Charities, is of interest. It is entitled "Warfare against Consumption," and reads as follows:

WHY FIGHT IT?

Because more people die of consumption than from any other disease.

Each year 1,095,000 people of the world die of it; every day 3,000 people and each minute of the day two persons fall before this enemy. How many of your friends have died of it?

Because it is a disease which spreads from one person to another and anyone may catch it.

Because it is a disease which can be stopped; and need not spread.

Because every one may and could help stop it.

Because already there is a change for the better. The number of deaths from consumption is growing less, owing to this campaign.

If the tuberculosis death rate of 1886 had been maintained the first nine months of 1908, five thousand more persons in Greater New York would have died of tuberculosis than actually died in these months.

Could anything be found more inspiring, more plainly indicative of the need for extending the work against this disease?

WHY FIGHT IT IN BROOKLYN?

Because Brooklyn already has six thousand registered cases and thousands unregistered.

Because the number of cases is increasing rapidly.

Because the movement from Manhattan to Brooklyn is bringing so many new cases.

Because the dispensary facilities of Brooklyn for tuberculosis cases are inadequate and should be increased.

Because Brooklyn has some very bad housing conditions which are sources of infection.

Because these cases can be helped, and by education and care infection may be eliminated.

HOW FIGHT IT?

By educating the public through lectures and exhibits that tuberculosis is: 1, *communicable;* 2, *curable;* 3, *preventable;* 4, that clean consumptives need not be feared, but careless dirty ones should be feared.

By giving these lectures in all parts of town and in all languages.

By providing more hospital and dispensary facilities for the care of consumptives.

By issuing leaflets in all languages with instructions how to live, how to keep well and what to do if one has tuberculosis.

By providing a nurse who shall visit all consumptives who come to the attention of our committee.
By establishing tuberculosis classes.
By co-operating with all existing preventative agencies.

HOW CAN YOU HELP THE FIGHT?

Exhibits, lectures, pamphlets, nurses' expenses and diet cost money. You can join the committee.
You can give us something, if it is only a dollar. You can distribute some of our literature and help us in many little ways.
Membership is one dollar.
Sustaining membership, five dollars.
Life membership, two hundred dollars.
Send remittances to Walter R. Davies, Treasurer, 215 Montague Street, or James Jenkins, Jr., Secretary, 69 Schermerhorn Street.

CONSUMPTIVE "DONT'S."—The Director of Public Health and Charities in Philadelphia has issued for public distribution a series of "Dont's" which are both striking and practical.

Don't spit on the sidewalk; it spreads disease and is against the law.
Don't spit on the floor of your rooms or hallways.
Don't spit on the floor of your shop.
Don't cough without holding a handkerchief or your hand over your mouth.
Don't kiss a person with a cough or cold.
Don't live in rooms where there is no fresh air.
Don't work in rooms where there is no fresh air.
Don't sleep in rooms where there is no fresh air.
Don't eat without washing the hands.
Don't neglect a cough or cold.
Don't waste your money on nostrums for consumption. Go to a doctor or dispensary.
Don't drink whiskey, beer or other intoxicating drink. If you have consumption it will make it harder for you to get well.

FOR THE SUPPRESSION OF FLIES.—The Board of Health of New York City has been asked by the chairman of the water pollution committee, in furtherance of the campaign of the Merchants' Association against the house fly, to distribute among householders, hotel and restaurant proprietors, etc., cards on which appear the following rules and comments:

Keep the flies away from the sick, especially those ill with contagious diseases. Kill every fly that strays into the sick-room. His body is covered with disease germs.
Do not allow decaying material of any sort to accumulate on or near your premises.
All refuse which tends in any way to fermentation, such as bedding, straw, paper waste and vegetable matter should be disposed of or covered with lime or kerosene oil.
Keep all receptacles for garbage carefully covered and the cans cleaned or sprinkled with lime or oil.
Keep all stable manure in vault or pit screened or sprinkled with lime, kerosene or other cheap preparation.
See that your sewerage system is in good order; that it does not leak and is up to date and not exposed to flies.
Pour kerosene into the drains.
Cover food after a meal; burn or bury table refuse.
Screen all food exposed for sale.
Screen all windows and doors, especially the kitchen and dining room.
Don't forget that if you see flies their breeding place is near-by filth. It may be behind the door, under the table or in the cuspidor. If there is no dirt and filth there will be no flies.
If there is a nuisance in the neighborhood write at once to the Health Department.
It is confidently believed that this method of following up the impression made last year, not only on the people of New York, but on those of all sections of the country, will result in a great diminution of the number of deaths from the hot weather diseases now known to be transmitted by flies.

BRITISH MEDICAL ASSOCIATION.—The annual meeting of the British Medical Association was held at Sheffield on July 27-31. It was attended by nearly 1,000 members. The honorary degree of D.Sc. of the University of Sheffield was conferred on the president and distinguished members of the association and visitors. Among the recipients of the honor was Dr. Murphy of Chicago.

OPIUM CONSUMED IN THE UNITED STATES.—During the past four years 1903-1907, there were imported into the United States 2,436,771 pounds of crude opium (containing 9 per cent. or more of morphin), 783,258 pounds of chandu or smoking opium, and 59,000 pounds of morphin. It is estimated that from 60 to 75 per cent. of this opium is manufactured into morphine, and that 50 to 90 per cent. of the morphine so manufactured is used illicitly. The habitual use of morphine is steadily becoming a national scourge. Our Chinese population is smaller than it was twenty years ago, still we are importing more than twice the amount of smoking opium than was imported then. Similar conditions exist in England, the country which, for her own commercial gain, against the entreaties and remonstrances of China, fastened the opium habit upon the orient, and which now finds itself becoming a victim of the same curse and its chickens coming home to roost.

AN IMPOSTOR.—A man, claiming as his name Dr. John Meyers, and giving an Albany address, has called upon an Italian midwife, ignorant of the English language, and told her that he was sent from the State Board of Health to inform her that she must get a diploma, which would cost her $25.50. If she would allow him to examine her on the spot, she need not go to Albany, but would be given a diploma on payment of $15 extra. The poor, ignorant Italian paid him $40.50, and is still waiting for the diploma, which, he said, would reach her on May 12th. Needless to say that the man is an impostor of the worst sort, and it is hoped that he may be caught at his nefarious work and duly punished.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The American Public Health Association, with 300 delegates present from Canada, the United States and Mexico, convened in Winnipeg, on August 25th. One of the chief features of the programme is a discussion of concerted efforts to control consumption. International quarantine laws similar to those affecting smallpox are advocated by some delegates.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY

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CHLOROFORM NECROSIS OF THE LIVER.

Chloroform necrosis of the liver, or delayed chloroform poisoning, is discussed by H. Gideon Wells; a typical case of extreme interest being presented by the author. He describes the cases of delayed chloroform poisoning as apparently tending to group themselves into two classes. In one, which affects chiefly children, the symptoms are those of "acidemia" or "acetonemia" without jaundice, and in these cases the changes of the liver are not so very marked consisting, according to the published descriptions, chiefly of fatty degenerations about the periphery of the liver lobules. The other type is observed chiefly in young adults, and clinically is marked by profound jaundice, cholemia, hemorrhages, and the usual symptom-complex of a rapidly fatal acute yellow atrophy of the liver; anatomically the liver appears much as it does in acute yellow atrophy, being reduced in size, flabby, yellow, and showing microscopically an extreme degree of necrosis, beginning in the center of the lobule, with more or less peripheral fatty degeneration. Intermediate cases occur that do not fall distinctly into one or the other of the two types. Histologic study of these cases of the second type, to which the name "chloroform necrosis of the liver" may be appropriately applied, shows a striking constancy of structural changes, these consist of total necrosis of all the liver cells, except those at the periphery of the lobule, with autolytic disintegration of the necrotic cells, and fatty degeneration of those cells that are not necrotic. The capillaries and bile vessels do not seem to be affected; there is no thrombosis and no inflammation or proliferative reaction. Chemical analysis corroborates the histologic evidence of fatty changes and autolysis, there being found a slightly increased amount of fat, and the presence of considerable quantities of free amino-acids, purins, proteoses, peptones and polypeptids, derived from the autolysis of the cells.

The condition in the second set of cases resembles very closely that of typical acute yellow atrophy of the liver, except in the greater tendency to fatty changes. Nevertheless, it seems best for the present to reserve the term acute yellow atrophy to that form of liver necrosis and autolysis which occurs "idiopathically" and which presents certain features different from chloroform necrosis, puerperal eclampsia and phosphorous poisoning, and which is possibly due to some specific cause. The fact that chloroform seems particularly to affect livers in which fatty degeneration has been previously produced by some other disorder, may possibly be due to the known absorption of chloroform by intracellular fats, which in this case would increase the concentration and duration of action of the chloroform in the degenerated liver cells. Chloroform is a violent protoplasmic poison and, if it were to inhibit or destroy the oxidizing enzymes of the liver cells, the results would presumably be quite the same as those characteristic of chloroform necrosis; hence it seems probable that chloroform produces its effects by acting on the oxidizing enzymes, without corresponding inhibition of the autolytic enzymes and lipase of the cells.—*Archives of Internal Medicine,* July 15, 1908.

COMPENSATORY DIARRHEA.

This form of diarrhea, says Stern, is symptomatic of arrest or perversion of function of the skin, lungs, kidneys, or organs of internal secretion, and is corrective in effect. The definition includes those cases where the intestinal tract vicariously assumes the excretory functions of other organs or eliminates products which are the result of defective metabolism, and does not embrace functional diarrhea when the intestine merely rids itself of accumulated foreign materials. There are three types: (1) Diarrhea concomitant with disturbed catabolism. (2) Those resulting from disea ‹ of excretory organs. (3) Diarrhea occurring during the period of physiologic decline.

(1) The first type occurs especially in gout, exophthalmic goiter, Addison's disease and diabetes. Paroxysms of gout are often aborted by the appearance of profuse frequent stools containing increased amounts of the alloxur bases. In exophthalmic goiter, the attacks of profuse sweating and of diarrhea can be regarded as compensatory, and in this connection it is most interesting to note that they usually do not occur together, but may alternate one with the other. Temporary improvement usually follows. In Addison's disease also, attacks of compensatory diarrhea are usually followed by improvement. In diabetes, free intestinal discharges may carry off a small percentage of sugar as well as other poisons peculiar to the disease, and diabetic coma may at times be averted.

(2) In the second class are included extensive skin burns where the intestine vicariously assumes the function of the destroyed skin and helps to eliminate the toxic products which accumulate. The diarrhea of uræmia is the best known compensatory form, but is probably less frequent than uræmic vomiting and occurs most often in chronic than acute uræmia.

(3) The intestinal membranes are believed to retain their physiologic efficiency longer than most organs, therefore, during a decline of the whole organism in general the intestines may be called upon for a larger share of work.

Compensatory diarrhea is usually a chronic condition, and the occurrence of an attack is a good prognostic sign. It must be distinguished from those forms due to a temporary indigestion or from a colliquative diarrhea which rapidly exhausts the patient and leads to death. In some cases a compensatory diarrhea may lead to actual intestinal lesions which keep up the discharges far beyond the point of benefit. Here rest in bed, high colonic irrigations, heat to the abdomen, and reduction of fermentable ingesta form the best methods of treatment.—*Journal of the American Medical Association,* August 8, 1908.

SWELLING OF THE SUPRA-CLAVICULAR GLANDS.

Swelling of the supra-clavicular glands, whether right or left, is not, according to Schellschmidt, a frequent symptom of abdominal carcinoma, but as a diagnostic aid is worthy of great consideration. The swelling is almost always a growth by metastasis, and is very seldom of a purely inflammatory nature. Besides existing in connection with carcinoma in the abdomen the glandular swellings may be present in tuberculosis, syphilis, leukemia, and with malignant tumors of the mediastinum and lungs. In every doubtful case extirpation and microscopic examination of the supra-clavicular gland is advisable, though a negative finding is not conclusive against carcinoma.

Metastatic growth in the gland takes place either embolically or by continuous growth from the primary focus. The enlarged glands occur generally in the advanced stage of an abdominal carcinoma, and especially if several organs, and above all the liver, are affected. Their occurrence contraindicates operation, excepting possibly carcinoma of the cardia. If the glands are degenerated with carcinoma their growth is comparatively rapid.—*Zentralblatt für innere Medizin,* 1908, No. 23.

THE NATURE OF ANTHRACOSIS.

A number of authors, including Behring, Calmette, Vansteenberghe and Grysez, have recently proved that anthracosis of the lungs may have an intestinal origin, the pigment being taken by way of the lymph vessels from the mesenterial glands to the lymphatic glands of the thorax, and then disseminated through the peribronchial tissue. By this manner, therefore, a physiologically produced anthracosis may exist. This does not alter the fact, however, that anthracosis is also produced by inhalation.

The question arises whether the presence of coal dust is alone sufficient to produce chronic lesions of the bronchi and aveoli of the lungs. Calcaterra in the *Gazz. degli ospedali* answers this in the negative. Chemical processes which bring about changes in the walls of the vessels are necessary, and these chemical processes are set in action by bacterial poisons and by cell endotoxins which are freed through necrobiosis of the cells. The bacterial infection from without is aided, if not caused, through hindrance of the inspiration and expiration air stream by the dust particles.

Streptococci and staphylococci most frequently bring about the cellular conditions which cause the pneumoconioses. Mixed infection with tuberculosis is quite frequent, however, and according to Hart is found in 6.8 per cent. of coal miners with anthracosis.—*Zentralblatt für innere Medizin,* 1908, No. 27.

URIC ACID PRODUCTION.

From studies concerning the origin of endogenous uric acid Cathcart, Kennaway and Leathes conclude that a marked output of endogenous uric acid is found to occur in three conditions: fever, exposure to cold, and after severe exertion. The increased output coincides and terminates with febrile rise of temperature, coincides with and outlasts by many hours the exposure to cold, follows the exertions and lasts for many hours after them. It is suggested that in all these three conditions the uric acid has its origin in metabolic processes occurring principally in the voluntary muscles and not immediately related to voluntary contractions and work. The daily tide in uric acid secretions, high output in the morning, low output at night, is not due to retention of uric acid formed during the night, nor is it due to the fact that the digestive organs are inactive during the night, if such as a fact. It is rather due to the quickened activity of all functions, especially those of the voluntary muscles, which results from the rest of sleep. Generally speaking the more lively the performance of the functions of the body as a whole, the greater the amount of uric acid produced will tend to be.—*Quarterly Journal of Medicine,* July, 1908.

TEST FOR BILIRUBIN.

Obermayer and Popper of Vienna propose an improved modification of the reagent for the iodine test for bilirubin in the urine. The reagent consists of 625 ccm. water, 125 ccm. of 95 per cent. alcohol, 75 g. sodium chloride, 12 g. potassium iodide, and 3.5 ccm. of ten per cent. tincture of iodine. With a pipette a small quantity of this reagent is carefully overlaid on 5 ccm. of urine in a test tube. The urine should be fresh, of acid reaction, filtered, and if very dark diluted with physiologic salt solution. At the boundary line of the two liquids a green, bluish, or bluish-green ring is seen, corresponding in intensity with the amount of bilirubin present. By this test bilirubin is regularly found in small quantities in most normal urine. Aside from the diseases with icteric discoloration of the skin, a number of others show a pathologic increase of bilirubin, among which are muscular and valvular heart

lesions with insufficiency, atrophic liver cirrhosis, croupous pneumonia, acute articular rheumatism, and certain pleural exudates. In pulmonary tuberculosis with high fever, on the other hand, it appears to be lacking.—*Wiener klinische Wochenschrift,* 1908, No. 25.

SURGERY.

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OPERATION FOR EMBOLUS OF PULMONARY ARTERY.

F. Trendelenburg, Liepzig, in the *Deutsche Med. Wochenschrift,* No. 27, 1908, reports an operation done for embolus of the pulmonary artery. The patient, a man of 45 years, was under his care for a fracture of the left femur. For some weeks this was treated by extension when on account of the irritated skin a plaster cast was applied. Some four weeks after injury the patient experienced a slight chill. Fifteen minutes later he suddenly became cyanotic, complained of blackness before the eyes and had marked dyspnea. After a slight improvement he became rapidly worse and operation was at once proceeded with.

An incision was made along the left margin of the sternum from the first rib down to and beyond the third. A second horizontal cut was made along the left second rib. The flaps were turned back and the sternal end of second rib resected. The pleura was opened and then the pericardium at the level of the third rib. The aorta and the pulmonary artery were drawn forward with a large hook-shaped sound. This was replaced by a rubber tube. It was now seen that the aorta and pulmonary artery no longer pulsated, but that the heart still contracted feebly and irregularly. By this time breathing had stopped. The pulmonary artery was rapidly constricted by the tube in place and a sharp pointed knife plunged into the pulmonary artery. The wound was dilated. A small polypus clamp was introduced and several long thrombi withdrawn, in all 34 cm. long. This was followed by some fluid blood. A clamp was put on the incision, and artificial respiration and the administration of oxygen resorted to. Breathing soon returned and the violent jumping of the clamp on the pulmonary artery showed the vessels were again pulsating. The artery was again brought up into the wound by traction on the rubber tube constricted by the latter, a line of sutures applied, and the tube removed. Aside from some bleeding from the internal mammary artery there was very little blood lost. Before closing the wound the patient's head was placed in the Roth-Draeger apparatus to overcome the pneumo-thorax.

The patient recovered fairly well from the operation, though his pulse remained high. His condition was good until the next morning when his dyspnea returned and his pulse became weaker and weaker. Death occurred 37 hours after operation.

At autopsy it was found that the emboli had not been removed from the left branch of the pulmonary artery; there was some blood in the pleural cavity from bleeding of the mammary artery, but no blood in the pericardium. Thrombi were found in veins of the left leg. The femoral vein was empty. After discussing ways of avoiding injury to internal mammary artery and of insuring removal of emboli from both branches of the pulmonary artery, Trendelenburg expresses the hope that the report of this case will encourage surgeons to attempt this operation.

DIAGNOSIS AND TREATMENT OF NEPHROLITHIASIS.

Kümmell (*Zeitschrift für Urologie,* Bd. II., No. 324) says that among the etiologic factors of renal calculus trauma should be mentioned, also severe injuries of spinal cord and irritation by foreign bodies such as parasites, bacteria and fungi. The age of greatest frequency seems to be between 22 and 45 years. Women were found to make up 39 per cent. of all observed cases, and in stone of the ureter they made up four-fifths of all patients. He classifies his cases simply as infected and non-infected ones, not according to whether they are primary or secondary, *i. e.,* not whether due to infection of some kind.

Obliteration of the kidney is a rare result; pyonephrosis is the rule. Of all symptoms generally mentioned (such as pain, passing of stone, hemorrhage or anuria) none are certain indications of kidney stone. The diagnosis of nephrolithiasis is by exclusion. It is not rarely confused with appendicitis, gall stones and renal diseases of other nature. Kümmell thinks very highly of a good X-ray picture. He was able to demonstrate stone by X-ray picture in 91 out of 101 cases in which the calculus was removed. The very best plates, good soft tubes with an exposure of three minutes are needed to obtain satisfactory pictures. Pictures taken with compression blind are needed as well as pictures giving a general view of the field. Only when the bodies of the vertebræ and psoas shadow are clearly to be made out is the picture to be considered of any value.

When the diagnosis of nephrolithiasis has been made, the determination of the kidney sufficiency or insufficiency is to be taken up. This is preceded by a chemical, physical and bacteriological examination of the urine.

Cystoscopy, ureteral catheterism and diagnosis of kidney function (determination of urates, of molecular concentration, phloridizin diabetes) must be strengthened by the cryoscopy of the blood. The author, in contradistinction to Israel and Roosing, attributes the greatest value to the latter. If the freezing point of the blood sinks to —0.6 or below he considers nephrectomy dangerous and not permissible because the other kidney must also be diseased. In such cases nephrotomy may be done if surgical aid is urgently needed. Kümmell does not prefer pyelotomy on account of the tendency toward protracted fistula formation. The kidney may only be removed if one has assured oneself of the existence of a second functionating organ. He thinks that anuria always points to a double involvement, having never observed the so-called reflex anuria. One hundred and nine operations were performed (including 8 secondary rephectomies) upon 101 patients. Fifty-one aseptic or slightly infected stones were removed by nephrotomy without a death. Of 44 severely infected cases, three died, in which nephrotomy alone was done. He has 20 nephrectomies for infected kidney without any death.

Early operation is recommended. The interesting work of Kümmell closes with the more important details of technic in avoiding hemorrhage after nephrotomy and of doing without drainage of the pelvis of the kidney.

Exposure of the second kidney is not rarely necessary when our diagnosis fails us and the kidney exposed first is found healthy.

The patency of the ureter is to be examined before closure of the wound in every case.—*Centralblatt f. Chirurzie*, No. 28, 1908.

THERAPEUTICS.

EDITED BY

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MOUTH PROPHYLAXIS.

There is no doubt that physicians as a rule pay too little attention to the mouth. The fact that a branch of the profession takes exclusive care of the teeth, usually after considerable damage is evident, has led to neglect of mouth conditions by the physician. This neglect is very detrimental, for it is the medical rather than the dental practitioner who is in a position to see the early mouth conditions that call for adivce. Again most people do not consult the dentist until they feel some discomfort, so that he then has to do the best he can to patch up or replace damaged organs; the total result being that many teeth are seriously, often hopelessly, damaged before the possessors are aware of it. This statement does not only refer to caries of the teeth. In fact, people know that decay will destroy a tooth if neglected, and that disease is usually discovered in time to permit repair; but it is not so commonly known that many teeth are lost as a result of the accumulation of tartar at the gum margin. Calcium salts deposit from the saliva under conditions that must be present more or less in most mouths, judging from the common presence of tartar. The attrition of mastication removes most of it, but there is a tendency to accumulation, particularly about the necks of the lower incisors and upon teeth that are not used in chewing. The picture is a familiar one of a blackish or brownish appearance of the necks of the lower front teeth. This is not decay, as so many suppose, but a hard deposit which encroaches upon the margin of the gum. The latter becomes irritated or inflammed and recedes from the tooth, the vascular membranes investing the root and the alveolar process suffer, malnutrition of the bone and absorption follow, with loss of support of the tooth to such a degree that it becomes loose and its usefulness is permanently impaired. Many teeth are lost from this cause. The process may be slow or rapid. While advanced cases of this kind may show the symptoms of Rigg's disease, with the usual difficulties of treatment, it can be asserted that cases of simple deposit need not become severe if the precaution is taken of having early accumulations removed by the dentist and further deposit prevented by the use of a proper dentifrice. In most mouths there is need of a tooth powder, used with the brush once or twice weekly and in some mouths oftener. As it must be slightly abrasive in quality, too frequent use will unnecessarily wear away the tooth substance. Individual experience will show just how often it need be used just to keep the teeth free from deposit. There is no better dentifrice than prepared chalk with a little castile soap, and flavoring added if desired, this combination possessing the essential qualities, being abrasive, antacid and cleansing. Powdered pumice stone and charcoal are too harsh for this purpose. Acid washes to dissolve the tartar are inadmissible, because they would also attack the tooth structure. Thorough mastication, which means a proper use of all of the teeth, will help to scour the teeth and keep the alveolar tissues in a healthy state. Thorough cleansing of the mouth means, in addition to the usual measures, the passing of waxed dental floss silk between the teeth, in order to remove food particles, which, if allowed to remain, will promptly ferment with the production of an acid.

The bacteriologic relations of this condition are important, both locally and as occurring at the portal of the digestive system. An unhealthy state of the gums, aside from the hindrance presented to proper mastication, provides

favorable conditions for bacterial infection and for fermentation. These deleterious factors, beginning in the mouth and becoming the rule in cases of long continuance, cannot fail frequently to influence conditions of digestion throughout. Our treatment of digestive disorders cannot be complete without making sure of the best possible conditions in the mouth. Dental science has become very proficient in the saving of teeth that are badly diseased, but the medical practitioner can do very much in the way of educating his patients, in the presence of early mouth conditions, as to proper care of mouth and teeth and as to the necessity of visiting the dentist at regular intervals of a few months, so that these important organs of the first part of the digestive tract may be better conserved, to the good of the whole system.

The care of the teeth during pregnancy should enlist the concern of the physician in view of the tendency to increase of caries, and the probable neglect of visits to the dentist, during that condition. It was formerly believed that the teeth became softer during gestation through actual loss of mineral matter, the same being taken to supply the growing embryo. But Dr. G. V. Black showed in 1895, by a series of careful observations that this belief was probably erroneous. While he was unable to secure material for a special study of the teeth of pregnant women, his comparison of the teeth of men and women between the ages of twenty and fifty years showed a slightly greater average percentage of lime salts in the teeth of the women for the whole period. It is assumed that the usual number of the women were bearing children during this period, and he concludes that, if there were a lack of lime salts in their teeth, it would show in his comparison. Looking for another explanation of the more rapid progress of caries during gestation, it is only necessary to direct the physician's mind to two facts: first, that an acid condition of the fluids of the mouth is a potent cause of rapid caries, and second, that the pregnant woman commonly vomits stomach contents that are more or less acid daily during the early months. Whereas, under the conditions, the ordinary care of the teeth is easily neglected, we should emphasize the necessity of extra care in the way of employing alkaline mouth washes freely and also the use of prepared chalk packed between the teeth in sufficient quantity to insure neutralization of whatever acid may be present in the secretions of the mouth or introduced by the vomiting. The patient also should be urged to have ordinary dental repairs attended to during the period, preferably from the fourth to the seventh month, as being the time of minimum danger of disturbance of the process of gestation.—*Dental Cosmos,* May, 1895, E. H. L.

OBSTETRICS

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PUERPERAL PYEMIA. LIGATION OF PELVIC VEINS. RECOVERY.

Friedemann, reports the following case: Woman, aged 27, 2-para, developed pyemia after abortion at the third month of gestation. Friedemann ligated the spermatic and hypogastric veins, experiencing some difficulty in isolating the latter. Not all the thrombosed veins were included in the ligated area. The attempt to tie the common iliac vein had to be abandoned since the patient's strength was waning. The author remarks that the case emphasizes the fact that even under unfavorable conditions ligation may prove successful. Though the ligature was applied in the middle of the thrombosed area the patient recovered.—*Zentrlbl. f. Gyn.,* June 6, 1908.

ETIOLOGY OF PUERPERAL RETROFLEXION OF THE UTERUS.

Ziegenspeck sums up as follows: Retroflexion before the first puerperium is much more common than is usually held to be the case. Retroflexion due to parametritis, anterior or lateral, is much more common than believed to be. Retroflexion resulting from continuous dorsal position or from distention of the urinary bladder or both is more frequent than is generally assumed. The last two causes particularly involve the first puerperium, but virginal retroflexion is usually discovered only after the first puerperal period.—*Zentralbl. f. Gyn.,* June 6, 1908.

EXTRA PERITONEAL CESAREAN SECTION.

Fromme reports a modification of Frank's method of extraperitoneal Cesarean section. It is superior, he thinks, to other methods, particularly that of Sellheim; he has practiced it in nine cases with satisfactory results. Extraperitoneal section is not offered as a substitute for the classic Cesarean section in all cases but is especially indicated in possible infection of the genital tract. Fromme believes that it may supplant hebosteotomy in moderate pelvic contraction and in threatened rupture of the uterus and certain cases of dystocia from malpresentation.

Fromme has modified Frank's technic of the operation as follows: A longitudinal incision is made from the symphisis upward along the linea alba and carried through all the layers of the abdominal wall for a length of about twelve cm. The uterine peritoneum is divided longitudinally in the median line from the deepest portion of the utero vesical fold and upward as far as the peritoneum can readily be separated from the uterus, about ten to twelve cm., after the pains

have become strong. The peritoneum is detached from the uterus on either side and the flaps are sutured to the parietal peritoneum by a continuous suture, or they may be brought together with clamps at very short intervals. The uterus is then opened by a median longitudinal incision and the child extracted or forced out through the uterine incision by pressure over the fundus. After removal of the placenta, the uterus, peritoneal flaps, fascia and skin, are sutured in succession.—*Zentralbl. f. Gyn.*, V. 32, No. 17, April 25, 1908.

NEUROLOGY.

EDITED BY

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THE PATHOLOGY OF EPILEPSY.

Dr. A. E. Russell discusses all kinds of seizures, syncopal, circulatory, convulsive, cardiac-inhibitory, migranous, Jacksonian, uræmic, epileptiform, etc., in an attempt to harmonize them in one theory. He contends that all "fits" depend on a sudden failure of the cerebral circulation. "Sudden cardiac inhibition is one of the few possible causes of such an event." "It is suggested that recovery from fits in which cardiac arrest occurs is due to a re-establishment of the cerebral circulation, the heart escaping from inhibition" (how this escape occurs is not stated). "Normal consciousness is conditional upon normal blood-supply to the highest cerebral centers. * * * The highest cerebral centers, whatever and wherever they may be, would be equally involved with the lower, so that the epileptic fit would be compounded of discharges from the highest levels, the middle levels (motor regions) and the lowest levels (ponto-bulbar)." This reminds one of theories that had a vogue forty or more years ago.—*Procd. Roy. Soc. Medc.*, 1907, Dec. 1, No. 2.

PHOBIAS AND PHILIAS, ESPECIALLY REGARDING CATS.

Peculiar antipathies and fears (phobias) on the one hand, and morbid likings (for which the antithetic term "philias" may be suggested) on the other should be of about equal import. The former, however, appear to have received more recognition in symptomatology, doubtless because they more directly interfere with the enjoyment of life.

The phobias as a class are chiefly of importance as signs of psychasthenia and allied states. Single ones occasionally also assume some social interest. Ailourophobia, or an aversion to cats, has of late figured in both ways. According to Weir-Mitchell (*Am. Medc.*, 1905, 851) this may produce such manifestations as—oppresion of breathing, fear, terror, disgust, chilly sensations, horropilation, weakness, locked jaw, rigidity of arms, pallor, nausea, rarely vomiting, pronounced hysterical convulsions, and even temporary blindness. "These pass away with removal of the cat * * * or leave the sufferer nervously disturbed for a day or two." "Several have resolutely overcome that which had grown to be a serious inconvenience." "As concerns 31 persons I had evidence enough to make me sure that they could tell when a cat was near, although it was neither seen nor heard,"—probably by some unconscious olfactory impression. This trouble is distinct from asthma and conjunctivitis due to proximity of cats.

Hughes (*Alien. and Neurlgst.*, 1908, Feb.) gives a case of this sort where recovery also took place. A different name has been given to many of the innumerable phases that morbid fear takes, but he aptly classes all such as "phobias of neurotic adynamia." It may be added that some forms of this, as the fear of heights, are so common as to be almost normal phenomena. They assume clinical dignity only when interfering with conduct or when persistently occupying the individual's attention (obsessions).

The opposite of the above, or a special fondness for cats (ailourophilia) also occurs. In a recent note from one of our best-known zoölogists, he says, "I am extravagantly fond of cats, and a big fellow is now at my elbow." As a kindly characteristic when gathered about the domestic hearth this is, of course, agreeable.

TREATMENT OF SCIATICA BY HIGH-FREQUENCY CURRENTS.

When sciatica is due to some diathetic origin, when it accompanies gout, rheumatism, or diabetes, high-frequency currents may have a most salutary effect, as has been shown in a series of cases treated by Dr. E. Bonnefoy, of Cannes, and published by him this year in his book, "L'arthrisme et son traitment par les courants de haute fréquence et de haute tension." These cases were all treated by high-frequency condensation treatment only.

Worrall (*Arch. of Roentgen Ray*, March, 1908, pp. 272-4.) after the above citation, gives six cases to show that another modality—viz., high-frequency effluve—is equally efficacious. Besides these consecutive cases, he refers to similar ones in his experience. Cases which commonly occur nowadays as sequelae of influenza seem to yield without exception. He applies the current for eight to ten minutes along the course of the sciatic nerve, repeating it a few times (three to nine) at intervals usually of three days to a week. His cases required from two weeks to a month for cure.

ON THE ETIOLOGY OF ABDUCENS-PARALYSIS, ESPECIALLY THE ISOLATED FORM.

This is amongst the most frequent of the ocular palsies. Because of the diplopia these patients seek the eye rather than the nerve clinic.

Dr. Köllner presents a study of 250 cases from v. Michel's clinic in Berlin. The cases were studied neurologically (in part by Oppenheim) and otherwise, so that the results possess a special value. The following table summarizes his results:

	Isolated Paralysis.	Complicated with Choroid or Retinal Trouble.	As part of more extensive Eye-Palsies
In			
Chronic alcoholism.	3	..	3
Lead intoxication...	2	..	..
Drug intoxication..	1	..	..
Malaria	1	..	..
Influenza, resp. acute Neuritis	4	..	..
Erysipelas	1	..	..
Nephritis	5	1	4
Diabetes	1	..	..
Circulatory Diseases	4	..	1
Chronic Meningitis.	2	..	6
Acquired Lues.....	14	1	25
Hereditary Lues...	..	2	..
Tabes	11	..	59
Paresis	..	..	1
Multiple Sclerosis..	2	..	5
Polioencephalitis ...	..	..	2
Chron. progr. Ophthalmoplegia	..	..	1
Myasthenia gravis..	..	..	6
Hysteria	3	..	..
Hemicrania	4	..	..
Vasomotor Disturbances	4	..	..
Traumatism	6	..	7
Lumbar Anæsthesia	1	..	..
Ear Diseases	2	..	2
Tumor of Brain....	..	..	13
Without positive Diagnosis	32	..	8
Total	103	4	143

In 380 cases seen in the last seven years, 61 were bilateral, 142 on the right, and 176 on the left. In most isolated abducens palsies the lesion is nuclear or basal. In injuries it is particularly those of the tip of the petrous. The nerve is somewhat exposed to circulatory effects along the base. Infectious and toxic cases give a relatively better prognosis. An examination of the whole nervous system is always in order.—*Deut. Med. Wochn.*, 1908, Nos. 3, 4 and 5.

SEGMENTAL PALSIES OF THE ABDOMINAL MUSCLES.

Dr. P. Salecker of Cologne presents two cases illustrating this condition, with histological examination in one of them. After some discussion he sums up as follows:

1. Not only total but partial paralysis of abdominal muscles occur in affections of the spinal cord.

2. Innervation of the abdominal muscles is segmental and not multiradicular.

3. The myelic nuclei of the recti muscles do not extend down as far as do those of the oblique muscles.

4. The individual abdominal-wall reflexes, in regard to their spinal localization, appear to correspond to the respective muscle segments.

5. Observation of segmental abdominal palsy, especially in connection with reflex and sensory disturbances, is of importance for segmental diagnosis in the dorsal cord.—*Deut. Ztschr. f. Nervhlkd.*, 1908, Bd. 34, pp. 160-178.

PUBLIC HEALTH.

CHRISTIAN SCIENCE AND PRIMITIVE CHRISTIANITY.

Many have endeavored by argument to combat Christian Science, but all to no purpose. To be successful a religion should take hold upon the lower, not the lowest, ranks of society, since they are the most numerous of the non-criminal, have at least some intelligence, and have some fixed occupation. A religion of those who know nothing and have nothing, expect nothing, and are devoid of imagination, cannot spread higher, being like its followers without aspiration. Christian Science comes at a time when the world is ready for it; when the accepted religion, in its many diverse forms, is losing its hold, just as Christianity came to the Roman world when faith in their old gods was decaying, and when they, like the men of to-day, were reaching out for the mystical, the Oriental, in vain endeavor to find some foothold of faith. Christian Science has the mystical element well developed, for to succeed, a religion seems absolutely to need the mysterious, something that cannot be really understood, but yet can be spoken of in reason—defying formulæ. To be clear, to be plain, is to be easily refuted. There is need of theologic fog to withstand the plain, logical reasoning of unbelief, for the unbeliever has ever the scientific mind like Thomas Paine, the dialectic mind like Socrates, and with it the sense of latent humor which underlies all irony and sarcasm.

Restriction of religious thought, too, is easily endured by the multitude: never to argue except in set formulæ; never to read or listen to adverse opinion; never to think for one's self—these are the primary admonitions of Christian Science to its hypnotized victims. For all these things might disturb the believer's tranquility, and they do. Watch the face of a disciple compelled to listen to argument and note the despairing look in his eyes—like the look in the eyes of an hypnotic subject when confronted with *fact* as opposed to a given false suggestion. There is trouble in the underlying brain centers as they strive to reach the presiding ego, from which "suggestion" has barred them out. It is just possible that Christian Science, in a restless wave, may sweep across the world. Its devotees are often intelligent in daily life, but the field of religious

thought is one in which they have never labored; and faith, unreasoning faith, in their old belief, has been their watchword, and has left them defenceless when it is shaken by the aura of suspicion which has covered the earth. Every new thing to-day finds ready hearers; formerly, established religion would have barred it out, but in its absence—in its waning authority—the world-mind is open to any and all, and it is as yet a question which religion will seize and occupy the citadel; not necessarily the most reasonable, never the belief of negation, but one with a positive claim to something, like healing, and a positive formula, like "the unreality of all things but mind," the "patter" of "mortal mind," the weird and inane sentences which the devotee repeats till sense is lost in sound. These are the marks of a conquering religion: to believe the unbelievable, to trust the impossible, to assent to statements that the eye and the ear and all the senses forever contradict. These lift the believer above the multitude into a region false and illogical where argument fails; where evasion and mental blindness protect the disciple from attacks on his new-found faith.

The worst accusation against Christian Science is its cruelty; for it must ignore suffering—for suffering is unreal—save as it represents error and sin. It must ignore disease—for it does not exist; it gazes serenely on the writhings of pain, for if not ignored it would exist, and it has no reality. To it moral, as well as physical and mental ills are but shadows of a world equally unreal. The only relief it offers is in hypnotizing the mistaken sufferer into a belief that the fire consumes not; the pestilence slays not; the raw wound bleeds not; that poverty and loss are impossible since possession is illusion. A panacea truly for all ills, if the whole world could but be lulled into a universal hypnotic sleep. And it may yet be, since against this belief no argument can avail, for it lives and breathes in a region outside of reason and logic, and where any appeal to the senses and to common sense meets only a derisive smile of ineffable superiority.—Edward Willard Watson: *Medical Notes and Queries,* January, 1908.

THE POLLUTION OF PUBLIC WATER.

The general practice of dumping raw sewage into the streams of the country, will be made a national issue if President Roosevelt acts upon the suggestion of Edward Hatch, Jr., of New York, which has been presented in the form of a letter to the President.

Mr. Hatch is chairman of the New York Merchants' Association Pollution Committee, which is conducting a vigorous campaign against the defilement of State waters, and of the Hudson River and New York bay in particular. By existing and proposed systems of drainage, two of these, the Bronx valley and the Passaic valley trunk sewers, the one in New York, the other in New Jersey, would eventually discharge 600,000,000 gallons of filth into New York harbor every twenty-four hours.

Arguing for Government aid in bringing about the reforms which he advocates, the writer of this communication to the President says that the Government is doing nothing to save the 35,000 lives annually sacrificed to typhoid fever—a preventable disease, as physicians agree—because of the habit of American people of drinking diluted sewage; nothing to prevent the 350,000 cases of this dread disease which every year involves the people of the United States in almost incalculable expense and suffering, even when death does not result—this disease which has been continuously epidemic in Pittsburg for thirty-four years, and which is now ravaging the city of Trenton for the second time in four months. He further says:

"It is proposed, in the interest of the people, to protect the scenic beauty of Niagara Falls and Niagara River by treaty between the United States and Great Britain. There certainly is more reason why the Government should take measures to prevent the rivers from becoming open sewers.

"Millions are spent annually upon the dredging of our rivers and harbors, a vast proportion of which expenditure would be unnecessary if the solid filth of the cities was not dumped into our navigable waters. For lack of action by the Government, direct or indirect, such streams as the Mississippi, the Hudson, the Delaware, the Ohio, the Connecticut and the Susquehanna, subject to the jurisdiction of no one state, are so polluted as to endanger the lives of the people living along their banks.

"The almost universal disregard for human life shown by the people in their attitude toward this water poisoning is most remarkable in view of the vast monetary loss involved. A few words of encouragement and suggestion from you would serve to dispel this apathy and give a great impetus to the general movement among the people, whose support it is most important and, unfortunately, most difficult to secure."

TRUE PHILANTHROPY.

The bequest of nearly $3,000,000 for the establishment of a country sanitarium for poor convalescent patients of St. Luke's Hospital is an act of wise philanthropy. Charity could not be better bestowed, and the will of William Wheeler Smith is a model of its kind, in its main object, in the clarity and sagacity of its provisions. But not less remarkable, as an example of philanthropy, is the willingness of the testator's widow to accept, in lieu of dowry, a house in an expensive neighborhood of Manhattan, with only $700 a month for living expenses.

Mrs. Smith might have had an income of more than $150,000 a year. She has asked for only $8,400. This is the truest kind of practical philanthropy. We might expect such an example

of self-sacrificing beneficence to soften the hearts of the malcontents who call themselves Socialists. But they will only say that no man ought to be permitted to accumulate $3,000,000. The people who are struggling to make a $20,000 a year showing on $10,000 incomes will best appreciate the widow's generosity.—*New York Times.*

TWO ANTI-VIVISECTIONISTS.

HE.

His horses' tails are docked. His terriers' ears
Clipped, or their tails curtailed at the behest
Of foolish fashion. Sometimes he doth feast
On pate-de fois gras; at other times
On boiled live lobsters. To amass his wealth
The stunted children, prematurely aged,
Toiled through the night in his Southern cotton mills.
They strive and swelter in his glass factories,
They grind from steel the flying dust of death—
But he is all compassion. Lo! he joins
The anti-vivisection agitation.

SHE.

Above her towering hat there floats a cloud
Of feathers, torn from out the quivering flesh
Of a live bird; and underneath its rim
Nestles a wreath made by a little child
Robbed of its youth and play. Her stylish coat
Was sew'd by sweater's slaves, who, late at night,
While she was sleeping, trod the foot-machines
In fetid air for a starvation wage.
But lo! her heart is tender. She has joined
The anti-vivisection agitation.

E. M. G.—*New York Times.*

New Books

THE PRACTICAL MEDICINE SERIES. Volume IX: Anatomy; Physiology; Pathology; Dictionary. Series, 1906. Chicago, The Year Book Publishers [c. 1906]. 236 pp., 11 pl., 12mo. Cloth, $1.25.

An examination of the contents of any volume of this handy series will afford evidence of its value to both the general practitioner and the specialist. This, ninth, volume contains reliable abstracts of papers dealing with subjects classifiable under the headings named which were published, for the most part, during the year given on the title page. Such papers as contain points of practical value have been selected, and each one has been carefully read by the abstractor. Inasmuch as it is manifestly impossible for any one man to read and digest even the majority of papers published during the current year upon any one branch of medicine those of us who wish to keep, in any sense, abreast of progress will find the use of such publications as this not only profitable but necessary. J. C. C.

COMPEND OF SURGERY. For Students and Physicians. Including Minor Surgery and a Complete Section on Bandaging. By ORVILLE HORWITZ, B.S., M.D. *Sixth Edition, Revised and Enlarged.* Philadelphia, P. Blakiston's Son & Co., 1907. xvi., 334 pp., 12vo. Cloth, $1.00 net.

In reviewing this Compend of Surgery one marvels at the amount of information that has been condensed into such a compact volume. The work is one of a series of Quiz-Compends and as such will fulfill its mission in an admirable manner.

One regrets that the illustrations are not as modern as the text. When the facilities for artistic illustration are so abundant it is quite inexplicable why modern medical works should be marred by the reproduction of cuts that served their purpose a generation ago. Their persistent resurrection serves only to link the present with the past and detract from the modernity of the text. This is specially noticeable in the chapters on fractures and dislocations, as if this branch of surgery had made no progress. How long will students continue to be taught to place the heel in the axilla for reducing shoulder dislocations instead of condemning a method fraught with serious danger to the vessels and nerves of the axilla?

Rightly used, as a resumé for reviewing the subject of surgery, the Compend serves a useful purpose. In its limited sphere this work will be welcomed by the student as an efficient aid.

WILLIAM FRANCIS CAMPBELL.

PROGRESSIVE MEDICINE. Volume IX., No. 3, September, 1907. Disease of the Thorax and its Viscera. Including the Heart, Lungs, and Blood Vessels: Dermatology and Syphilis; Obstetrics; Diseases of the Nervous System. Philadelphia and New York, Lea Bros. & Co., 1907. 290 pp., 8vo. Paper, $1.50.

This volume contains much of interest and value. Ewart reviews the more important articles dealing with the Thorax and its contained viscera. Among the interesting topics treated under the head of Tuberculosis, we note Dualism in Tuberculosis Hominis, according to which theory, pulmonary tuberculosis and other forms of tuberculosis, are usually caused by different forms of the tubercle bacilli, human and bovine, and that these are more or less mutually antagonistic. This naturally leads to the old controversy between the exponents of the inhalation and ingestion theories of tuberculosis; which controversy still remains unsettled in spite of all the recent work done on the subject. Contributing causes, methods of infection, new diagnostic points, and methods of treatment are all briefly mentioned. Considerable attention is paid to diagnosis of pleural and pneumonic affections, especially exudative inflammation. Much of interset is to be found in the article on the heart, especially in relation to finer diagnostic points, and the functional ability of the heart to perform its normal work. In connection with the latter, diseases of the arteries receive brief mention.

Dermatology and Syphilis is reviewed by Gottheil. A synopsis of Dermatological "Dont's," Skin Cancers, and the Relation of Herpes to Infectious Diseases; the Cure of Syphilis, Extra-genital Syphilis, and Syphilitic Prophylaxis, are the more important articles treated. Especially important in respect to the prophylaxis of syphilis is the discovery, that in apes mercurial inunctions, even up to eighteen hours after inoculation, will prevent infection. And in at least one case this has proved true in man.

The section on Obstetrics is by Davis. It covers Pregnancy, Labor, Obstetrical Surgery and the Puerperium. The Toxæmies of Pregnancy, and The Management of Labor in Contracted Pelvis are interesting and instructive articles.

Diseases of the Nervous System are reviewed by Spiller. They include, among others, Brain Tumor, Cebral Hemorrhage, Aphasia, etc.; Tabes, Sclerosis, Poliomyelitis, Syringomyelia, etc., and Miscellaneous Nervous Diseases.

The articles treated give an interesting and comprehensive up-to-date resumé of the progress of medicine along the lines indicated.

A TEXT-BOOK OF PHYSIOLOGY. For Medical Students and Physicians. By WILLIAM H. HOWELL, Ph.D., M.D., LL.D. *Second Edition, Thoroughly Revised.* Philadelphia and London, W. B. Saunders Co., 1907. 938 pp., 8vo.

The general approval which greeted the appearance of the first edition of this book was in every sense merited, as proven by the results of its subsequent use

in a large number of our medical schools. The reviewer does not hesitate to say that among all the text-books on the subject published in English since the now classic work of Michael Foster it deserves first place. It contains about as much information concerning the life-phenomena of animals as the average medical student can well assimilate, its style is simple and clear, the facts, hypotheses and theories of physiology being presented in a systematic, logical and readable manner, and it does not include, as do many other text-books, irrelevant histological and pathological data.

In the preparation of this, second, edition the author has wisely determined to make "no fundamental change in its arrangement or scope," and while freely making such alterations as recent progress in physiology has dictated, he has counterbalanced any additions "by the elimination of such material as could be spared," and has succeeded in keeping the book "of practically the same size." J. C. C.

Atlas and Text-Book of Human Anatomy. By Dr. Johannes Sobotta. Edited, With Additions, by J. Playfair McMurrich, A.M., Ph.D. Volume III. Vascular System, Lymphatic System, Nervous System and Sense Organs. Philadelphia and London, W. B. Saunders Co., 1907. 342 pp., 89 col. pl., 53 pl. 4vo. Cloth, $6.00 net.

In this the third and last volume of Sabotta's Atlas and Text-Book of Human Anatomy is included the remainder of the vascular system and the entire nervous system, together with the organs of special sense.

Professor McMurrich has done a real service for the profession in his admirable translation of this scholarly work. The chief aim of the author has been to produce a book which contains not all the anatomical data, but that which is most necessary for the medical student and physician.

The text is clear and comprehensive; the illustrations are profuse and for the most part exact reproductions of the author's dissections in which the artist has shown unusual cleverness and skill in his representation of anatomical structures.

William Francis Campbell.

Medical Lectures and Aphorisms. By Samuel Gee, M.D. London, H. Frowde, 1908. VIII, 308 pp. 12vo. Cloth, $1.50 net.

We lately heard a note of warning in regard to the neglect of history by the medical student, as opposed to the manner of the law student whose opinions are based largely upon cases recorded in past times and on laws and usages of ancient date. That it could not be otherwise must be granted when it is admitted that so much of the work of the physician is so modern. And yet the student devoting too much of his time to the most recent works and journals misses a great deal that is essential and that can only be gleaned from past history. It is exactly this historical ingredient that gives charm to these lectures by Dr. Samuel Gee.

As can be seen in many other English medical writers the traditions and past history and glory of English medicine is ever present to him, and he never allows the value of these things to be overshadowed by more recent ideas. Clinical observations as opposed to the laboratory is the leading feature of his lectures and they are pervaded with an empiricism at once broad-minded and hopeful.

Sometimes it is a convenient way to express an opinion in the form of an aphorism, but reading aphorisms is like eating nuts, already shelled, without salt, or wine, or good company. After reading one or two of the lectures, one wishes that the author had expanded and elaborated the different groups of aphorisms into lectures like those given in this book.

Peter Scott, M.D.

Manual of Surgery. By Alexis Thomson, F.R.C.S. Ed. and Alexander Miles, F.R.C.S.Ed. Volume I. General Surgery. Volume II. Regional Surgery. *Second Edition, Revised and Enlarged.* Philadelphia and London, J. B. Lippincott Co., 2 volumes. 12vo. Price: Cloth,

These two handy volumes are really *manuals,* and contain a large number of facts compressed into a small space. The first volume treats of general surgery, and contains all the facts essential to the study of this subject. The second volume treats of regional surgery. The illustrations, while sometimes rather slovenly in appearance, are very numerous, and, as a rule, faithfully represent the morbid phenomenon which they are designed to illustrate. Sometimes they do this exceedingly well. Nevertheless, we do miss the elegance in illustration to which some of our modern publishers have accustomed us. These volumes may be slipped in an overcoat pocket and read at odd moments with great profit. A. T. Bristow.

A Text-book of Physiology. By Isaac Ott, A.M., M.D. *Second Edition, Revised and Enlarged.* Philadelphia, F. A. Davis Co., 1907. XV, 815 pp., 1 col. pl., 8vo. Cloth, $3.50.

In this, the second, edition Professor Ott has greatly enlarged the book and added about two hundred and fifty illustrations, some of which are original. A number of the figures are anatomical or histological, and some are so defective, owing either to poor workmanship on the block or to carelessness in printing, that they are of but little use (*c. g.* Figs. 71, 72, 77, 274 and 308). Medical students will probably find the book useful in connection with their lecture courses, but it is hardly adequate as a text-book *per se.*

J. C. C.

Variations of the Bones of the Hands and Feet. A Clinical Atlas. By Thomas Dwight, M.D., LL.D. Philadelphia and London, J. B. Lippincott Co., 1907. R, 25 pp., 36 pl., 4vo. Cloth: $5.00 net.

This work consists of twenty-five pages of text descriptive of the variations of the bones of the hands and feet, and seventy-nine half-tone reproductions of skiagraphs and specimens illustrating the bony anomalies described.

At first glance one might conclude that this work was of academic interest only, but its careful perusal demonstrates that it presents a series of anomalies as yet but little known and appreciated by the surgeon. The importance of these anomalies in the practice of surgery is being better understood with the constantly increasing use of the X-ray. The medico-legal aspect of these anomalies which appear in skiagraphs taken after injury cannot be too forcibly emphasized.

The accuracy and worth of the observations are guaranteed by an author who is one of the world's foremost anatomists.

William Francis Campbell.

Essentials of Human Physiology. By D. Noël Paton, M.D., B.Sc., F.R.C.P.Ed. *Second Edition, Revised and Enlarged.* Chicago, W. T. Keener & Co.; Edinburgh and London, W. Green & Sons, 1905. 444 pp., 8vo. Cloth, $2.75 net.

The author of this book has wisely determined to explain in it only such portions of physiology as he has found essential for medical students to thoroughly assimilate; but in case its title "Essentials of Human Physiology" should suggest to any one that it is merely a "quiz-compend," the reviewer advises careful examination of its contents. Professor Paton is, evidently, interested not only in physiology itself, but in the teaching of it as well, and there are so many marks of his originality in even this elementary treatise that it

will be found not only very useful by students, but also full of suggestions for teachers of physiology.

J. C. C.

UROGENITAL THERAPEUTICS. Medical and Surgical. By FILIPP KREISSL, M.D. Chicago, Cleveland Press, 1908.

This is intended to be a thoroughly practical work for the use of the urologist and general practitioner. It enters into the whole subject of treatment of diseases of the urogenital tract, both medical and surgical. There are short chapters on asepsis and anesthesia, the latter discussing general, local and spinal anesthesia. The author then takes up seriatim diseases of the urethra, penis, scrotum, testicle, bladder, prostate, kidney, and ureter. There are also chapters on the technic of nephrotomy and nephrectomy and on impotence.

The author advocates dilatation with treatment of strictures, particularly those which might be called recent. Old, hard strictures should be divided. The very important operation, passing of sounds, is described in such a way that the reader actually secures a very clear idea of how it should be done. In this operation, when done for stricture, he says that under no circumstances should cocaine be used, as the abrasions of the mucous membrane, which are caused by the sound, favor a too rapid absorption of the drug. When necessary, cocaine may be applied ten minutes before treatment is begun.

In the treatment of epididymitis the application of equal parts of glycerin and guaiacol over the scrotum of the affected side is advised. The internal administration of three grains of salicylic acid with lemonade twice daily is also advised. The use of Valentine's irrigator is described in the inventor's language. The author is a believer in the value of ureteral irrigations, claiming that it should be done after all ureteral instrumentation. His own method of local anesthesia and operation is well described in the treatment of phimosis.

In the treatment of hydrocele by suturing the edges of the sac to the skin it seems to us that the incision is rather short. The anesthetic advocated for litholopaxy is antipyrin gr. xxx., morphin hydrochlor gr. 1.6, water three ounces, injected in the rectum half an hour before operating.

This book is particularly to be commended as being practical. It displays much familiarity with all of the subjects with which it deals.

N. J.

SCIENCE AND KEY OF LIFE. Planetary Influences. By ALVIDAS *et al.* Compiled and copyrighted by HENRY CLAY HODGES. Vol. V. Astro-Physiology. Detroit, Astro Publishing Co. Col. front., xi, 270 pp., 8vo. Cloth, $2.00 net.

"He knew what's what, and that's as high
As metaphysic wit can fly."

In the person of Henry Clay Hodges modern medicine must perforce reckon with one of those towering intellects which from time to time appear upon the horizon of the world of thought. A very Gulliver has come among us, whom, however, we cannot hope to bind with the ropes of convention which confine ordinary minds, so vast a figure is the man.

Life, the soul, health, disease, all these are easily within the ken of friend Hodges. Exhaustive elucidation of them, with this Emerson of science, is mere pastime, and takes the place of golf and bridge.

A vulgar scoffer has paraphrased, so that it is made to apply to Hodges, what Archbishop Whately said of Buckland, the geologist:

"Some doubts were once expressed about the Flood, Buckland arose, and all was clear as—mud."

We find it difficult to measure our terms in characterizing such ribald persiflage; such a man as its perpetrator seems to be would render unto heaven the things which are Cæsar's and make of sacred truth a jest.

"When Gemini occupy the sixth, and the Moon is placed therein with the same aspects to Saturn," tuberculosis will result. Herein may the reader gather some faint idea of the majestic sweep of Hodges' mind, its easy grasp of the mysteries of disease.

When an individual gets into higher vibration with Urania, and attempts "to find expression through the lower mind, the result is eccentricity, fanaticism, etc." This is the chief factor in the etiology of insanity. A reading of Hodge's book will render the salutary control of vibration as simple as the manipulation of the three speed gear of a "buzz-wagon." Needless to say, Hodges does not vibrate with Urania.

Hodges teaches us the use of herbs with planetary influence, how the parts of the body are ruled by Signs, how the liability to disease is based upon stellar conditions, of astro-physiology and of astro-diagnosis.

In his "classifactory" (*sic*) methods, Hodges reveals a Spencerian universality, a Hegelian breadth, and a Kantian profundity. Thus all diseases may be arranged into three distinct classes or orders: sub-irritation, super-irritation, and diminished irritation. Consider the overwhelming simplicity of this. It must also be borne in mind that certain parts may be drawn too taut while others are too loose. Certain planetary influences permit of balanced readjustment, if we know how to invoke them.

Again, in definition, nothing short of real genius is revealed by "The stomach is a compound and spermatic (*sic*) sinewy receptacle for the food, and the seat of the digestion," or by "Palpitation, angina pectora and syncope would be termed types of functional disease."

Hodges has been accused of obscurity, but we find nothing subtle in the declaration that "If the soul did not serve for the repository of the psychic stellar influence, there are also the static hydraulic phenomena to contend against, to say nothing of other sub-lunar vibrations." If this is obscure then Shakespeare is obscure.

For absolute clearness, how can the following be matched? "If there be a displacement of the common center, a disarrangement of the functions, and a change in the vital forces, or the channel of its coming in harmonious manifestation become clogged by the dark heavy clouds, then indeed it will be brought most forcibly to the notice of the physical senses, and there is no question but the seemingly trifling and unimportant manifestations in Nature, that have developed the greatest power, force and energy in the progress of the human race." Study again: "The left ventricle is the strongest of all the muscles, therefore when affected by spasms it is of the most violent nature, and from its incessant action it is more liable to disorder, more especially from the ossification which retards the velocity of its circulation and often almost suspended in action which is termed the pectoral angina."

Who does not feel deep reverence in the presence of this master mind?

What physiologist can be said to have so masterfully described the physical economy in terms of "the man in the street?" He who runs need not pause to ponder over "The brain may be said to be the guage, the heart the piston, the lungs the bellows, the mouth a millstone (not Hodges' mouth), the teeth the pestles, the stomach the press, the intestines the reservoir, the vessels the sieves or strainers, and the air a spring which sets the machine in motion."

As would be expected of a genius no less protean than Goethe's, the charm of Hodges' literary style pervades the whole work. How Walter Pater would have envied:

"The proximate are formed by the interlinking of the twain, and the individual has in his power to detect these times, and causes, and maladies, but no prescript to avert proceleusmatic. Mars will perform his sectile act and Saturn will yield his ecchymosis in spite of all remonstrance." Or: "The spiritual, mental and physical condition of every individual represents the resultant of the forces of environment acting upon the initial

entity or Ego, and in the formation of this composite product the agencies of environment play no unimportant part."

Hodges makes the practical point that individuals born under the sign Scorpio "do not give out freely, as they naturally desire much for themselves, and are more contracting in their interior nature." This suggests nothing less significant than actual astro-diagnosis of deadbeatism—a brilliant possibility.

In the use of such terms as "fat humor," puss (*sic*), "Plyalin," etc., Hodges reveals a staunch independence in the matter of terminology. This is entirely in keeping with the man's intellectual character as a whole.

List, then, to the organ tones of this twentieth century Hippocrates, reincarnation, mayhap, of him of Cos. Had not this mighty mind been lost to the profession, doubtless the library shelves would bear yet another System! Verily, we wot not fully of the mercies of Providence.

Hodges has rolled away the stone from the sepulchre in which an efficient therapeusis has long laid buried. Upon such a sacrifice to mankind and to science as his life has been the gods themselves throw incense.

"His notions fitted things so well
That which was which he could not tell."

A. C. J.

Practice of Medicine for Nurses. A Text Book for Nurses and Students of Domestic Science, and a Handbook for All Those Who Care for the Sick. By George Howard Hoxie, A.M., M.D. With a Chapter on the Technic of Nursing, By Pearl L. Laptad. Philadelphia and London, W. B. Saunders Co., 1908. Front., 284 pp., 10 pl., 8vo. Cloth, $1.50 net.

The author has compressed into this little volume a deal of useful instruction for those who are to care for the sick. Forty-four chapters covering all kinds of diseases classified in accordance with our present day etiology, with a rather extraordinary chapter on the various forms of insanity, and some sensible remarks concerning the treatment of the insane. One is struck with the amount of care which is given to the description of the diseases or their symptoms and the comparatively little space to the care and methods of treatment in some cases. The tone of the book is scientific and the advice sensible throughout. The author is not a plagiarist, but has done his own work.

W. S. H.

The Correction of Featural Imperfections. By Charles C. Miller, M.D. Chicago; published by the author, 1907. 134 pp., 1 pl., 12vo. Cloth, $1.50 net.

Miller's little book is an ethical contribution to a branch of surgery whose main exploitation, heretofore, had been at the hands of the advertising "beauty specialists." There exists no reason why the correction of featural defects should be relegated to the quacks. It is a perfectly legitimate, though limited, domain, toward which, it is fair to say, the profession has maintained an attitude of relative apathy. At the same time such "stunts" as the formation of dimples need not concern us. These performances do smack of quackery and their descriptions lend no dignity to the book.

Periosteum is repeatedly spelled pereosteum.

A. C. J.

Mosquito Life. The Habits and Life Cycles of the Known Mosquitoes of the United States; Methods for Their Control; and Keys for Easy Identification of the Species in Their Various Stages. An Account Based on the Investigations of the late James William Dupree, M.D., Surgeon-General of Louisiana and Upon Original Observations by the Writer. By Evelyn Groesbeeck Mitchell, A.B., M.S. New York and London, G. P. Putnam's Sons, 1907. Front., xxii, 281 pp., 16 pl., 8vo. Cloth, $2.00 net.

Mitchell's book, as a field and laboratory aid, should prove an invaluable condensation of all the known essential facts bearing upon this most important subject. An admirable thing about it is the avoidance of a too technical terminology. The book will be intelligible to the average reader who is desirous of keeping well abreast of recent advances in this field of biological medicine. It is an entirely adequate and creditable presentation of a fascinating subject. The accomplished author is to be congratulated upon her contribution. It is a work for which a real need has existed and it satisfies the need most admirably. A. C. J.

The Reduction of Cancer. By the Honorable Rollo Russell. New York, Longmans, Green & Co., 1907. 62 pp., 12mo. Cloth.

The Hon. Rollo Russell has succeeded in writing an amusing book, its pages interspersed with some interesting statistics. To quote: "The common cause of cancer must not only be in the diet, but in a few articles of diet. These are in the main, tea, coffee, some kinds of beer, animal flesh, and apparently several stimulants and narcotics including tobacco. But animal flesh by itself, without other stimulants, does not of necessity appear to cause much cancer. On the other hand tea or coffee as commonly used, even without the other articles, cause much cancer." So *"Ab uno, disce omnes"* avoid tea and coffee. Relinquish the seductive weed, restrict yourselves to locusts and wild honey and you will not have cancer.

The Hon. Rollo does not explain why the herbivora have cancer, although so far as is known to the reviewer, cows and horses neither smoke, chew tobacco, nor drink tea nor coffee. Such little difficulties are, however, easily surmounted by the man who rides a hobby. "Members of frugal societies and institutions rarely have cancer. At the Monastery of La Grande Trappe there was no case of cancer in twenty-seven years. Trappist diet is as follows: black bread, vegetable soup, greens, cheese, fruit, water and a little beer." The question might be raised as to which was preferable, the Trappist diet or cancer.

One can readily agree with the dictum of the book if modified so as to state that many men eat too much, and that some of these individuals contract cancer. It is a long step, however, from such a standpoint to be able to stand on the ground that excessive eating or drinking is the cause of cancer. If that were true the poor ought to be immune, which they are not.

The Treatment of Fractures. With Notes Upon a Few Common Dislocations. By Charles Locke Scudder, M.D. *Sixth Edition, Thoroughly Revised and Enlarged.* Philadelphia and London, W. B. Saunders Co., 1907. Col. front., 628 pp., 8vo. Buckram, $5.50.

This standard work has been much enlarged since its first appearance in 1900, some two hundred pages of matter having been added.

The additional matter is important and increases the value of the book. To quote from the brief preface, "Especial attention has been directed to obstetrical skull fractures, to fractures of the zygoma, of the malar bone, of the superior maxilla, the head and neck of the radius, neck of the femur, and of the scarpal scaphoid, to unreduced dislocations of the elbow, etc. There is no one-volume work on fracture which can compare with this excellent work.

The Roentgen ray is extensively and intelligently used to demonstrate fractures, and the whole subject is treated in an admirable and exhaustive manner. Even the brief preface to the sixth edition closes with this valuable maxim: "Too great emphasis cannot be laid upon the necessity of repeated and frequent inspection of a fracture after it has been apparently reduced. The condition of the fractured part is too frequently taken for granted with often disastrous and distressing results." The body of the work abounds in pithy and

wise suggestions and is commended to the practitioner of medicine with this final remark—damage suits against physicians are almost invariably based on the treatment of fractures by them.

THE PANCREAS: Its Surgery and Pathology. By A. MAYO ROBSON, D.Sc., F.R.C.S., and P. J. CAMMIDGE, M.D., P.D.H. Illustrated. Philadelphia and London, W. B. Saunders Co., 1907. 546 pp., 8vo. Cloth, $5.00.

There is no intra-abdominal organ whose diseases have been involved in more obscurity than those of the pancreas. Deeply situated in the upper abdomen, our knowledge of its pathology has largely come to us because of our surgical explorations in other fields.

This volume of Mayo Robson and Cammidge, is not alone a summary of all this knowledge, but also an expansion, and will be welcomed by the physician as well as the surgeon. The relationship between pathological conditions involving the bile tracts and the pancreas is elucidated in a manner which will be instructive to many practitioners and will teach them to look for Cammidge's reaction oftener in connection with gallstone disease than has been their custom in the past.

There are interesting chapters on the comparative anatomy of the pancreas as well as its normal and pathological anatomy.

The chemical pathology of the gland is discussed in another chapter. Chapter XI is devoted to discussion of the relationship between disease of the pancreas and diabetes. Chapters XII—XIX, constituting the remainder of the book, are devoted to the practical questions of symptomatology and diagnosis, which mark the injuries and diseases of this important gland.

This work throws a flood of light on an obscure subject, and ought to be in the library of every surgeon and physician who aspires to something better than mediocrity.

Medical Society of the State of New York.

NOTICE.

Dr. Arthur G. Root, President of the Medical Society of the State of New Yerk, has appointed Dr. Frank Van Fleet, of New York, a member of the National Legislative Council for the coming year.

DISTRICT BRANCHES.

SECOND DISTRICT BRANCH.

The Annual Meeting will be held October 24th, in connection with the meeting of the Associated Physicians of Long Island.

SIXTH DISTRICT BRANCH.

ANNUAL MEETING, BINGHAMTON, OCTOBER 6, 1908.

Preliminary Program.

President's Address, Dr. W. A. Moore, Binghamton.

(Subject to be announced), Dr. Henry C. Buswell, Buffalo.

"Physical Development of Children," Dr. F. W. Sears, Binghamton.

"Humidity as a Factor of Danger in the Use of Chloroform," Dr. Arthur W. Booth, Elmira.

"Observations Regarding the Finger Tone," Dr. George O. Williams, Green.

"The Indications and Results of Prostatectomy," Dr. M. M. Lucid, Cortland.

(Subject to be announced), Dr. F. D. Reese, Cortland.

"Sanitary Conditions of the Panama Canal," Dr. Martin Cavana, Oneida.

"Infectious Keritits," Dr. I. S. Coykendall, Ithaca.

"Results of Surgical Treatment of Goitre," Report of 75 operations, Dr. M. B. Tinker, Ithaca.

Papers are also expected from Delaware, Otsego, Schuyler and Tioga Counties.

EIGHTH DISTRICT BRANCH.

ANNUAL MEETING, BATAVIA, SEPTEMBER 22 AND 23, 1908.

Program.

President's Address, Dr. E. E. Snow, Batavia.

Dr. DeLancey Rochester, Buffalo, Subject to be announced.

Dr. Nelson G. Russell, Buffalo, "The Significance of Acetoneuria in Diseases of Children."

Dr. J. C. Young, Cuba, N. Y., Subject to be announced.

Dr. Charles A. Wall, Buffalo, "Scalp Wounds."

Dr. W. C. Krauss, Buffalo, "The Prognosis of Spinal Cord Tumors."

Dr. J. W. Putnam, Buffalo, "Psychotherapeutic Methods."

Dr. J. S. Wright, Perry, "The Blood in Acute Infections."

Dr. A. E. Woehnert, Buffalo, "Twenty Cases of Chylogastrica."

Dr. J. E. Morris, Olean, "Ectopic Gestation."

Dr. H. C. Rooth, Buffalo, "Fracture of the Skull."

Dr. J. A. Gardner, Buffalo, "Genito-urinary Neuroses."

Dr. M. F. Green, Castile, "Irritated Mucosa."

Dr. Edward Munson, Medina, "The Citizen Doctor."

Dr. J. E. King, Buffalo, "The Influence of Relaxed Utero-Sacral Ligaments in Retroversion."

Dr. H. R. Hopkins, Buffalo, "The Mineral Nutrients, Air, Water and the Salts."

Dr. T. H. McKee, Buffalo, "Appendicitis, Clinical Picture versus Operative Findings."

The date of meeting has been changed by the Executive Committee of the Branch from September 23d and 24th to September 22d and 23d. There will be an afternoon session on the 22d, and both morning and afternoon sessions on the 23d.

DEATHS.

"He stood between the living and the dead, and the plague was stayed."

PETER V. BURNETT, M.D., of Brooklyn, New York, physician to the Eastern Dispensary and Nose, Throat and Ear Hospital; died at Mount Sinai Hospital, New York City, June 29th.

GEORGE W. COOK, M.D., for many years a practitioner of Syracuse; died at the Hospital of the Good Shepherd in that city, June 22d, after an illness of two years, aged 80.

FREDERICK EAST, M.D., died at his home in Rochester, N. Y., July 22d, Aged 54.

CHARLES E. PARISH, M.D., a graduate of the Albany Medical College, 1879, died at his home in Maryland, N. Y., August 15, 1908, of Bright's disease and organic disease of the heart. He was in his fifty-fourth year. He leaves one son, Dr. E. J. Parish, of Oneonta, N. Y., and three daughters, all of whom are trained nurses. The two oldest married physicians—Dr. Luther Emerick of Saugerties, N. Y., and Dr. Arthur Hebb of Baltimore, Md. The youngest daughter, Miss Blanche Parish, is connected with the Albany Hospital.

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles

THE SIGNIFICANCE OF UTERINE BLEEDING.*

By JOHN A. SAMPSON, M.D.
ALBANY, N. Y.

OUR present good results in the management of such diseases as diphtheria, appendicitis and tuberculosis are not only due to our better knowledge of these conditions and their appropriate treatment, but especially to the intelligent co-operation on the part of our patients, who have been taught to recognize the significance of certain symptoms, and the importance of an early diagnosis when these symptoms are present. In no department of medicine is an early diagnosis more urgent than in gynecology, and of all the symptoms which may arise from the female pelvic organs, uterine bleeding is the most important. As a symptom it is usually readily recognized by the patient and, irrespective of its etiology, it may greatly impair her health or even endanger her life. It may arise from various conditions some of which are easily remedied. On the other hand, it is usually the earliest and most constant manifestation of uterine cancer, a condition which offers a favorable prognosis only when operated upon in its incipiency.

In order to obtain an idea of the significance of this symptom in my own practice, I analyzed the records of the last 100 cases in which uterine bleeding had been present and where the cause of the bleeding had been ascertained, either by the microscopical examination (at the Bender Hygienic Laboratory) of the specimen removed, or by the subsequent history of the case. A malignant growth was the cause of the bleeding in 28 instances, a polypus or polypi in 17, threatened or actual abortion in 14, myomata (submucous or interstitial) in 13, a hypertrophied condition of the endometrium in 11, laceration of the cervix in 6, ectopic pregnancy in 5, retained secundines in 4, and acute gonorrheal endocervicitis in 2 instances.

It is the purpose of this communication to demonstrate how these conditions cause uterine bleeding, to suggest how the conditions may be detected and most important of all to emphasize the need of the earliest possible diagnosis in every patient with uterine bleeding.

Bleeding or a blood-tinged discharge is abnormal except during menstruation and childbirth. During menstruation it is due to the extravasation of blood from the capillaries of the endometrium into the tissues of the latter and, by breaking through the surface epithelium, this blood escapes into the uterine cavity. During labor the bleeding arises, from the actual separation of the placenta thus rupturing large blood spaces, from raw surfaces of the placenta or uterus and also from injuries to some portion of the birth canal.

THREATENED OR ACTUAL ABORTION AND RETAINED PORTIONS OF PLACENTA.

The origin of the bleeding in threatened or actual abortion is similar to that in labor except that the birth canal is not injured.

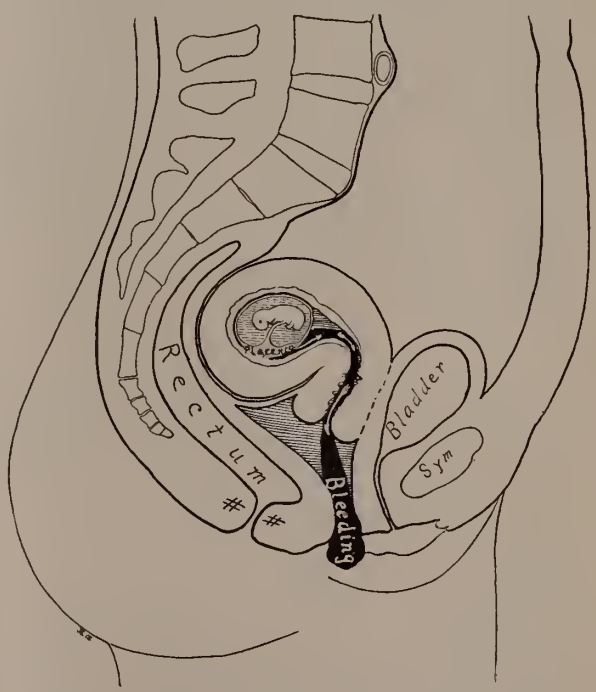

FIG. 1.—BLEEDING IN THREATENED ABORTION.

A threatened abortion is represented in a retroflexed uterus. The bleeding is caused by the separation of the placenta from its attachments. The flow varies in amount; it may be scanty or profuse, and is often associated with labor pains. The condition may be simulated by various conditions and *especially* by the bleeding which occurs in *ectopic pregnancy*. It is important to make an exact diagnosis and an early one.

* Read before the Medical Society of the State of New York, January 29, 1908.

Of the fourteen cases of threatened or actual abortion in this series, six were criminal in origin, three were apparently due to retroflexion, two to adhesions interfering with the growth of the uterus and in three the cause was not determined.

Of the four cases of retained portions of placental tissue two followed an abortion and the other two, labor at term.

FIG. 2.—RETAINED PORTIONS OF PLACENTA.

The bleeding may arise from the partial or complete separation of this tissue from its attachment to the endometrium, often brought about by uterine contractions or severe exertion on the part of the patient compressing the uterus. The bleeding may also come from the placental or decidual tissue. The flow is sometimes scanty and more or less constant; in other cases it may appear several days after the abortion or labor. It is often very profuse and may endanger the life of the individual. It is often painless. Its diagnosis and cure consists in the removal of the tissue by curettage, but before doing so a very *careful pelvic examination* should be made in order to *exclude* an *ectopic pregnancy* which the condition may simulate. The tissue removed should always be examined microscopically to exclude chorio-epithelioma or some other malignant growth.

ECTOPIC PREGNANCY.

Under the influence of an ectopic pregnancy the uterine mucosa undergoes the same changes as in uterine pregnancy but usually less marked, it becomes thickened, more vascular and true decidual tissue is formed. At the same time the uterus usually increases slightly in size.

This thickened endometrium (decidua) is the usual source of the bleeding in those cases (most frequently seen in the sixth to eighth week of the pregnancy). Pieces of uterine decidua are sometimes found in the discharge and even the entire decidua has been cast off in one piece. The appearance of decidual tissue in the discharge is thought by some observers to be pathognomonic of ectopic pregnancy and to indicate the death of the fetus. Blood may also be forced back through the lumen of the pregnant tube into the uterine cavity but this is probably a very unusual source of the bloody vaginal discharge in these cases.

EVERSION OF THE CERVICAL MUCOSA DUE TO CERVICAL LACERATION.

In three of the six cases of bleeding from this cause, the cervix protruded from the vaginal orifice and its everted mucosa came in contact with the patient's clothing. In another case the patient was pregnant and on inspection the bleeding, which the patient had noticed, could be seen coming from the everted and hypertrophied mucosa resulting from a cervical laceration. In two instances slight bleeding occurred only during sexual intercourse and on digital examination.

In acute endocervicitis, especially if the cervical mucosa is everted, bleeding or a blood stained discharge may occur. In two cases of this series with acute gonorrheal endocervicitis a bloody vaginal discharge was present which

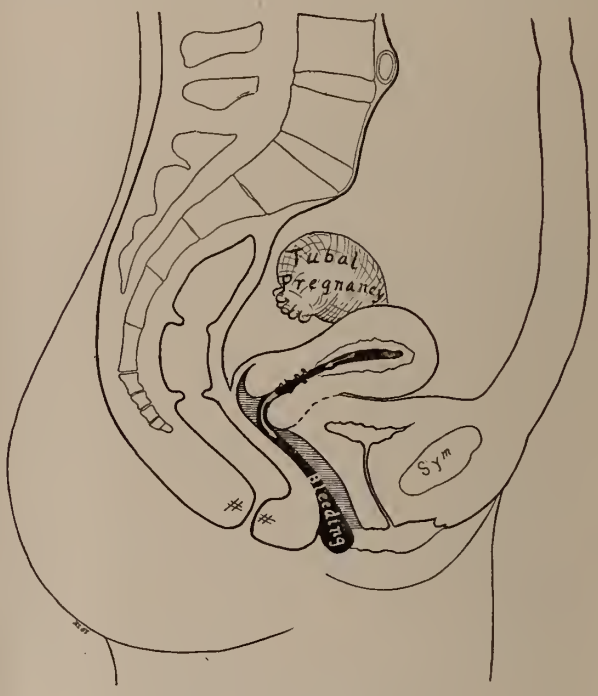

FIG. 3.—ECTOPIC PREGNANCY.

When seen by the physician, bleeding is usually but not always present, and nearly always arises from the endometrium of the uterus, as has been stated.

The flow varies greatly and is often simulated very closely by delayed menstruation, threatened or actual abortion, an incomplete abortion and the irregular bleeding which may be present in acute gonorrheal endometritis with or without salpingitis. As in those conditions it may be slight or profuse, more or less constant or irregular, *with or without pain*, and is sometimes continued over a long period of time, four weeks in one case of this series and five weeks in another.

While the flow nearly always arises from the endometrium its cause is situated outside of the uterus—hence we must look for pregnancy external to the uterus or the results of such a pregnancy as a free internal hemorrhage or a hematocele. Often the uterus has been curetted for a supposed incomplete abortion when a more careful study of the case would have revealed the true cause of the bleeding to be an ectopic pregnancy.

could be seen coming from the hypertrophied mucosa of the cervix (some of this may have also arisen from the endometrium which may have been the seat of an acute gonorrheal endometritis).

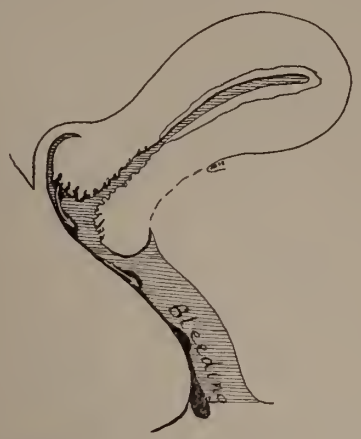

FIG. 4.—EVERSION OF THE CERVICAL MUCOSA DUE TO CERVICAL LACERATION.

In cervical lacerations there is often a more or less flaring apart of the lips of the cervix with a consequent eversion of the cervical mucosa into the vaginal canal. Bleeding usually results from injury to the everted and hypertrophied cervical mucosa, as in sexual intercourse, using a douche, digital examination, the contact with clothing in uterine prolapsus and the forcible pressure of the cervix against the posterior vaginal wall, as in straining at stool, etc.

The bleeding is usually very slight, occurs only at the above mentioned times and is painless. The diagnosis is nearly always evident on palpation and inspection. If any doubt arises as to the diagnosis a small piece of tissue should be excised *from the bleeding area* and submitted to a competent pathologist for diagnosis.

HYPERTROPHIES OF THE ENDOMETRIUM.

The condition is that of diffuse or localized thickening of the uterine mucosa sometimes with a smooth surface and in other instances villous or polypoid. Its structure varies, in some instances it is simply a thickened endometrium at times edematous, in other instances either the glands or the stroma seem to predominate in the hypertrophy.

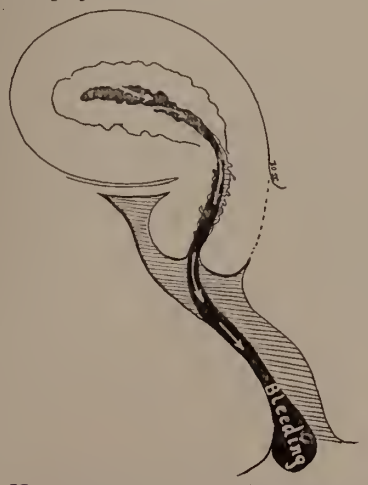

FIG. 5.—HYPERTROPHY OF THE ENDOMETRIUM IN A RETROFLEXED UTERUS.

Bleeding arises from the endometrium; often manifests itself as a prolongation of or a more profuse menstrual flow, but may also appear in the intervals. It usually occurs without pain. A diagnosis can only be made by the microscopical examination of the endometrium. *This is our only definite means of differentiating it from cancer of the body of the uterus.*

The etiology of this condition is not always clear. In some instances it is apparently the result of infection, and in others the result of circulation disturbances from retroflexion, the pressure of tumors, or the failure of the uterus to undergo involution after pregnancy. In still other cases it may be impossible to find any other abnormality present or obtain a history of infection. In eleven instances of this condition, acute salpingitis was present in one; bilateral hydrosalpinx with adherent retroflexion of the uterus, in two; uncomplicated retroflexion of the uterus, in four; myoma, in another; and in the remaining four cases the pelvic organs were otherwise apparently normal.

UTERINE POLYPI.

Benign polypi may be classified, topographically, into those arising in the body of the uterus, cervical canal and from the vaginal portion of the cervix. They may be single or multiple and in different positions of the same uterus.

The polypi arising in the body of the uterus consists usually of a localized hypertrophy of the endometrium and may be sessile, or pedunculated. They are usually very vascular and contain a varying amount of connective tissue stroma. They do not necessarily cause uterine bleeding but often prolong menstruation or make it more profuse.

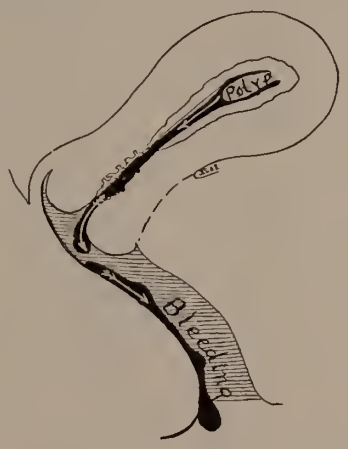

FIG. 6.—POLYP IN THE BODY OF THE UTERUS.

Bleeding arises from the polyp as the result of pressure (as on a sponge) or interference with the return flow of blood through its base or pedicle. It simulates very closely the bleeding from hypertrophies of the endometrium, *i. e.*, appearing as a prolongation of or a more profuse menstrual flow, or as bleeding in the intervals. It usually occurs without pain. A diagnosis can only be made by the microscopical examination of the polyp. It is our only definite means of differentiating it from cancer of the body of the uterus. In curetting the uterus one should be careful to scrape the *entire* uterine cavity because polypi are easily missed by the curette.

Polypi arising within the cervical canal also consist of localized hypertrophies of the mucosa from which they arise, they are usually pedunculated and often protrude from the external os into the vaginal canal.

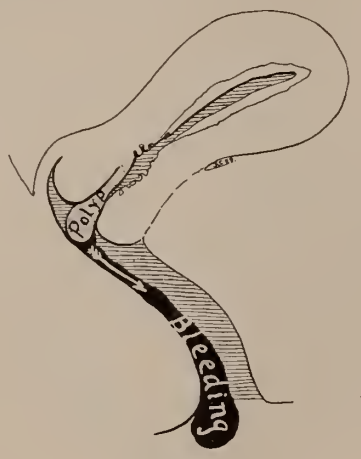

FIG. 7.—CERVICAL POLYP.

On account of their situation they are exposed to external violence and also pressure during exertion, and these factors enter into the causation of bleeding from this condition as in the bleeding from the everted cervical mucosa resulting from laceration. The flow is not affected by menstruation except as the uterus is more vascular at that time. The bleeding may be very profuse and is painless. A diagnosis can usually be made on palpation and inspection. They should always be removed and examined microscopically to exclude the possibility of malignancy.

The etiology of uterine polypi is not clear. They are usually found in middle aged and elderly women and are often associated with other pelvic disorders. All but three of the 17 cases in this series had borne children. Of the eight cases of polypi of the body of the uterus, myomata were present in three; a very large cystadenoma of the ovary, in one; adherent retroflexion of the uterus with a Graafian follicle cyst on one side and a hydrosalpinx on the other, in one case; retroflexion of the uterus with a relaxed pelvic floor, in another; and in the remaining two cases the polypi were the only pathological conditions detected. Of the eight cases of polypi arising within the cervical canal (all but one protruded from the external os), the uterus was retroflexed in two cases, a large dermoid cyst situated anterior to the uterus and pushing it backwards was present in one instance; and a large interstitial myoma in another. In the other four cases the polypi were the only pathological conditions detected other than a lacerated cervix and weakened pelvic floor from the injuries of childbirth. All the nine patients with cervical polypi, including one with polyp from vaginal portion of cervix, had borne children. It would seem that the injuries of childbirth, infection and circulatory disturbances, due to displacements and tumors, may have a bearing on their etiology.

MYOMATA.

We classify myomata, topographically, into the subserous, interstitial, submucous and cervical, the latter being infrequent. The growth consists of muscle and fibrous tissue; occasionally one finds scattered through it areas of uterine mucosa and such a growth is known as an adeno-myoma.

The subserous variety rarely causes uterine bleeding except as it may so displace the uterus or be of such a size and in such a situation as to interfere with the return flow of blood from the uterus and thus prolong menstruation or make it more profuse.

The interstitial variety acts as a foreign body within the uterine wall and may compress the veins about it and as the arteries are more resistant a condition of venous engorgement of the deeper uterine tissues, and especially of the endometrium, often results. This engorgement may even be sufficient to cause intermenstrual bleeding and during the increased congestion, incident to menstruation, it may make the flow more profuse and prolong it. In addition contractions of the uterus or increased intra-abdominal pressure may force the tumor inwards so that it actually squeezes the blood out of the congested endometrium.

FIG. 8.—SUBMUCOUS MYOMA.

The tumor, as a foreign body, not only interferes with the return flow of blood from the endometrium, but, in addition, through the stretching of the uterine mucosa covering it, the latter becomes greatly thinned and the vessels in it become weakened so that they may easily rupture and cause bleeding. The bleeding usually first appears as a prolongation of, or a more profuse menstrual flow from the congested and altered endometrium, and simulates the flow occurring in patients with polypi and hypertrophies of the endometrium. These latter two conditions may be found in a myomatous uterus. Sometimes labor pains are present due to attempts on the part of the uterus to give birth to the tumor. Bleeding may sometimes occur between the periods which is especially true if a submucous myoma becomes necrotic when the bleeding arises from the tumor itself. Curettage seldom aids in the diagnosis except to exclude polypi, hypertrophy of the endometrium or cancer. The diagnosis must be made from palpation.

CANCER OF THE UTERUS.

We may classify all forms of uterine cancer according to their origin: *i. e.,* whether in the body or in the cervix. In like manner we may group cervical cancer into those arising from the vaginal portion of the cervix and those arising within the cervical canal. Irrespective of their situation, we may classify them, according to their morphology, into the everting or papillary type and the inverting or nodular. On account of the liability of the latter to become necrotic it is often called the ulcerative form.

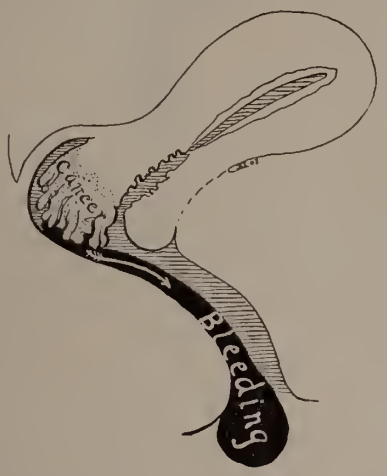

FIG. 9.—EVERTING CANCER OF VAGINAL PORTION OF UTERINE CERVIX.

On account of the situation of the growth and its friability it is easily injured by external violence or straining. Bleeding in these cases is often irregular, but may be continuous, varies in severity and is usually brought on or increased by exertion as straining at stool, or by external injury, as sexual intercourse, using a douche or following a digital examination. It does not and is not affected by menstruation except as the uterus is more vascular at that time and the flow from the two sources may occur together. The bleeding is painless. The diagnosis is usually evident on inspection or palpation. It is sometimes simulated by a polyp, submucous myoma, or portion of placental tissue protruding from the cervix, but the microscopical examination of a piece of tissue removed will clear up the diagnosis.

The everting or papillary tumors consist of outgrowths of cancer cells with a central vascular core the blood vessels of which are poorly formed. The base of the tumor invades the uterine tissues. The papillary masses may become necrotic through interference with their blood supply by the deeper growth of the cancer; or the pedicle of the mass, if small, may become twisted and thus shut off its blood supply and cause necrosis and masses of the growth may slough off and be found in the discharge. Even if the cancerous tissue does not become necrotic, the papillary outgrowths are very friable and easily injured and bleeding results from pressure or external violence if the cancer is situated on the vaginal portion of the cervix.

In the inverting or nodular type the growth "inverts" forming a mass of cancerous tissue in the structures involved and there may be but little evidence of the disease on the surface. As it grows inward, it interferes with the nourishment of the cancerous tissue near the surface and eventually necrosis occurs with bleeding and the formation of an ulcer whose base is lined by cancerous tissue. *The appearance of the necrosis may be delayed in one case and bleeding may not arise until after the growth has extended beyond any relief.* In the majority of cases, however, necrosis fortunately arises early in the course of the disease and with it bleeding appears. This same necrosis which gives rise to bleeding also apparently favors the metastasis of the growth to other parts.

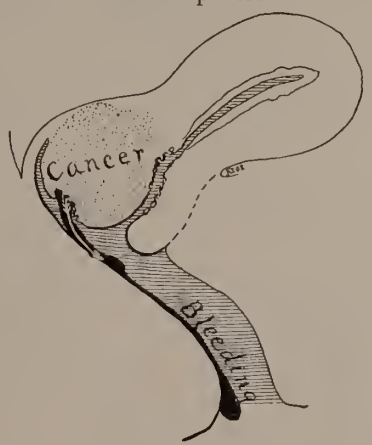

FIG. 10.—INVERTING CANCER OF VAGINAL PORTION OF UTERINE CERVIX.

Necrosis may not appear until late and until it does appear bleeding is usually absent. With the necrosis, the surface of the tumor becomes ulcerated and we have the same factors in the causation of bleeding as in the previous illustration, except that the growth is not as easily injured. The bleeding, when superficial ulceration is present, is usually very inconstant, slight and without pain. The diagnosis is usually evident on examination, but may be simulated by the everted mucosa associated with a cervical laceration and a microscopical examination of tissue removed may be necessary before a diagnosis can be made.

FIG. 11.—INVERTING CANCER OF VAGINAL PORTION OF UTERINE CERVIX, DEEP ULCERATION.

With deeper ulceration the bleeding becomes more frequent and more profuse because larger vessels are exposed and the cancer is more readily injured by external violence and straining.

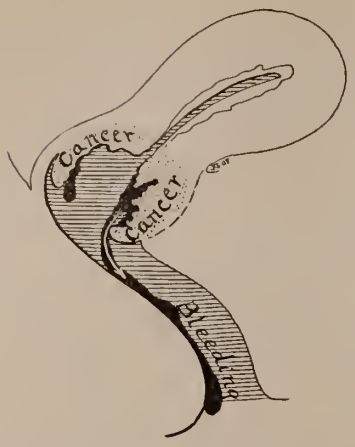

FIG. 12.—INVERTING CANCER OF VAGINAL PORTION OF UTERINE CERVIX—"CRATEROUS STAGE."

This represents a later stage of the condition shown in the preceding illustration. As the result of necrosis and sloughing the cervix is converted into a shell lined with cancerous tissue. The frequency of the bleeding in this stage and its severity varies in individual cases and is usually associated with a foul discharge.

The inverting type is the most unfavorable type of cervical cancer because it is very invasive, soon extends beyond the cervix by direct extension and metastases; the symptoms are often delayed; mistakes in diagnosis are common, the patient being treated locally for ulcers or even the cervix repaired for a supposed laceration. Unfortunately it is the most frequent variety.

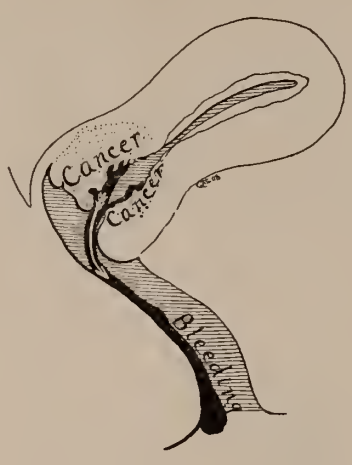

FIG. 13.—CANCER ARISING IN THE CERVICAL CANAL.

It is usually of the inverting type. While it is well protected from external injury, the various movements of the uterus bend the cervix and thus either compress or stretch the cancerous tissue causing it to crack and bleed. The bleeding simulates that found in the preceding variety. In the early cases the vaginal portion of the cervix often feels normal. As the disease advances the vaginal portion of the cervix becomes retracted, its surface is thrown into folds, and later the canal may become converted into a shell lined by cancerous tissue. In the early cases the diagnosis can only be made from the *microscopical examination of curettings from the cervical canal.*

FIG. 14.—CANCER OF THE BODY OF THE UTERUS.

The growth is nearly always of the everting or papillary type and arising from the endometrium; it alters menstruation (if the patient has not reached the menopause), and the growth is also easily injured by pressure or bending the body of the uterus. Bleeding may be irregular, but is often more or less continuous, varies in severity, is usually increased by exertion and prolongs or increases the menstrual flow in those who have not yet reached the menopause, or appears as a return of menstruation after the menopause.

The bleeding in submucous myomata, polypi, hypertrophies of the endometrium and cancer of the body of the uterus simulate each other, and cancer cannot be diagnosticated or excluded except by the microscopical examination of tissue removed within the uterus.

Sarcoma arising in the uterine wall may or may not cause bleeding. The factors in the causation of bleeding are similar to those associated with myomata and sarcoma may develop in a pre-existing myoma.

Sarcoma arising from the endometrium or cervical mucosa usually simulates cancer in these situations and the differential diagnosis can only be made by the microscope.

OTHER CAUSES OF UTERINE BLEEDING.

There are other causes of uterine bleeding, which have a definite local pathological basis, than those encountered in these 100 cases, such as hydatiform mole, chorio-epithelioma, foreign body in the uterus, inversion of the uterus, changes in the uterine walls or its blood vessels, extensive tuberculosis, etc. The causes of bleeding which may occur in advance pregnancy and labor as placenta previa, rupture of the uterus, etc., have been purposely omitted as well as the constitutional diseases such as scurvy purpura, etc., which may cause uterine bleeding. We occasionally encounter patients with uterine bleeding who are otherwise well, the pelvic organs seem normal and the curettings show normal endometrium. It is apparently functional in these cases and is possibly of nervous origin. Three such cases were encountered during the time that the 100 cases in this series were observed. Two cases of uterine bleeding

with acute gonorrheal salpingitis, pelvic peritonitis and probably acute endometritis were also encountered but as they recovered without operation a positive diagnosis as to the exact cause was not made. This latter condition may simulate very closely an ectopic pregnancy.

THE SIGNIFICANCE OF UTERINE BLEEDING.

This depends on the prognosis for the successful treatment of its cause in any case. The treatment of cancer of the uterine cervix has been most unsatisfactory. In the majority of the cases the diagnosis has not been made until after the growth has extended beyond operative relief and yet the histories of these cases show that over half of them have been bleeding for over six months and the majority of the remaining have also been bleeding, but for a less period of time. The clinical course of this form of cancer is usually rapid; the patients rarely live over three years, about three-quarters of them die within two years, and one-third, within one year after the first manifestation of the disease. It is evident that a short period of neglect may permit the growth to extend beyond the possibilities of a cure. The primary mortality of the operative treatment of this condition is high in all but the early cases and of those who survive the operation only a small percentage are free from cancer after five years.

In August, 1904, I analyzed the records of all the cases of cancer of the uterine cervix which had been admitted to the gynecological department (Dr. Kelly's Clinic) of the Johns Hopkins Hospital during the fifteen years of its existence. During this time 412 cases had been admitted to Dr. Kelly's service and of this number 250, or 61 per cent., came too late for anything but palliative treatment. At that time there had been 84 cases in which five years or longer had elapsed since operation, 8 had died as the result of the operation and 10 had been lost track of. Of the remaining 66 patients, 24 per cent. were living and apparently free from cancer (*Jour. Am. Med. Assoc.*, 1905, XLIV, 1586-1593).

Wertheim's results (*Surg. Gyn., and Obst.*, 1907, Vol. IX, p. 9) are most encouraging; he now operates on 50 per cent. of all cases coming under his observation, and 60 per cent. of those in which five years or more have elapsed since operation, are free from recurrence.

My own experience has taught me that in the clearly "operable" cases the primary mortality is low, and I am hoping for a high percentage of cures although the disease has reappeared in a few of my very favorable cases. My results in the operative treatment of the doubtful cases with more or less fixed uteri, due to involvement of the adjacent structures, has been discouraging. The operative mortality has been high and the growth has returned in the majority of those who have survived the operation. I have resected the lower ends of one or both ureters, portions of the bladder and rectum and in nearly all those patients, who have survived the operation, the growth has reappeared. I continue to operate on these cases when I think the primary growth, even though extensive, can be removed but always with a clear understanding on the part of the patient or her friends as to the dangers of the operation and the ultimate prognosis. Occasionally the growth in these cases turns out to be less extensive than it appeared on examination and some have been at least temporarily relieved and possibly a few have been cured. The palliative operative treatment of the distinctly "inoperable" cases has been very unsatisfactory in my hands.

Of the 19 cases of cervical cancer, quoted in this paper, 5 were apparently favorable but in 2 of these the growth had extended beyond the uterus. All 5 favorable cases survived the operation. One has since died from recurrence. Four cases were distinctly unfavorable but I thought that the primary growth could be removed and it was; but two of the patients died as the result of the operation, each on the fifth day. One of these unfavorable cases with direct extension beyond the cervix and metastases to the pelvic

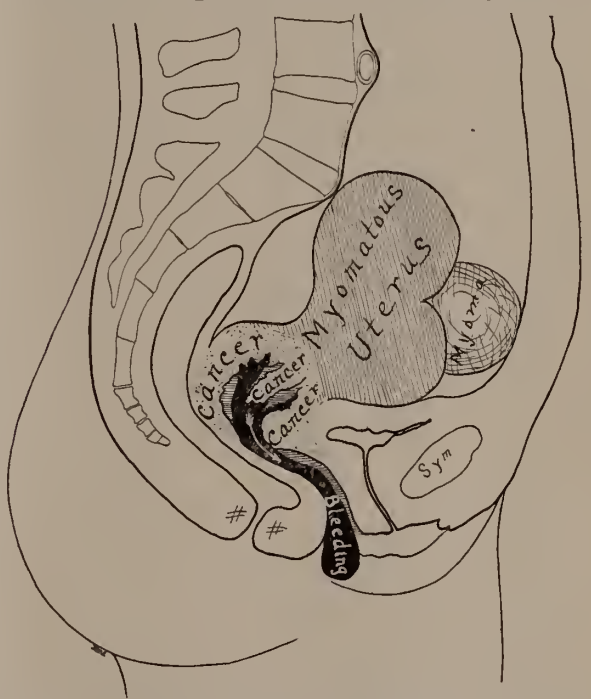

FIG. 15.—INOPERABLE CANCER OF UTERINE CERVIX AND MYOMATA.

The patient was 54 years of age; married; ten children, oldest 26 and youngest 12 years old; still menstruating. Uterine bleeding had been present for *seven* months; at first slight and inconstant, but recently profuse, more constant, and with a foul odor. On abdominal palpation what appeared to be a multinodular myomatous uterus could be distinctly palpated. The bleeding came from the cancer of the cervix. The cervix should always be examined no matter what is felt on abdominal palpation; this patient's physician failed to, and he had an opportunity six months before.

lymph nodes is living and apparently free from cancer two and one-half years after the operation; only six months have elapsed since the operation in the other. In 3 of the 10 distinctly inoperable cases attempts were made to partially remove the growth, in 2 instances the patients were temporarily helped and possibly their lives prolonged; in the third her life was shortened. On the whole the results of the palliative operative treatment of these inoperable cases did not warrant the attempts made.

Cancer of the body of the uterus grows much more slowly than cervical cancer, remains restricted to the uterus for a longer period of time and on this account its operative treatment is attended with a low primary mortality and a

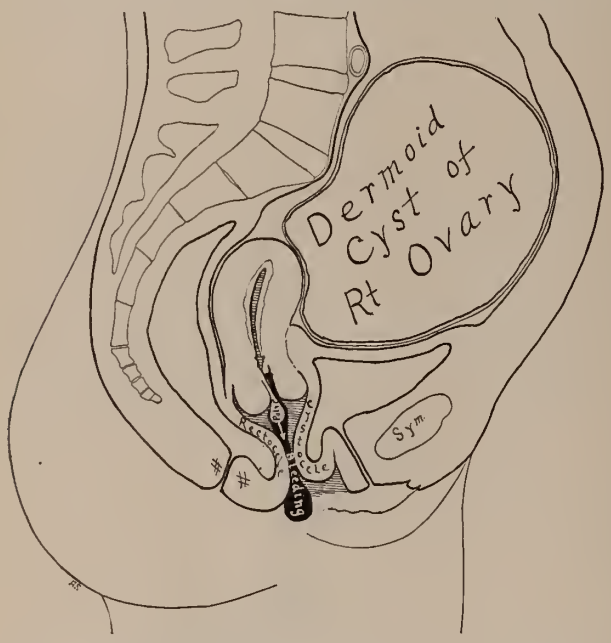

FIG. 16.—DERMOID CYST OF RIGHT OVARY AND CERVICAL POLYPI.

Patient was 46 years of age; married; three children, oldest 21 years, youngest 11 years. Bleeding had been present for eight months, almost constant, worse on exertion. For two years there had been frequency of micturition and at times incontinence of urine on coughing, laughing or sneezing. The *bleeding came* from the *polypi* and not the cyst. The bladder symptoms probably arose from the cystocele and pressure of the cyst on the bladder. The patient had not noticed the abdominal distension due to the cyst. The removal of the cyst without removing the polypi would not have relieved her of the one symptom which was causing her ill-health, *i. e.*, the bleeding. *The cervix should always be examined no matter what is felt on abdominal palpation.*

higher percentage of cures. Of the 7 cases of cancer of the body of the uterus only one was inoperable and has since died. The remaining 6 are at present living and apparently free from cancer, and I think that the cure will be permanent in at least 4 of the 6 cases.

The prognosis in sarcoma is usually bad. One of the cases is living and apparently well although only two and a half years have elapsed since the operation; the other, a very extensive growth, (probably not sarcoma but an unusual form of carcinoma, the exact diagnosis has not yet been decided) died on the sixth day after operation.

Polypi can usually be cured with a very low primary mortality. Of the 17 instances of uterine polypi 8 have apparently been cured by curettage or the removal of the polypi by forceps. In the remaining 9 cases a hysterectomy was done for other reasons and a polyp or polypi were found on opening the uterus, these 9 cases are living and well.

The primary mortality in hysterectomy for myoma is low and the results are most gratifying. The 13 cases in this series are living and have been cured by the operation.

The danger associated with abortion or retained secundines, after abortion or labor, is slight even though the bleeding is very severe, except when puerperal infection is present. One of my cases of incomplete abortion (criminal) died from puerperal (streptococcus) infection.

The treatment of hypertrophy of the endometrium by curettage is not always satisfactory, 8 of the 11 cases were so treated and all were relieved except 3 and these 3 were partially relieved. In the 3 cases mentioned there was no other apparent pelvic trouble, and I hesitate about advising hysterectomy in these cases especially as the bleeding is not severe. I have tried stypticin in 2 of these cases with only slight benefit.

The operative treatment of ectopic pregnancy, except in conditions of profound shock, is attended with a very low primary mortality, the 5 cases mentioned are living.

The bleeding from a lacerated cervix is usually so slight that it does not require any operation or even local treatment other than that necessary in order to be sure of one's diagnosis

THE DIAGNOSIS OF THE CAUSE OF UTERINE BLEEDING.

I wish to make the following brief suggestions as an aid in this diagnosis:

First: A careful history of the case with special reference to the possibility of pregnancy, uterine or ectopic, should be secured.

Second: By examination ascertain whether or not the patient is pregnant and if so whether normal, associated with other conditions, or ectopic. Do not be satisfied with the patient's statements or a superficial examination for the bleeding may arise from a threatened abortion; the pregnancy may cause bleeding from a cervical laceration (usually of no importance) or a cervical polyp (easily twisted off), or beginning cervical cancer. On the other hand the bleeding may be due to an ectopic pregnancy or both intra- and extra-uterine gestation.

Third: No matter what may be the apparent diagnosis always examine the cervix, for the bleeding often arises from it and not a tumor

which may be evident on abdominal palpation. One of my patients, whose general health was such that a general anesthetic was contraindicated, had a large myoma of the uterus and her only complaint was uterine bleeding. On careful examination a cervical polyp was found protruding from the external os. The removal of

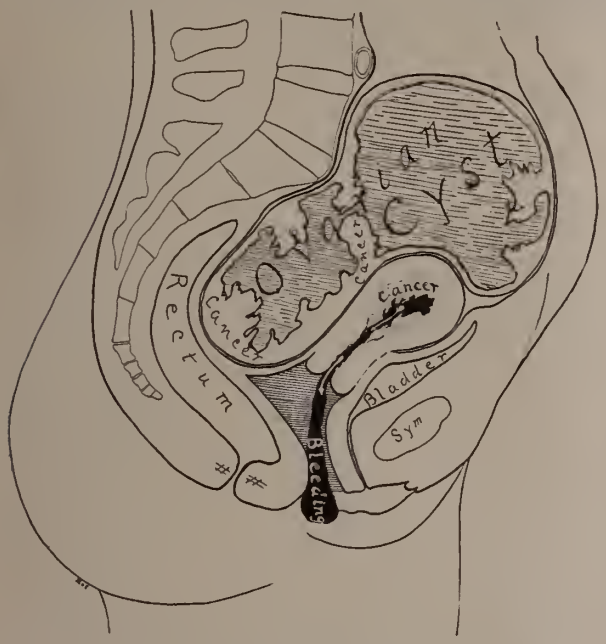

FIG. 17.—MALIGNANT OVARIAN CYST AND CANCER OF THE BODY OF UTERUS.

The patient was 44 years of age; married; but never pregnant. She had noticed that menstruation had been gradually becoming more profuse and prolonged for the last six months. The distension of the abdomen had been noticed for only three months. The *bleeding came* from the *cancer* of the *body* of the *uterus* and *not* the *cyst*. *In patients* with *ovarian cysts* and *uterine bleeding* the *condition* of the *endometrium* must *always* be *ascertained*, it *may* be *malignant* as in this instance.

this with a pair of forceps has cured her of the bleeding, her only symptom. Two of the inoperable cases of cervical cancer had myomata (Fig. 15), and another one, bilateral ovarian cysts. In two of the specimens of cervical cancer, removed at operation, myomata were found. A patient (Fig. 16) with a large dermoid cyst had uterine bleeding which did not come from the cyst but from a cervical polyp. The removal of the cyst without removal of the polyp would not have cured the bleeding, the most important symptom and cause of her severe anemia.

Fourth: If doubt exists as to the nature of the cervical lesion, remove a piece of tissue, be careful to remove it from a place where the bleeding arises, do not be satisfied with the naked eye appearance but place it in 10 per cent. formalin or 95 per cent. alcohol and send it to a competent pathologist. One of my patients was treated locally for over a year, and, while the physician suspected cancer, no attempt was made to ascertain the correct diagnosis. One inoperable case of cervical cancer which had been bleeding for over a year had been curetted, a year before I saw her, for a supposed incomplete abortion and the curettings had not been saved nor was a diagnosis of cancer made. In another inoperable case the cancerous cervix had been repaired six months before, the diagnosis being cervical laceration with hemorrhage, but the hemorrhage continued worse than ever. In still another inoperable case a surgeon had removed a piece from the cervix of a patient who had a myomatous uterus with a hard indurated condition of the cervix and vaginal vault. A microscopical examination was made of the piece and cancer was not found. A supravaginal hysterectomy was done without relief to the patient. The piece was not removed from the right place.

Fifth: *If the bleeding arises from the body of the uterus always curette it for a diagnosis unless the patient is pregnant (uterine or ectopic) or the condition warrants a hysterectomy without curettage or there is proof of an*

FIG. 18.—MYOMATOUS UTERUS AND POLYP OF THE FUNDUS.

Patient was 45 years of age; not married. Menstruation had always been normal until about one year ago, when it began a day or two ahead of time, lasted longer and the flow was more profuse. The bleeding came from the polyp and not the myomata, one of which was easily detected on abdominal palpation. Bleeding associated with a myomatous uterus is not necessarily due to the myomata, it may arise from a polyp, cancer or any other cause of uterine bleeding. Cancer must always be excluded by curettage and the microscopical examination of the tissue removed before deferring an operation in such a case or advising waiting until after the "menopause" with the hopes that bleeding will cease at that time.

acute gonorrhcal infection. In curetting be careful to "dig out the corners" and to curette the entire uterine cavity including the cervical canal. Furthermore, do not rely on a naked eye diagnosis but treat the specimen removed as suggested.

In one case (Fig. 17) with uterine bleeding present the uterus was removed with a malignant ovarian cyst and on opening the uterus cancer of the body of the uterus was found. In two hystero-myomectomies for multinodular myomatous uteri with uterine bleeding, a polypus was found in the uterine cavity of each (Fig. 18) and as all the myomatous nodules were either interstitial or subserous the polypus was the probable cause of the bleeding in each instance. Carcinoma of the body of the uterus has often been found associated with uterine myomata and this combination was found once in this series. The frequency of this association is so great that it is unsafe to infer that when a patient with a multinodular myomatous uterus bleeds that the bleeding is necessarily due to the myomata, and under those circumstances a diagnosis of the condition of the endometrium should not be deferred.

RÉSUMÉ.

I have not attempted to present anything new in this communication but to review how some of the causes of uterine bleeding give rise to this symptom, to show the feasibility of a diagnosis in these cases and the importance of an early one. The importance of an early diagnosis in all cases of uterine bleeding is evident and I wish to emphasize its importance especially when the bleeding is slight, inconstant and painless for it is just such bleeding as this that beginning uterine cancer often causes and especially the most common and at present our most malignant type. Unless this type is detected in its incipiency, before the bleeding becomes more constant and severe, the chances for a cure are very slight.

We are unable to prevent the conditions causing uterine bleeding but by an *early diagnosis* and *appropriate treatment* we can usually prevent the ill health resulting from it, irrespective of its cause, and most important of all we can thus prevent the incurable stage of cancer in a large percentage of the cases. Bleeding is nearly always noticed by the patient and by means of the careful study of our cases, and if necessary the microscopical examination of tissue removed, cancer can at least be detected or excluded. All that we need is the determination on our part to make this diagnosis, and in order to do this to obtain the co-operation of our patients which can only be accomplished by their proper instruction as to the importance of *uterine bleeding* and especially when *slight, inconstant* and *painless,* the one type they are so apt to neglect and the very type which beginning cancer often causes.

PROSTITUTION.

POLICE METHODS OF SANITARY SUPERVISION

PERSONAL OBSERVATIONS OF POLICE METHODS OF DEALING WITH PROSTITUTION IN GERMANY, WITH CONCLUSIONS AS TO THEIR SANITARY VALUE.*

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THAT prostitution is the principal source of sexual disease is not disputed. In our own country much has been written concerning the best methods of controlling the social evil, and thus of necessity limiting the dissemination of venereal diseases. In Germany it has long been accepted, as the necessary corollary of this proposition, that supervision of prostitution is one of the most valuable means available for the restriction of venereal diseases. During a recent visit to that country the writer was impelled to learn by personal observation the essentials of the methods there employed by the police in dealing with prostitution. Thanks to letters of introduction given him by General Theodore A. Bingham, Police Commissioner of the City of New York, to the Police Presidents of the large German cities every courtesy was shown him and every opportunity for observation and study was granted him by the police officials to whom these letters were presented.

Time did not permit of extended observations in many different cities, and, in view of the excellent paper upon this subject that has recently been published by Dr. Frederic Bierhoff† of this city no attempt will be made to describe the conditions and police regulations as they exist in any cities of Germany with the exception of Berlin and of Dresden.

Germany is composed of a large number of semi-independent states, provinces, and even single cities. The attitude taken by the authorities in these various localities towards prostitution varies materially, and the methods adopted in each city vary also in many important details. In general, however, each city recognizes prostitution as an existing evil which should be under constant police and sanitary supervision of some kind, with a view to minimize, as far as possible the evil results upon the population at large. In none of the cities in that country is the position of voluntary and ostrich-like official blindness adopted which is characteristic of all the cities of the United States.

In all large German cities a definite department of the police concerns itself solely with the supervision and control of public prostitution, and the "Sitten-Polizei" or Morals Police is a

* Read before the American Society of Sanitary and Moral Prophylaxis, at the New York Academy of Medicine, December 12, 1907.

† "Police Methods for the Sanitary Control of Prostitution." Frederic Bierhoff. (New York), *New York Medical Journal,* August 17, 24 and 31, and September 7, 1907.

permanent and prominent branch of the general police establishment. The practical power given to the police in Germany is far greater than in our own city, and not only are the minor city ordinances respected and obeyed by the citizens more generally than is the case in New York, with its mixed population from all countries of the globe, but, as is apt to be the case in countries where the population is homogeneous, the existing laws are enforced more impartially and certainly than is the case in American municipalities.

The actual activities of the Morals Police in dealing with prostitution in Germany may be divided into two distinct, though closely co-ordinate parts. The first of these concerns itself with the observation, detection and control of women actually engaged in prostitution. The second is medical in character and directs the actual medical examination of the prostitutes and their treatment in case they become sexually diseased.

Berlin, the capital of Prussia, the residence of the German Emperor, and the seat of the Imperial Government as well as that of Prussia itself, contains two million, five hundred thousand inhabitants. It is the foremost seat of commerce in the country and the greatest manufacturing town in continental Europe. The boundaries of the city enclose an area of twenty-five square miles. There is a military garrison of twenty-five thousand men. The university is attended by eight thousand students, and there are a large number of subordinate schools. All branches of society are here represented, and each one of the inhabitants from the artisan to the Emperor is endeavoring to make the city the leader in art, in science and in all standards of modern civilization.

In Berlin, as is to be expected, the details of what may be termed the judicial control of prostitution are more elaborated than in the smaller cities of the empire. The Royal Police President, George von Borries, in answer to my request to be permitted to investigate the methods of the Sitten-Polizei personally introduced me to Inspector Richard Penzig, Chief of the Morals Police, and I wish to take this opportunity of expressing my thanks and appreciation to that gentleman for the many facilities and courtesies which he extended to me during the time that I worked in his particular department.

The executive offices of the Sitten-Polizei in Berlin are located in one section of the handsome and commodious building used as Police Headquarters. Inspector Penzig has two immediate assistants, Commissioner William Hoche and Commissioner Dr. Max George Güth. There are also twelve bureau assistants and two recorders whose work is similar to that of a secretary, although shorthand and typewriting are not employed. All the records of each case coming before the Inspector for adjudication are kept together in a heavy paper folio. Each folio has a tab attached to it on which its serial number is printed in large figures. This number is also recorded upon each one of the enclosed sheets to prevent confusion and to aid in filing the reports. All the forms that are used are of uniform legal size (8¼ by 13 inches). These various reports are stored flat upon shelves in the record room and the numerical series of tabs in plain sight make them easily accessible.

For convenience of control the entire city of Berlin is divided into twelve districts. In each district a non-commissioned police officer, corresponding in grade to a sergeant of police in New York, is placed in command and one hundred and eighty-one special constables in civilians clothes are detailed to the various districts. As in all cities the various districts vary much in the character of their inhabitants, and somewhat also in size and in population.

In the past fifty years many changes have taken place in Berlin in the rules governing prostitution. In 1844 houses of prostitution were abolished and no longer exist. Women must now live by themselves and find a residence in some place where rooms are rented to women of this class. If a girl who has been arrested for prostitution states that she has no definite residence she is ordered to secure one at once; if she does not do this within five days after her release she is liable to punishment. Prostitutes may live and do live in any part of the city, even the most exclusive. This appears to be the inevitable result wherever houses of prostitution are abolished and thus their moral infection as well as their physical disorders are much more widely disseminated.

Until within a few years a law was also in effect which made the infection of a woman by a man a punishable offence. The authorities greatly regret the fact that this law has now been annulled; male offenders are no longer under control. A curious exception to this rule is that male perverts who have sexual relations with each other are subject to punishment, but women who practice Lesbian relations are not legally considered.

To be classed as a *gewerbsmässige Prostituierte,* or public prostitute, in Berlin the woman must take money for her services, but there are many ways in which this general rule is evaded. No woman under eighteen years of age is inscribed on the police register and placed under "control," but she may be sent to a hospital in case she is found to be diseased. Between the ages of eighteen and twenty-one official notices concerning the girl are sent either to her parents or to her guardian. When a girl has a permanent residence and some definite employment so that she actually earns from her work as much as ten marks (two and one-half dollars) a week she also escapes being listed. Women who are kept as mistresses or who maintain sexual relations with soldiers, students, and the like for pleasure and not for pay, are not obliged to be

under "control." As a result of these limitations waitresses, chorus girls, flower girls, shop girls, factory hands, or girls in many similar occupations are not under police control. At the time of my visit about 5,000 women were under police "control" but probably ten times that number really existed in Berlin to whom prostitution for money brought the greater part of their income.

It is apparent that the number of women coming under the "control" of the Morals Police is steadily being augmented, although to counterbalance this, large numbers leave the city from time to time. The actual methods adopted by the police to secure control of these women who are constantly joining the army of public prostitutes are as follows:

A special constable, always in civilian clothes, keeps watch of the women who frequent the streets of the district to which he is assigned. If, after careful observation, he thinks that a woman is soliciting men or is practicing prostitution, he speaks to her, inquires her business and residence, if she has one, and these facts are then verified. If he again sees her acting in a suspicious manner, he may follow her home with the man who accompanies her. He may follow her to her room at once or he may wait a half hour and then enter the dwelling or he may wait until the man himself emerges and question him as to his name, his place of business, his residence, and whether or not he had intercourse with the woman he has just left; and if so, the amount of money which he paid for the privilege. These facts, too, are verified, if necessary, by taking the man with the officer to the various addresses given by him. If the officer finally concludes that the woman is practicing prostitution he speaks to her personally and gives her an official "warning" to stop her mode of life and to secure some regular work. This first step in police supervision is entirely *oral.*

If seen a second time under similar circumstances, the woman is asked if she has a definite residence. If she has, this is noted and she is ordered to appear at Headquarters at a definite time for examination. If, however, she is without a definite home or occupation, she is placed under arrest at once and brought to Headquarters in a closed cab if necessary, every effort being made to avoid publicity. Upon arrival at Headquarters for the first time the woman is received by a woman attendant who interrogates her as to her home, her mode of life, and the circumstances of her arrest, and prepares a history of the case to submit to Inspector Penzig. She is kept in a room separate from other women and is interviewed by the inspector, personally, who must verify all records before any medical examination is made. Errors are thus carefully excluded.

A minister of the gospel, paid by a women's charitable society of Berlin, is also in attendance daily at Headquarters and has access to that section of the building in which these women are admitted. If one is anxious to secure work, he assists her if he can. As a rule she admits that she is a prostitute and ridicules the pastor whose efforts, he stated to me are, as a rule, in vain.

If a medical examination is decided upon it is made by the woman physican who is on duty daily for this purpose and who, without exception, makes the first medical examination of all women admitted to this section of the prison for the first time. If the examination shows her free from venereal disease she may be released so far as future "control" is concerned but may be punished for practicing prostitution.

Women practicing prostitution without "control" may be punished for this by imprisonment not to exceed six weeks, or by being sent to the workhouse for not to exceed two years. From twenty to forty per cent. of the women coming for the first time are found to have venereal diseases. In August, 1907, two hundred and three women were examined for the first time; forty of these had either syphilis or gonorrhea. Women under eighteen may be forced to go to a hospital for treatment for a disease but are not placed under "control."

If over eighteen years of age and not diseased, she is released and is given an official warning which reads as follows:

To the woman, Mary X, brought here for the first time to-day, the following statement has been made: After careful police observation you are suspected of leading an immoral life. You are therefore explicitly warned and advised immediately to secure for yourself a better occupation and to earn your livelihood in an honest way. If you do not follow this advice and again come under the suspicion of the practice of prostitution you will be placed under the control of the Morals Police.

The inspector of police is the only man, aside from the chaplain, who is permitted to enter this section of the women's prison, and in the several instances in which this examination was made and the warning administered in my presence, the utmost kindness and consideration was shown on the part of both attendants and officials, and the women, for the time at least, showed contrition and made every promise to lead a better life.

If, in spite of this experience the woman reverts to her immoral habits and by reason of this is again brought to the attention of the police, her parents or guardians, in case she is a minor, are notified of her habits by means of the following form:

Your daughter (or ward) residing at..... is strongly suspected (or admits) leading an immoral life and to be a public prostitute. The Royal Police President, therefore, has given her formal warning and if this has no result, will order her placed under the control of the Morals Police.

As the official representative of Mary X, you are directed to put a stop to her immoral conduct.

Your daughter (ward) as a result of medical ex-

amination made here this day is found to be sexually diseased and is directed to place herself immediately under medical treatment. She must bring a physician's certificate at once that this treatment has begun and thereafter a similar certificate every fourteen days until cure is established. You are directed to take such measures as will enforce the directions thus outlined for your daughter (ward). If inside of a week this certificate be not forthcoming, or if your daughter renews her immoral life, she will be forcibly removed to the wards of the city hospital for the treatment of such diseases and there kept until she is cured.

If this be without result, court proceedings are instituted for placing the child in an institution or if necessary, procuring other guardianship in case of a ward. If those cases in which the daughter or ward in question is under private treatment two weeks are allowed to elapse before this action is taken. If the woman is again found practicing prostitution, she is arrested at once, taken to Headquarters and officially placed under "control."

The following notice modified according to circumstances, is now sent by the Police President to that division of the district court corresponding in many particulars to the judicial office of surrogate in this country.

Mary X, born.....18.... in ..... daughter (ward) of..... living at No. ..... St., is strongly suspected of leading an immoral life and practicing professional prostitution. The police authorities have therefore given her warning, and will, if this be not heeded, place her under the control of the Morals Police.

She is, as a result of medical examination, found to be sexually diseased, and has been directed to place herself at once under medical treatment. A copy of the proceedings is herewith enclosed. Her father, (mother or guardian) has been notified and directed to see to it that the directions as to medical supervision be enforced.

I would respectfully request that such measures as are deemed proper be adopted, based upon paragraph 1616 (1838) of the Civil Code, and that I be informed of the action taken as soon as possible.

The minor in question lives at No. ..... Street, or has occasionally found shelter at No.....Street. She has been sent to the City Hospital for cure of her sexual diseases.

Should these measures have been without result, and the person in question, who is between the ages of eighteen and twenty-one, still follows her mode of life, then the woman is placed under police "control" and the following report, modified according to circumstances is sent to the district court:

With regard to my writing of .....date, I respectfully inform you, with the addition of a copy of the proceedings of ..... that ..... has to-day been placed under the control of the Morals Police.

The decision, a copy of which accompanies the foregoing notification, is as follows:

(1) In consideration of the fact that by the confession of ..... it is regarded as proved that she is a professional prostitute and she is placed under control of the Morals Police;

(2) To be released from police custody;

(3) To be referred to the hospital;

(4) Copy of the notification of delivery of..... and of the proceedings of ..... is to be made and to be sent to the first district attorney at the Royal District Court in this city with the remark that .....has to-day been transferred to the hospital station of the city shelter and ..... placed under the control of the Morals Police.

From this time on the woman is placed formally under the "control" of the Morals Police and is officially informed of that fact by the inspector in charge of the department.

The following paper is read to her by the inspector and a similar document containing the police regulations is given to her for preservation, reference and guidance.

POLICE REGULATIONS FOR THE SAFEGUARDING OF HEALTH, PUBLIC ORDER, AND PUBLIC DECENCY.

A female who, because of public prostitution, is placed under the Moral and Sanitary Police control, is subjected to the following restrictions:

1. She is obliged to subject herself to a medical examination of her state of health according to the following regulations:

The medical examination takes place for those prostitutes assigned to Class I twice a week; for those prostitutes assigned to Class II, once a week; and for those prostitutes assigned to Class III, once every two weeks.

To Class I belong:

a. All prostitutes up to the completion of the twenty-fourth year.

Furthermore, without regard to age:

b. Those prostitutes who have not been inscribed for a longer period than one year.

c. Syphilitic prostitutes in whom three years have not elapsed since the outbreak of syphilis.

d. Those prostitutes in whom, because of their personality, because of their behavior (breaches of police regulations, withdrawal from the sanitary control, etc.), or for other reasons, a determination of their state of health at shorter intervals, seems desirable, in the opinion of the Morals Police.

Included in Class II are:

All prostitutes who are over thirty-four years of age, in so far as they are not included under Class I. Transferences of prostitutes from one class to another occurs according to the disposition of the Morals Police.

2. She must present herself for medical examination in the office of the Morals Police at the time specified for her or as soon as she finds herself sexually diseased. Should the date on which she is to present herself fall upon a holiday, then she must present herself upon the next following day of medical examination.

3. Should she be found sexually diseased, or, in fact, suffering with any contagious disease, she is compelled to submit to her transference to some hospital prescribed by the authorities, and to submit to treatment until she is cured. In the hospital she must unconditionally obey the recommendations, orders, and regulations of the institution.

4. She must wear simple and decent clothing. The wearing of male attire is forbidden.

5. Upon the streets and squares of the city she may not draw the attention of others to herself by her behavior. She is not permitted, for instance, to stand or to sit upon the street, in doorways, gateways, entrance halls, or upon the sidewalks; to promenade up and down a small stretch, to ramble about, in an offensive manner upon the streets, and to be seen in the company of a person whom she knows to be under the supervision of the Morals Police, or who has been punished for procuring, or who is regarded by her as a lover (Zuhalter). Furthermore she is forbidden to give men signs or signals to follow her, or to speak to her.

6. The use of the following streets or pleasure grounds is, except in cases of the most pressing need, forbidden to her: Lustgarten, Thiergarten, including the Königsplatz, Friedrichshain, Humboldthain, Victoria Park, the street Unter den Linden, Friedrichstrasse from the Oranienburger Thor to the Puttkamerstrasse and Besselstrasse; Wilhelmstrasse, from Unter den Linden to the Leipzigerstrasse, Rotsdamerstrasse, Potsdamerplatz, Königgrätzerstrasse, between Voss and Köthenerstrasse, Königgrätzerstrasse, Behrenstrasse, Leipzigerstrasse, Neue Wilhelmstrasse, Charlottenstrasse and Friedrichstrasse; Shadowsstrasse, Neustädtische Kirchstrasse from Unter den Linden to Mittlestrasse, Kleine Kirchgasse, Universitätsstrasse from Unter den Linden to Dorotheenstrasse, Kaisergallerie, Opern Platz and Pariserplatz, Platz am Zeughause, Kastanienwäldchen.

Furthermore, it is forbidden them to remain in the neighborhood of churches, schools, higher institutions of learning, royal and public buildings, particularly barracks; the frequentation of theatres, circuses and exhibitions, as well as the concert gardens belonging thereto, the Zoölogical Gardens, the museums, the city elevated and underground railway depots, except if a ticket for a journey is to be bought, and, finally, all places which the police headquarters may specify later. Similarly, driving up and down in open wagons, or riding bicycles upon the above named streets and squares is forbidden.

7. In public resorts she may not make herself conspicuous, namely, to entice men to her or to intrude herself upon them. Smoking, brawling, and singing are forbidden, as is also entrance into the private rooms to be found in those resorts.

8. It is forbidden her to enter into any relation with immature persons of the male or female sex, or with pupils and scholars of civil and military institutions.

9. She must be careful that no scandal is created through her residence in the house in which she dwells, nor in the neighborhood thereof. Otherwise she is obliged after having been warned once without result to remove from this house upon the orders of the Morals Police, within the time specified to her.

10. She must, without delay, at any hour of the day or night, permit or procure the admission of the police officer who calls for the inspection of her dwelling, and must in so far as it is possible for her, give information concerning those persons found in her company.

11. Should she be found in a dwelling which is known to the police as a house of assignation for prostitutes, and if the conduct there has already given rise to complaint, then admission to this dwelling may be forbidden her by the Morals Police.

12. She may not, under any pretext, show herself at the window of her own or a strange dwelling. The windows of her residence must, while she is receiving male visitors, be closed and covered with curtains, so that a view into the dwelling is made absolutely impossible. It is forbidden her to place a lamp, a light, or any other signal at the windows, or in any other way to entice men from the window or from the door of her own or of a strange dwelling.

13. She must, upon request or upon inquiry, truthfully state her place of residence. She must give notice, personally, of every change of residence within three days, but at the utmost, upon the next visit for medical examination to the registration bureau of the Morals Police. In any written request to the Morals Police the place of residence must always be exactly noted.

14. It is forbidden her to live in the vicinity of churches, schools, and higher institutions of learning, royal and public buildings, particularly of barracks, as well as upon those streets or squares whose use is forbidden her in paragraph 6 of these regulations, and on the ground floor, or in the cellar, when this residence looks out upon the street. Furthermore, it is forbidden her to live in hotels, inns, and furnished room hotels, or to visit such. As soon as it is brought to her notice by the Morals Police that one of the conditions of residence mentioned in this paragraph is present and that offence is caused thereby, she is obliged to give up her residence within the period of time set by the authorities.

15. Finally, it is forbidden her to share her residence with another person while she receives the visits of men or to harbor her lover in her dwelling.

16. She is obliged to keep in a safe place her control book and the card of identification handed to her at the time of her release, until it is handed over to the proper authorities. She is not allowed to leave her control book or her card of identification in the care of other prostitutes, or of any other unauthorized person.

17. She is forbidden to employ servants who are minors.

18. During her stay in the offices of the Morals Police she must behave herself quietly, decently, and give absolute obedience to the superintending officers and physicians.

Breaches of these regulations will be punished according to paragraph 361, No. 6, and 362 of the Penal Code of the German Empire, with imprisonment up to six weeks; at the same time it may be decided that the condemned person is, after the completion of the punishment to be turned over to the national police authorities, who thereby receive the right to place the person in question either in a workhouse for a period up to two years or in an institution of correction or education, or in an asylum, or employ her upon works for the public benefit.

.....

POLICE PRESIDENT.

BERLIN, June 28, 1902.

REGULATIONS FOR THE PREVENTION OF INFECTIOUS SEXUAL DISEASES.

1. Intercourse is to be denied to men from whose urethral canal mucus or pus flows upon pressure, or upon whose organ reddened or ulcerated places are noticeable. Sexual intercourse with such men is always followed by infection.

2. After every intercourse the genitals are to be washed with water of warm temperature and the vagina is to be syringed out with warm water by means of a rubber syringe or an irrigator. For this purpose a litre of water is to be used. The vaginal tip is inserted about three inches into the vagina. The same cleansing must take place in the morning after arising and in the evening before going out.

3. In addition, in order to keep the entire body clean, frequent river baths must be taken during the summer months and in the winter at least one tub bath a week.

4. The most careful cleanliness of the entire body is an important safeguard against sexual disease.

A woman brought before the inspector for the first time who has both a definite residence and work, and who, upon examination is found to be sexually diseased, may, if she so desire, go to her own physician for treatment and eventually bring his specific statement that he has examined her genitalia, both external and internal, and has made a microscopic examination of the secretions of the urethra and of the uterine canal and that she is free from venereal disease. A certain number of physicians in the city in various districts are officially appointed to make this class of examinations and a printed list of these, with their addresses and office hours, is given to the woman. From this list she may make her own selection, preferably the one who is nearest to her residence. Each of these physicians is provided with a printed card arranged as follows:

Date—Mrs. or Miss—born at.....in .....appeared to-day for treatment. She suffers from.....in contagious (non-contagious, form. She is to come again for treatment on ..... She is to-day cured (improved), and at the present time is (or is not) no longer a source of infection and is therefore discharged from my observation.

One such card is filled out at the time of each visit and given to the woman who must at once send it to Police Headquarters. The day after the date specified for the next examination another card must be sent; if this is not promptly received an investigation by some designated officer is made at once to determine the cause of such neglect.

Should a woman be seized for public prostitution for the first time and found to be suffering from venereal disease, and found to be without trade, without means of subsistence, without a fixed residence, or to be living in the home of some other prostitute she is transferred to the hospital of the city Alms House for treatment and the following notice is entered with the records of her case in its proper folio:

1. The venereally diseased ..... is convicted upon her own confession of public prostitution. She is without a residence (in one not reported). A justifiable suspicion exists, therefore, that she will continue to follow the trade of a public prostitute in spite of her disease. Her compulsory treatment in a city hospital is therefore necessary to prevent the spread of the disease.

Thereupon:

2. Formal warning is given her.
3. She is sent to designated ward in the hospital.
4. Parents (Guardian) are notified.
5. Guardian's Court is notified.
6. A copy of the papers indicating the action taken is to be prepared and sent to the First District Attorney in his chambers at the First Royal Municipal Court of this city. With the information that ..... has to-day been sent to a given hospital for medical treatment.

The prostitutes, as has been stated, are assigned according to their age and condition to three different classes. In case a woman in Class II or in Class III should contract syphilis, she is at once transferred to Class I and in her record the following formulæ is inscribed:

Mary X, until now in the ..... class of sexually dangerous public prostitutes, Book No. ....., is to remain in Class I for a period of three years.

This is signed by the physician making the observations. A red label for ease of identification is placed on the sheet and the date on which the primary infection took place. The chief inspector at the end of three years time may sign the second part of this protocol re-assigning the woman to Class II or Class III.

At the completion of the twenty-fourth year, the prostitute, unless syphilitically infected, is referred to the second class. At the completion of her thirty-fourth year she is referred to the third class. Here the facts are also entered upon the records of her case, as in the following document:

The prostitute, ..., heretofore belonging to the first ....., second danger class, book number ...., completes upon the .... day of..... of this year her twenty-four or thirty-four years of age (has been upon the .... day of ..... of this year, been under the supervision of the Morals Police), and might, therefore, be referred to the second or third danger class.

In addition, I would remark that more than three years have elapsed since the outbreak of syphilis in her person, that she had previously not been diseased with syphilis.

.....
Physician of the Morals Police.

To the Royal Morals Police:

1. ..... is to be informed that upon the basis of the preceding medical certificate, she has been from to-day referred to ..... danger class.
2. To the control book.
3. To the records.

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BERLIN .....

..... is informed with regard to the disposition contained upon the reverse side that she has been, upon the basis of a medical certificate, referred from to-day to ..... danger class, and that she must in future present herself every..... of every month, between ..... o'clock and ..... noon ..... declares that she has correctly understood this.

Should an infectious or contagious disease (including scabies) break out in the person of the prostitute, she is at once, upon its discovery, referred for treatment to the hospital of the city almshouse, or shelter, as follows:

..... is, for the treatment of ....., to be transported to the hospital division, in the city almshouse.

The hospital division is hereby respectfully requested to admit her for treatment and to carry out the medical measures necessary for a cure, by force, should she offer resistance, and not to release her from the hospital station before a cure has resulted.

This document, after having been filled out, is sent to the authorities of the city shelter at the time that the patient is transferred to the institution.

In case the woman under control informs the Morals Police that she is sick from some non-venereal disease, the following form is taken to her by a constable; *the woman herself must fill out this form and sign it* in order to relieve the physician of any criticism regarding professional secrecy.

I hereby declare that the physician, Dr. ....., living at ....., has, *at my expense*, been permitted to fill out a certificate as to my state of health for the use of the Morals Police and to file the same with the proper police officials.

For the above mentioned sole purpose I hereby release the physician, Dr. ....., from his pledge of professional secrecy.

Name.....
Date.....

After his visit the physician fills out the following certificate:

Costs are not to be paid by the Morals Police.

Physician's Certificate,

For the use of the Morals Police of Berlin.

NOTE.—This certificate is of no value unless all questions are positively answered as a result of a personal examination. This is especially true as regards question No. 6.

1. Name and residence of the patient?
2. Since when has she been under your treatment?
3. What is the ordinary name of the disease?
4. Is the disease of a sexual character?
5. Is the disease in a contagious form at the present time?
6. Are there present any symptoms of syphilis, of chancre, or of gonorrhea? What are they? Is there danger of infection from any of these?
7. Is the patient confined to her bed or only to her room?
8. When, approximately, will she be again able to visit the office of the Morals Police?

Place..... Date.....

Name of physician.....

Residence of physician.....

In case a woman under control reports sick and has no private physician, one of two physicians on duty at Headquarters is sent from Headquarters to make an examination and report. A sergeant goes with the physician to the residence of the woman and the examination is there made. A fee of four marks is paid to the physician by the city for each such visit. The following reports are then made by the sergeant and the physician:

Report in case of.....

Date .....

1. Report to be delivered by Sergeant....., of the ..... District, to Dr. ....., who is hereby requested to visit and examine..... ....., in the company of the sergeant who brings him this paper. He is to proceed at once with an examination in accordance with the accompanying formulary. The examination will be made at the residence of the patient and the written report of the results of the examination will be given to the sergeant at once.

2. In case the patient is sexually diseased and able to be transported, as is shown by the accompanying physician's certificate, the sergeant of police will escort her to the bureau of the Morals Police on the following morning; otherwise he is to return this paper with the medical certificate and a short report.

Physician's Certificate of the Morals Police.

1. Name and residence of the person examined.
2. Day and hour of the examination.
3. Is the person examined suffering from a venereal disease. From which one—syphilis, gonorrhea or chancre? What particular forms of the disease are at present manifest?
4. Would the particular state of the disease now present have permitted her to present herself at the office of the Morals Police at the time appointed?
5. Is the patient suffering from any other disease?
6. Is the present illness sufficient ground for her absenting herself at the time set for her regular examination?
7. Is the patient now in such a condition that she can be moved with safety?
8. When will she probably be able to present herself at the office of the Morals Police?

Date..... Name of Physician.....

Physician of the Morals Police.

It sometimes happens that the woman may attempt to avoid examination at Police Headquarters and may feign illness or absent herself from her usual visits. This is especially apt to be the case in the event that the woman discovers some venereal disease has developed. An investigation is at once made by the sergeant in charge of the district in which the woman lives and if the complaint alleged is a simple matter, not requiring medical attendance the sergeant fills out the following detailed report:

Report in the case of ....., alleged to be sick, and who is under the supervision of the Morals Police.

The official making this report is especially forbidden to make any direct personal examination of the patient, especially of those portions of the body that are ordinarily covered.

In the following formulary the appropriate sentence is to be underscored.

1. Date and hour of the inspection.
2. Where and how did the official find the alleged patient? (For instance: in bed; out of bed; in her room; in the kitchen; upon the stairs; sitting; lying; walking; how employed; unemployed.)
3. What appearances of disease were externally to be noted? (Redness; swelling; discharge of pus; bleeding; skin eruptions; ulcers; wounds. Upon what part of the body? Fever, paleness, emaciation, snuffles, cough, hoarseness, difficulty in breathing, vomiting, stiffness of the joints, altered gait, lameness, limping.)
4. Does the patient wear compresses, packings, bandages, or plasters upon the body? Where?
5. Are any articles ordinarily used in the care of the sick close at hand? (Medicine bottles, powder boxes, pill boxes, paper bags, ointment jars, ice, refrigerator, irrigation apparatus, fountain syringe, bed pans, invalid chairs, fever thermometers, etc.)
6. Of what symptoms does the patient complain? (Chills, headache, dizziness, pain in throat, cough, spitting of blood, pain in the chest, coughing up of blood, nausea, loss of appetite, pain in the stomach, vomiting of blood, pain in the abdomen, diarrhea, blood in the stools, pain on urination, after stool, after intercourse, pain in limbs, fainting, twitching of various muscles.)
7. Is the patient under the care of a physician? Whom? Why does she not apply to the charity physician? The methods of making such an application are to be explained by the official to the patient. Has that been done?
8. Are there any prescriptions shown, or, in their absence, are there any directions upon the labels of bottles, ointment jars, etc.? (These are to be added to the report with the consent of the patient.)
10. Can a medical certificate in the form used by the police be obtained? Why not?
11. Can the patient produce witnesses as to her illness? What do they say?
12. Has the patient been seen upon the street during the time that she is alleged to have been ill? Under what circumstances?
13. What do the personal records state regarding the previous health of the patient? Does she frequently report sick? Has she already been in the hospital? Are there any circumstances that lead you to suspect that the statements made by the patient concerning her illness are unreliable?
14. The patient is to be directed to present herself to the Morals Police as soon as she feels herself in a condition to do so. When does she believe that this will be the case?

Signed.....

Sergeant, Morals Police.

Should an inscribed prostitute express a desire to give up her immoral mode of life she needs only to make known her desire to. the police

authorities, whereupon her desire is entered upon the records of her case. She receives, thereupon, a temporary dispensation for three months from police control. She is, however, expected to conduct herself in a decent manner, and to avoid falling under suspicion of still following her trade of prostitution. The document employed in this transaction is as follows:

Preliminary Dispensation from Control Examinations.

1. For ..... it is to be recorded that she is temporarily to be freed from the regulations of the sanitary police of the date of June 28, 1902. This, however, is only to be done with the privilege of revocation, under the express condition that she shall not give any occasion for any interference or any interposition by the Morals Police. Otherwise particularly if she again make herself suspected of engaging in public prostitution, the above mentioned concession is to be retracted, and she is again to be subjected to the control regulations. Her definite release from control is to be decided later on.

2. For the ..... district, for the observation of ....., and for her production as soon as she again makes herself suspected of public prostitution.

3. To the other districts for information and notification, in the sense of the orders, with regard to § 4.

4. ..... precinct the same information.

5. For the control book.

6. After ..... month, with the report of ..... district and the statement of the other districts as to whether ..... has given occasion for any interference by the Morals Police.

Any breach of these orders is to be followed by her being brought before the district court for the purpose of bringing about her punishment for the breach of paragraph 361-b of the National Code of Laws.

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To ..... it was to-day disclosed, in conformity with the adjoining order, that she is to be temporarily released from the observance of the Morals Police regulations of June 28, 1902. This permission is given under the express condition that she is not to give any occasion for interference by the Morals Police. Otherwise, if she again brings suspicion of public prostitution upon herself, then the above mentioned concession is to be recalled, and she is again to be subjected to the control regulations. Her definite release from control will be decided later.

2. For districts.

3. For the ..... precinct ..... for information.

4. Upon the control book.

5. Upon the records.

Should the woman in question during a period of three months not lead a moral life, and should she arouse the suspicions of the police that she is still secretly following her trade of prostitution, and should the secret police verify these suspicions, then the temporary dispensation is withdrawn and the woman is again placed under control. The following document is then employed:

Withdrawal of the Dispensation.

1. In the case of ....., it is to be recorded that the temporary release from obedience to the Morals Police control regulations granted to her upon..... is hereby retracted, since she has again aroused suspicion of engaging in public prostitution. She is from now on again to be subjected to the control regulations, and must particularly present herself regularly for medical examination on the dates of which she has been notified.

2. ..... was today, in accordance with the adjoining order to her, informed that the temporary release from the Morals Police control regulations granted her on the ..... is hereby retracted since she has again caused herself to be suspected of public prostitution. She is to be from now on again subjected to the control regulations, and is particularly to present herself for a medical examination upon the dates of which she has been informed.

Any contravention shall be followed by her production before the district court for the purpose of bringing about her punishment for transgression against paragraph 361-b of the National Code of Laws.

..... was informed that the preceding transaction retains its validity, even though her signature be refused.

Should she, however, for a period of three months lead a decent life, and not fall under the suspicion of the police, then she is definitely released from the control and her name is removed from the rolls of the public prostitutes.

This document reads as follows:

1. ..... is definitely released from control.

2. ..... is, at her next visit, to be detained and to be informed thereof. To the district for information.

3. To the attention of the other districts.

4. To the ..... precinct similarly.

5. Book to be added.

6. Release to be noted.

7. Records to be filed.

The second general division of the police supervision of prostitution may be regarded as purely medical in its character and is principally concerned in determining whether any form of venereal disease exists in the women under "control." The actual medical control of these examinations is placed in the charge of regularly appointed medical officers who are officially known as "Police Physicians." These officials vary in number in the different cities. In Berlin they are twelve in number, and here they receive a yearly salary of twenty-four hundred marks. There is in addition a woman physician who always examines women coming for the *first* time. She does nothing else and the work varies materially, from day to day and is never very heavy. She receives twelve hundred marks yearly. In Dresden the two physicians receive fifteen hundred marks annually apiece, and are appointed for terms of three years each.

The mode of procedure in the non-medical division of police supervision of prostitution has been given in full detail for the city of Berlin, for in this particular, so far as lies in the power of Police Inspector Penzig, these regulations are executed with an exactness unsurpassed by any other German city. On the other hand, in Dresden, the medical portion of the work of examination was carried out in a manner so markedly superior to that in vogue in Berlin and in the other cities visited that it deserves special study and emphasis.

In Dresden also, the letter presented to the Royal Police President, Paul Koettig, acted as an "Open Sesame" and to him and his assistant,

Police-assessor, Bareuther Nitze, and the two police physicians, Dr. Winkler and Dr. Mann, I wish especially to express my thanks for the many courtesies and kindnesses shown me while engaged in this investigation.

The building used as Police Headquarters in Dresden is a large, new, commodious and architecturally imposing building, maintained in immaculate cleanliness in all its parts, and is in itself an incentive to good work for all its official inhabitants. On the north side of the building opening upon an unfrequented street is the special entrance used only by the prostitutes who report in specified groups every morning except Sundays at nine o'clock for examination. A special staircase, having no communication with any other portion of the building leads up to the fourth floor where in a large, well lighted reception hall they await their turn for examination. They are admitted by a doorkeeper who remains on duty during the three hours or so that the examination is conducted. At the door of the medical examining room is seated another official who gives to each woman her own book cover, identified by number to avoid confusion of names. Each in turn is admitted to the examination room, but only one at a time. Each woman must bring her own tongue depressor, usually of glass. She must have taken a bath and a douche before her coming, she wears no drawers, and her clothing must be clean and unobtrusive.

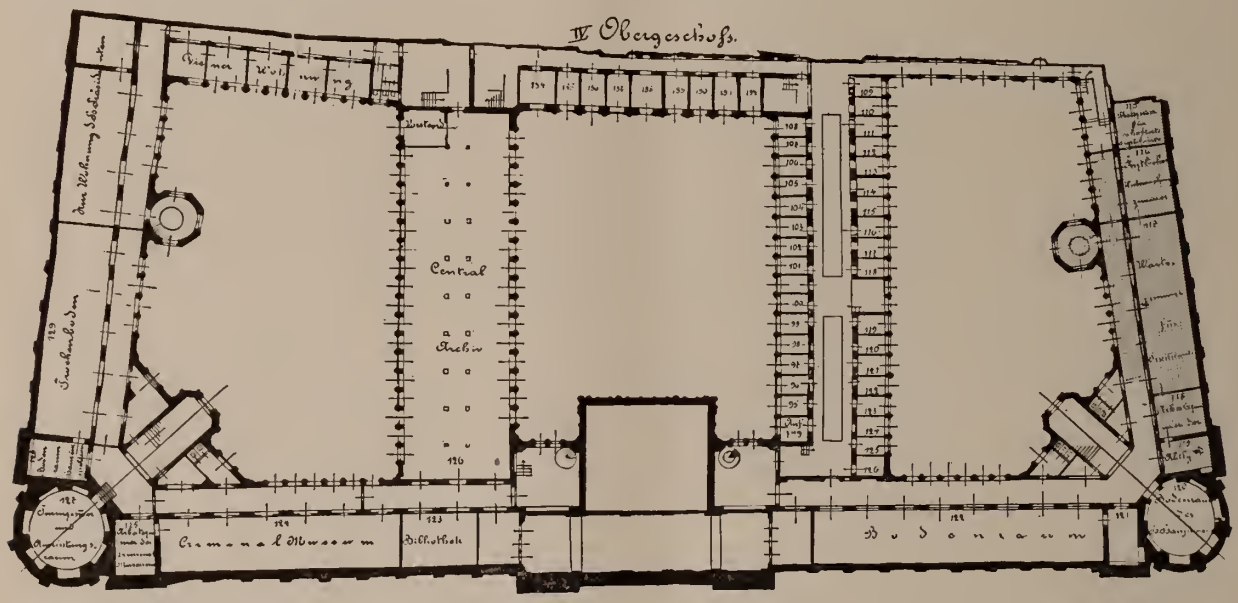

FIG. 1.—GROUND PLAN OF THE FOURTH FLOOR OF THE HEADQUARTERS OF THE ROYAL POLICE OF DRESDEN. SHADED PORTION SHOWS SPECIAL SPIRAL STAIRCASE AND ROOMS OF THE MEDICAL BUREAU.

The physician in attendance is a thoroughly competent man, a specialist in skin and venereal diseases. The mouth and mucous membrane are first examined, each patient using the tongue depressor herself. The cervical and axillary glands are next examined and the skin over the upper portions of the body. The examining table that is used is three steps high, the upper step entirely enclosing the front and sides of the table proper which has a moderately elevated back. The woman walks up the two steps, elevates her clothing and sits down at the edge of the table with her feet on the upper step. No stirrups are used nor are any needed, and for cleanliness the table is as simple as possible. The speculum that is used is slightly tapering and conical with a smooth conical end on a central handle which is removed when it reaches the cervix. Any other form of speculum has been discarded as less easy of introduction, and of removal, as giving more discomfort to the patient, and more apt, especially in the bivalve variety to catch in the hair or mucous membrane and possibly cause abrasion of the mucous membrane with consequent infection.

At the right side of the physician as he sits on the revolving stool in front of the patient is a glass-topped table on which are laid in readiness for every case two platinum needles in glass rods that have just been flamed, and several sterile cotton swabs on wire handles with the cotton end projecting over the edge of the table. At his left side and behind him in front of a large window of ground glass reaching from the ceiling to the floor is another low table upon which are conveniently placed a bowl of water, a bottle of borated methylene blue, a Bunsen burner, some blotting paper, clean slides, and a good microscope with an oil immersion lens. On the right of the examining table stands a capable and experienced trained nurse who is always in attendance while examinations are being made. Under her charge is a large sterilizer of boiling water, containing several racks

for speculæ and for other instruments that are occasionally used. Supplies of sterile cotton sponges on wires are in jars within easy reach.

All women under control must come once a week and oftener in new cases or where infection is suspected. The mucus secretion of both the urethra and of the cervical canal are carefully collected on the platinum wire loop, smeared in two places at the end of the slide, always with the urethral secretion at the end smear, fixed, stained and examined with the microscope, at least as often as every second visit, and oftener if suspicious physical appearances exist. If the woman be menstruating only the urethral secretion is examined.

As soon as the smears are taken and the physician begins the staining, the woman rises, steps down from the table readjusts her clothing and at once retires. The nurse places the speculum in boiling soda solution, removes another from its compartment in the solution and places it in cold mercuric cyanid solution to cool, flames the platinum wires afresh, and by the time the doctor has finished his microscopic examination all is in readiness for the next patient. An attempt is made to have cases in which a microscopic examination is made alternate with others to give more time for staining and so lose less time. The entire series of examinations moves onward with marvelous precision and celerity. Ample time is taken for each step but no time is lost and usually the routine examinations are completed in the course of two hours.

When these are over, there are admitted from the other end of the room women who come for the first time under "control" or who have come from other cities to Dresden. Also any women prisoners who are suspected of being diseased. At the end of the rooms are four small apartments separated from each other by wooden partitions and each with a curtain across the front like dressing rooms in a clothing store. Each compartment is provided with a plain wooden chair and several clothes hooks. Each woman coming for the first time is always examined entirely nude in the presence of the nurse. The skin in general, the various glandular areas, the hands, feet, and mouth are examined for any form of parasitic or skin disease, and finally the routine examination of the genitalia is made, always with a culture, and with a microscopic examination of the urethral and cervical secretions.

One morning's work may be taken as typical of the usual amount and character of the examinations. Suspected prisoners, 2; newly arrived prostitutes, 3; other former cases, 31; total, 36. Slides taken, 18. Disease detected, 3 (gonorrhea of cervix, 1; of urethra, 2.) These three were sent in the next room to wait, and were sent forthwith to the hospital at the close of the examination. Each woman as she is examined has the days record noted in her book with the initial of the physician. The book itself they carried home but the cover was retained by the record clerk in the waiting room. This man also gave to each woman when he had taken her book cover and verified the book entry, a card that was taken up by the outer doorkeeper; without this card properly endorsed no one was permitted to leave the room. A separate stairway is provided for those who have been examined and every effort is made to ensure as much privacy as is possible, and the utmost quiet and decorum prevails in the reception room and in the corridors where these women are admitted.

190.....	U.	C.	Bemerkungen:
	Urethra	Cervix.	Initials of Examining Physician

Zu D. Nr. 25.
Kontrollkarte für Prostituierte

FIG. 2.—FACSIMILE OF BOOK CARRIED BY PROSTITUTES IN DRESDEN, IN WHICH ARE KEPT THE RECORDS OF THE MEDICAL EXAMINATIONS.

All prostitutes, moreover, are specically instructed to maintain the most careful supervision of their general health, and as soon as they notice symptoms which seem to them to indicate any skin eruptions, itch, scabies, or sexual disease they must at once call the attention of the police physician to these facts or symptoms. No woman suffering from any form of venereal disease is permitted to be treated at her own home, but is at once removed to the proper hospital.

When she leaves the hospital, even if she was there for non-venereal disease, she must report

within twenty-four hours to the Sitten-Polizei and show her certificate of discharge. Similar procedure is required following release from legal arrest, from the workhouse, from the maternity hospital or similar institutions.

Printed and detailed directions have been prepared for the guidance of the Police Physicians. These, framed and hanging in the medical examining room are as follows:

SERVICE REGULATIONS FOR THE CONTROL PHYSICIANS APPOINTED BY THE ROYAL POLICE AUTHORITIES IN DRESDEN.

A.—GENERAL.

1. Control physicians are medical officials of the Royal Police of Dresden and bear the official title "Police Physicians."

2. They are two in number.

3. They are appointed for a three years' term of service, but in exceptional cases their term may continue for a longer period.

During this time each party retains the privilege of terminating the contract upon three months' notice. A control physician may also be summarily dismissed in case of gross neglect of duty, dishonorable conduct, or criminal arrest. Pension is not allowed.

4. The salary of each physician is 1,500 marks, annually paid in installments of 125 marks on the first of every month.

5. In case of unavoidable detention or leave of absence, each physician must substitute for the other.

6. The control physicians are directed—

a. To examine each of the women who are under the supervision of the Sitten-Polizei regularly once a week to determine their sexual health. This examination must take place in the quarters of the Royal Police Department which are set apart for this purpose, and upon the days and hours to be specified by the proper authorities.

Modern methods shall be employed by the physicians at their examinations. Requests for new supplies or materials are to be made in writing to the proper police official.

b. To render a competent professional opinion in all cases in which the chief of their department considers it necessary.

c. To examine all men or women referred to them for the presence of venereal disease and to properly record their findings.

d. To treat, free of charge, upon their request such executive officials as may be suffering from venereal diseases.

7. For the good of the service all unofficial relations with prostitutes are to be avoided by the control physicians.

8. All private medical treatment of prostitutes is forbidden, except where delay is dangerous.

9. Any ungovernable behavior of the prostitutes or prisoners towards the physicians, as well as their refusal to be examined, uncleanliness, etc., are in the interests of the physicians themselves, to be at once reported through official channels.

10. The control physicians shall appear before the president of the Royal Police at such time as he may direct to make a report of their work. Particular occurrences they are to report to him at once.

B.—SPECIAL DIRECTIONS.

1. At the examination of prostitutes and female prisoners the purpose is to determinate the presence of the following diseases:

a. Soft chancre, which must take place through simple inspection.

b. Gonorrheal diseases: On the one hand these are to be determined by the observations of the ordinary clinical signs; on the other hand, by means of bacteriological examinations. The bacteriological examination of the secretions is not necessary in all cases. The necessity and practicability thereof depends entirely upon the nature of the individual case.

Bacteriological examination must be demanded.

x. In all females who come for the first time to the medical police for examination of their sexual state of health.

y. In all females who are to be delivered to the city hospital by the police physicians because of gonorrheal disease, or disease which leads to the suspicion of gonorrhea.

z. In all female persons whose sexual state of health is to be determined upon the request of the authorities.

The frequency of the single bacteriological examination of the prostitutes depends upon the opinion of the control physicians, who will thereby aim to diminish the danger of infection through the prostitutes to the attainable minimum.

As points for the taking of secretions come under consideration, the vagina, urethra, cervical canal, and, in particular instances, also the anus and the various gland ducts.

The secretions may only be taken by means of an instrument through whose use an injury of the examined female is excluded.

The taking of secretions is to be performed in the most careful manner, and the unnecessarily deep insertion into the urethra of the instrument to remove secretion is particularly to be avoided.

c. Syphilitic Diseases: For their determination the skin and the visible mucous membranes, as well as the palpable lymphatic glands, are to be subjected to a regular inspection and palpation.

d. In addition to these sexual diseases and their possible sequelæ, such as buboes, papillomata, etc., attention is also to be directed to such other diseases as may be similarly transmitted through intercourse, such as scabies, phthiriasis, molluscum, contagiosum, etc., tuberculosis and tumorous diseases of the sexual organs.

2. Those females suffering with any diseases noted under the preceding headings, a, b, and c, are to be referred to the city hospital by means of reference formula upon which the disease is to be noted in abbreviations in the Latin language. In the presence of the diseases mentioned under "d," the transference to the city hospitals depends, according to the danger of transmission, upon the opinion of the control physicians.

3. If it is not possible to determine with certainty the nature of the disease at the examination, then the control physician may have the suspected person brought before him upon the next or the following day for re-examination.

Should, however, such a delay appear to be connected with danger, then he may also, with the statement of the suspicion of disease, refer the suspected person to the city hospital.

4. The result of each individual examination of the prostitutes is to be noted regularly upon the control cards according to date and findings.

These details are not only followed with scrupulous fidelity but efforts are constantly being made by the two physicians, Dr. Mann and Dr. Winkler, to improve their technic and the efficiency of the service. Recently since the discovery of the true cause of syphilis and with the still more recent methods which make the demonstration of living *spirocheta pallida* possible, both men express the belief that it may soon be possible to determine the actual presence of these organisms in some way similar to that now used for the determination of the presence of the gonococcus.

Such then are the details of the two essential features of the police supervision of prostitution

in Germany. It remains for us to consider their value from a sanitary point of view and to consider also whether similar regulations could be adopted with advantage in our own country.

So far as the actual medical examination of such women is concerned, if it were carried out here or elsewhere with the accuracy that is practiced in Dresden, the result would undoubtedly be a marked reduction in the number of cases of gonorrhea. In Dresden since the present system has been in existence, this disease has diminished nearly 40 per cent. in the women examined. Every effort moreover, is made to have each detail in the medical routine performed with scientific accuracy, skill, and strict regard of antisepsis and asepsis.

In Berlin, on the other hand, the medical examinations were performed in a manner which would be regarded by most observers as intolerable in the light of modern surgical knowledge. Thus, in one instance observed, a single speculum was used in twenty consecutive cases and after each case was rinsed for less than a minute in a two per cent. cold solution of washing soda in a wash basin. This solution was not renewed nor changed during the entire series of examinations. It is quite evident that in case venereal disease actually existed, the speculun used became a source of actual danger of infection to each woman who succeeded the first one. The crowded condition of the corridor and room in the Medical Section at Berlin where both men and women were coming and going together, made all privacy impossible and certainly would tend to prevent women coming for examination unless driven to do so by actual necessity.

Microscopic examinations of the secretions of vagina, cervix and urethra as made at Dresden were accurate, satisfactory and performed as a routine measure in fully 50 per cent. of all cases examined. The technic of the examination too, left nothing to be desired. The examining physician himself performed the work. In Berlin, on the other hand, the clinical symptoms and appearances of the genitalia were emphasized and slides were taken in but few instances. Staining was done by one of the clerical staff on duty and not by a physician. The examining physician was then obliged to go the entire length of a long corridor to a room where the microscopes and stains used by eleven other colleagues were kept and here an examination was made on a window ledge in a room used for clerical work in general. Adequate laboratory facilities were entirely lacking, nor did the professional standard of the physicians themselves impress one as being as high as that maintained in the similar department in Dresden.

A very serious objection to the system of medical supervision in vogue in Berlin is the fact that the entire omission of supervision of men infected with venereal disease weakens by full one-half the value of all sanitary control. That this is true is proved by the experience in the city of Hamburg where men are examined as well as women and in the hospitals in that city where venereal cases are treated, more than 70 per cent. of the patients acquire the disease outside of the city limits.

It must not be supposed that the system of medical supervision in Berlin is a failure, notwithstanding the criticism made of the actual method of procedure. Far from it. Its technical results are not as good as those secured in Dresden but the practical value of this supervision is well shown by the following figures collected by Bierhoff regarding the source of infection in 134 cases of gonorrhea observed by him when assistant in the Berliner Allgemiene Poliklinik:

These cases of gonorrhea occurred during a given period as they presented themselves for treatment:

Prostitutes "under control"	5
Prostitutes, "street walkers," not "under control"	82
Shop girls and factory girls	17
Servant girls	9
Kellnerinnen (waitresses in restaurants, etc.)	9
"Respectable" (fiancées, widows, married women)	10
Unknown source	2

The method best adapted to control prostitution, to prevent seduction, and to limit the transmission of venereal diseases has not yet been found. Even in Germany at the present time, the methods now in use are by no means carried on without an active opposition, and of late two parties have arisen sharply opposed to each other upon this important question.

One party would have the practice of prostitution under direct police supervision just as every other trade is which is dangerous to the common welfare; the other demands the discontinuance of all sanitary supervision of prostitution. The group of persons who are in favor of supervision are known as the "Regulators"; their opponents have themselves adopted the name of "Abolitionists," in the same sense that the Abolitionists existed in this country during the continuance of slavery. The Regulators content themselves with the defensive while the Abolitionists seek to attain their ends by the use of all available means in an active campaign. The battle carried on by them, as is often the case with fanatics of all kinds, oftentimes is conducted in a most unfortunate and overzealous manner productive of much bitterness and active enmity. Mutual understanding between these two parties is possible in but few particulars, since the Abolitionists do not care to inform themselves of the constant efforts made by the Regulators for a progressive improvement in methods of supervision.

The Abolitionists consist in great part of active advocates of so called "Woman's rights." They are unanimous in the one demand that each man about to be married, should have a certificate of health before he consummates his marital relations, but regard it as an intolerable invasion of the personal liberty of women to

demand that a prostitute who may daily infect half a dozen or more men with venereal disease should be compelled to submit to systematic medical examination. Whoever knows the mental attitude of prostitutes knows that most of these women permit themselves to be treated gratuitously only when their venereal disease disturbs them in the carrying on of their trade. The *Abolitionist,* the official organ of the German branch of the International Federation, states in the January number of the year 1907: "In our country regulations will be discontinued only when experience and statistics have demonstrated that other rules are better able to protect the general health of the community." Most Germans hope that this statement is true.

This controversy is still being carried on. The best statement of the claims of the two parties is that presented by Vorberg:*

Abolition.	*Regulation.*
1. The supervision of prostitution is an interference with personal freedom with the right of self-control.	1. Personal freedom must cease where public health is endangered. Interference in self-regulation demands only that prostitutes suffering from venereal diseases shall allow themselves to be treated for the benefit of their own health and the public welfare.
2. Prostitution is no crime, and on that account can be subjected to no obligations.	2. A woman who lives by prostitution is plying a trade and must be subjected to the same obligations as other trades people. It is no crime to deal in wine or milk, and yet trade in wine or milk is subjected to supervision. Prostitution as a trade dangerous to the community demands the strictest regulations.
3. In so far as the state supervises prostitution it becomes a procurer and furthers its development.	3. Prostitution is an evil which man has sought in vain to banish from the world. In the interest of public order, morality, and the health of the people, the State must watch over it. If the supervision of the State really gave assistance to prostitution, the number of licensed prostitutes would increase. The contrary is the case. Prostitution licensed by the State decreases in favor of secret prostitution.
4. Regulation is an exceptional law for the protection of men who are the offenders, for it is the man who infects.	4. Venereal diseases are in no way limited to the masculine sex. Syphilis extends to women and children. Gonorrhea is one of the worst diseases of women. The question is that of a common interest of the whole human race, not that of the protection of a class or of one sex.
5. The examination of prostitutes wounds their sense of shame.	A prostitute turns her attention to the trapping of men; she is paid for her trouble and so is the only one who should be subjected to control. A man, even if he practices cohabitation daily will scarcely within twenty-four hours have connection with more than one woman. The infected prostitute in one night can infect five, ten, or even more men.
6. Medical examination is useless because 60 per cent. of the prostitutes under control have passed the stage of venereal disease where they can spread infection and are themselves immune, besides this, the same women are constantly subjected to a useless and humiliating supervision.	5. The sense of shame of a prostitute who gives herself to cohabitation for money several times daily cannot possibly be wounded by medical examination.
7. Supervision of prostitution is superfluous because it reaches only a small proportion of the prostitutes.	6. The possibility of communicating syphilis is not limited by time. The stage of syphilis is without influence upon the activity of the infection. Even in the tertiary stage of syphilis, for instance, in the tenth year after infection pimples can appear in the mouth and in the vagina. Reliable observations show the transmission of the disease in the 12th, 13th, 17th, 18th, and even the 20th year after infection. In addition to syphilis, the soft chancre and especially gonorrhea can be acquired through intercourse with prostitutes. Gonorrhea is responsible for a large part of childless marriages, to say nothing of its other evil consequences.
8. In the place of every prostitute removed from the trade another steps in. In this way new victims are constantly being driven into prostitution.	7. To do away with supervision because all infected prostitutes are not under control would be about the same as to dispense with police protection because all criminals cannot be reached.
	8. Are men then going around like wolves in sheep's clothing seeking for a victim? The entire race of men cannot be judged by single examples. The abolitionists who stand up for the rights of women should not avail themselves of such a weapon in this contest, or do they really have so little faith in the character and moral firmness of their sisters?

* Freheit oder gesundheitliche Ueberwachung der Gewerbsunzucht? Ein zeitgemässe Betrachtung. von Dr. med. Gaston Vorberg. Hanover. München: Verlag der *Aerztlichen Rundschau* (Otto Gmelin), 1907.

Abolition.	*Regulation.*
9. Medical examination promises a false safety to those who consort with prostitutes. Uncontrolled prostitution would cause a wholesome fear of infection and so tend to its limitation.	9. It is not the purpose of regulation to afford safe prostitution to single libertines, but to protect the race. Since sexual desire will continue to demand satisfaction the demand for prostitutes even without "control" would not be diminished. Very many men become infected from "respectable" girls because they are afraid of licensed prostitutes.

To bring the matter nearer home, "The Report of the Committee of Seven" on the Prophylaxis of Venereal Diseases in New York City of which the president of the society, Dr. Prince A. Morrow, was the chairman, reveals some interesting and alarming conditions in the City of New York. A letter was sent to each of the 4,750 physicians resident in New York City asking for specific data concerning gonorrhea and syphilis in men, women and children and for definite information as to the source of the infection. The conclusion reached was that during the year in question (1901) 162,372 cases of these two diseases were treated in *private practice* in this city.

The testimony of many European physicians is that from 25 to 50 per cent. of venereal cases are treated by charlatans, and while it is not possible to make an accurate estimate in this country, it is evident that the number is large. When we take into consideration the large number of venereals who are treated by advertising quacks, by druggists, and by secret nostrums, and the very large contingent who are not treated at all, or who use prescriptions given by friends, the true figures would be much beyond this estimate.

Among the facts elicited by this careful and painstaking study, it may be stated that 15,969 cases of gonorrhea were definitely reported; 1,941 of these being in women, and in these women, 40 per cent. had pelvic complications. Four hundred and eighty-eight cases of gonorrhea existed in children; 265 suffered with purulent ophthalmia often terminating in blindness. Two hundred and eighteen children had vulvovaginitis; 5 had urethritis.

In the group of syphilis there were 1,657 cases of syphilis in women; 61 children with syphilis due to contagion in family life, and 468 children with hereditary syphilis. This latter number is all the more significant when it is remembered that about 85 per cent. of syphilitic pregnancies terminate prematurely and the child dies so that each surviving child would therefore represent five deaths from syphilis.

Of the cases in which the source of the infection could be determined with reasonable certainty, 8,053 were attributed to "public" and 3,915 to "clandestine" prostitutes. In Germany, only those prostitutes who are registered and therefore licensed, are termed "public" prostitutes; all others are classed as "clandestine." In this country this sharp line of distinction is not so clearly drawn, so that there is an apparent discrepancy between the figures obtained in New York and those obtained from foreign sources.

Nine hundred and eighty-eight cases of marital infection were reported, and this would indicate that nearly one-third of all venereal diseases occurring in women in private practice in this city are communicated by the husband. If the committee's basis of calculation is regarded as legitimate all of the figures just given should be multiplied by seven in order to express their full significance. The complete report from which these facts have been elicited was printed in the *Medical News* for December 21, 1901, and is worthy of careful study and consideration by all persons interested in conditions leading to such a tremendous morbidity and mortality in our own city.

When these facts are carefully considered and the student attempts to secure further evidence upon which to base a judicial opinion by a careful perusal of the extensive bibliography upon this subject, he soon becomes aware of the fact that so far as practical remedies are concerned, there are nearly as many theories advanced as there have been writers. It may simplify matters somewhat if in the present discussion, we eliminate the abstractions of the philosopher or the conclusions of the humanitarian, which are often impractical, and adopt the point of view of the physician.

Venereal diseases are admitted by all to be contagious in character and in the consideration of all such diseases of whatever nature, those methods should be adopted which best guard the health of the community as a whole against their ravages. Certain fundamental rules may be regarded as essential. These are:

1. The destruction of the source of the disease so far as this is possible, and

2. The isolation of all persons affected with the disease from those of the community who are in good health.

Venereal diseases are all the more dangerous since persons affected by them are rarely confined to their beds. With diphtheria, scarlet fever, small-pox and cholera, the affected person is obliged, from the nature of the disease, to remain quiet in bed and therefore the conveyance of the disease is possible only to a limited number of other persons. Men or women affected with sexual disorders on the other hand, are permitted to go about in their usual mode of life and mingle with their usual associates, thus they are able to infect as many as they please. Especially dangerous in this particular is the liability of the transmission of syphilis to innocent persons by syphilitic persons having mucous patches, months, and even years, after the primary chancre has developed. Scar-

let fever, diphtheria and small-pox threaten only the life of the individual affected; syphilis on the other hand threatens the family, posterity, the race itself and the welfare of the entire nation. It is accepted as axiomatic in all civilized communities that persons suffering from diphtheria, small-pox, and leprosy, must be isolated to prevent danger to others in the community. Why should an exception be made in favor of persons suffering from syphilis who may for years in their usual round of life, unrestricted as they are at present by any sanitary laws, be the means of conveying the poison, not merely to living persons, but to children yet unborn. Under such circumstances, the personal interest of a single group of individuals should be compelled to yield where the weal or woe of an entire community is concerned. It would seem, therefore, as if one important aid in the regulation of prostitution and its direful results would be secured by placing all cases of venereal disease, whether existing in prostitutes or in any other member of the community, men and women alike, under precisely the same system of report, supervision and isolation by the Department of Health as is now enforced in all other contagious diseases.

In our own country quite recently an important step in advance has been taken. A movement has recently originated in the state of Iowa with the end in view of placing the diseases of gonorrhea and syphilis upon precisely the same footing with other contagious diseases, and to insist upon the same supervision being exercised over them by the Health Department as is now exercised over the far less important diseases of measles, small-pox, cholera, yellow fever, tuberculosis, diphtheria and scarlet fever.

The following resolutions were presented to the general assembly of the state of Iowa during the session of 1907 and were signed by large numbers of prominent Iowa men and women, physicians and jurists of that commonwealth. These resolutions summarize the matter very well and in a most conservative manner. They are as follows:

TO THE GENERAL ASSEMBLY OF THE STATE OF IOWA.

WHEREAS, More deaths in this State may be traced to gonorrhea and syphilis than to small-pox, cholera, yellow fever, diphtheria, scarlet fever and measles combined, and

WHEREAS, From ten to twenty per cent. of the blindness in this State results from these diseases, and

WHEREAS, From fifty to ninety per cent. of the inflammatory diseases of the pelvis for which women are operated upon in this State result from these diseases, and

WHEREAS, No person not guilty of a crime against the laws of this State need be inconvenienced by granting the request now following, we, the undersigned citizens of Iowa respectfully petition your honorable body to declare gonorrhea and syphilis to be contagious diseases and require them to be isolated, quarantined or controlled as such during their infectious stages.

It is impossible to frame laws in this or in any other country which shall be able to eradicate or even control sexual desire and so long as this remains, so long will prostitution, either open or clandestine, be practised. In the present state of public opinion, it is quite improbable that legislative action could be secured which would officially recognize the existence of the social evil or enact definite laws for its restriction. In any community, even the smallest, prostitutes are known to exist and to practice their trade. It is probable, however, that even with the present laws upon the subject, segregation of prostitutes could be enforced and they could be driven out from the greater portion of the city and compelled to ply their trade in restricted areas under such conditions that all outward signs of immorality could be suppressed. This at least would be preferable to the present condition in the city of New York where women of this class can be found in every portion of the city scattered through tenements, apartments and hotels, where they are thrown in close contact with families and where their influence for evil, especially upon the young of both sexes, is not only a great one, but absolutely without control.

The actual medical examination of such women, if carried out with the accuracy that is practiced in Dresden, would produce a marked diminution of the number of cases of venereal diseases, but to make this supervision effectual, it should be made not merely of all women who make prostitution a trade but also of all men who consort with them.

Unfortunately at the present time in this city, the whole question is an academic one. There is a general lack of definite knowledge upon the subject of prostitution and its regulation and of the dreadful diseases which are its logical sequence. There is in our system of public school education a complete omission of all instruction upon venereal diseases. The children of both sexes almost inevitably pick up from their associates a certain amount of so-called information which they keep concealed from their elders but which they transmit to each other. This information as a rule is entirely erroneous and provocative of much harm. A certain amount of knowledge of personal hygiene and of sexual physiology should be imparted to all children and should be begun at an early age. Systematic efforts are made in our schools to teach children the evil results of alcohol, and the causes and dangers of tuberculosis. The much greater evils caused by venereal disease should be explained to them at the same time and, so far as the age of the child will permit, systematic instruction as to the best safeguards against these dangers should be given.

In the family, a sense of false modesty prevents most parents from giving any instruction to their children upon sexual matters; and,

indeed, it is the testimony of most persons that the discussion of the anatomy and care of the genital organs, the source and dangers of venereal disease, and the subject of the social evil are topics which were rigidly excluded from discussion in their homes.

Wholesome, plain-spoken and accurate information upon sexual subjects so far as is consistent with the age of the child should be given to all children in the home as well as in the school and this in later years should be supplemented by further instruction in the high schools, colleges and workshops of our land, in much the same way that First Aid Instruction has been planned by the St. Andrews Society in England and by Miss Clara Barton as president of the Red Cross Society in our own country. Until this doctrine is generally recognized, most attempts made for the control of prostitution, either at home or abroad will be unavailing and it is for the furtherance of this plan in various ways that this society directs its efforts.

150 West 47th Street.

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A government that does not take advantage of the simple laws of sanitation is reprehensible for its action. In our late war with Spain, fourteen men were lost from disease for every one that was killed in battle. It is a disgrace to any government to permit such a condition of affairs to exist. On the other hand, in the Japanese war the figures were reversed, namely, five men were killed in battle for every one who died from a preventable disease. The Japanese accomplished this simply by the application of modern sanitary regulations.—*Dr. Lewis L. Seaman.*

THE HYPODERMIC TREATMENT OF SYPHILIS.*

By ANDREW JAMES GILMOUR, Ph.B., M.D.

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THE treatment of syphilis by means of hypodermic medication is by no means of recent origin. Hunter and Hebra are given the credit by Zeissl[1] to have been the first to employ the hypodermic method in the treatment of syphilis. They used the bichloride of mercury, and both made the observation that syphilitic manifestations near the injection healed more quickly. In 1864 Scarenzio,[2] of Pavia, used calomel hypodermically in the treatment of lues. He did not use the intra-muscular method that to-day is so rapidly growing in favor, but made his injection just beneath the skin. His results were not very encouraging owing to superficial abscesses and sloughing of the skin. These facts held this form of medication in disrepute for many years. It was Smirnoff,[3] in 1882 who showed us that the formation of abscesses could be avoided by injecting the calomel suspension deep into the subcutaneous tissues at right angles to the skin by means of a long needle. Later experimenters, following the suggestion of Soffantino, a disciple of Scarenzio, have injected the mercurial salt deep into the muscular tissues where it is claimed, in an acid medium, absorption is more rapid and certain.

A short résumé of the advantages and disadvantages of the most important modes of administration of mercury in the treatment of syphilis may not be out of place. The oldest method and the one still much used is the administration by the mouth. This appeals to many a busy practioner because of the ease with which one can write a prescription for the various preparations of mercury, either alone or in combination with potassium iodid. This should not govern us in our treatment when we have such a dread disease to deal with, the improper handling of which threatens not only the patient and the entire community, but posterity as well. The best method must be employed no matter what inconvenience it may give us. Having once acquired the technic of the intra-muscular method, we at once see the fallacy of the argument brought up by some that this method required almost the same trouble and care as a major operation.

In spite of the ease of administration *by mouth*, there are many disadvantages in this method. There is an uncertainty in the dosage as we

* Read before the Alumni of St. John's Hospital, Brooklyn, New York.

[1] Zeissl, "Lehrbuch der Constitutionellen Syphilis," pp. 381, Erlangen, 1864.

[2] Primi tentativi di cura della sifilide costituzionale mediante la injezione sottocutanea di un preparata mercuriale.—Reprint from *Ann. Univ. dic. Med.*, Milano, 1864.

[3] Om behandling of syfilis medelst subputana kalomel injectiones. J. C. Frenckell & Son, 1883.

know very little about the amount of the medicine absorbed by the gastro-intestinal tract, or the quantity which passes away unabsorbed. This is especially true with pills and tablets which are now so popular with many physicians. Mercury is a corrosive poison, which by direct contact greatly irritates the gastro-intestinal tract, and therefore can be given only in small doses, larger amounts may cause symptoms of poisoning. For this reason in severe and obstinate cases with dangerous symptoms we are unable to push the treatment as far as we should like. The taking of medicine three or more times a day is always more or less of a bugbear for the patient. The medication is often neglected either from forgetfulness or, from fear of detection, the medicine bottle is left at home when the patient goes to business in the morning not to return to his home again until evening. The treatment is necessarily left to a great extent in the hands of the patient himself who is thus able to have his prescription renewed upon his own responsibility. We are thus apt to lose track of our patient until he returns to us with some syphilitic manifestations. In a great many cases we find this method comparatively ineffective, and in spite of its being pushed to the limit of tolerance, troublesome and dangerous lesions appear.

The *endermic* method includes inunctions, fumigations and baths.

The inunction method has many followers and rightly so. It will probably never be entirely replaced by any other method. Its especial value is a local one in treating skin lesions, gummatous, infiltrations, periostitis and the ulcers arising from broken down gummata. The disadvantages are many. The inunctions are apt to be imperfectly carried out because of incompetent rubbers. This is especially apt to be the case when the treatment is left to the patient himself. In many cases it is doubtful if the mercury is introduced through the skin in sufficient quantities to reach the blood and prove efficient. The dosage is at best uncertain. Some authors go so far as to claim that this is simply an inhalation method, and if carried out in the open air it will prove of no value. The chances of detection in this method are greater than in any of the others. It takes much time to thoroughly carry it out. It is dirty, troublesome, and apt to be followed by salivation and a severe dermatitis.

Baths and fumigations have little to recommend them for routine treatment except in the case of infants.

The *hypodermic* method is the one to be preferred; not only does it possess all the advantages of the other methods, but has in addition many points to recommend it. The dosage is accurate and we know that the entire amount is absorbed and reaches the circulation. With the soluble preparations of mercury, the absorption is very quick; with the insoluble ones it is slower and at times may be considerably delayed. The rapidity of action by which the patient is brought under the control of mercury makes it especially useful where important organs like the brain and the eye are attacked or where it is necessary to make a rapid differential diagnosis between a gumma and a carcinoma of the tongue or of other organs. The simpicity, cleanliness, and especially the effectiveness which gives us a feeling of security from the tertiary lesions of lues greatly influence us toward this method. No form of treatment keeps the patient more completely under our control. If we could control our patients more closely there would be fewer cases of syphilis in the innocent. Owing to the slow absorption of the salicylate few visits to the doctor are necessary. Furthermore, there are comparatively long periods between each course of treatment. The short time required for each treatment; the freedom from detection and the ability to go about one's vocation all appeal to the patient. The mouth and stomach are saved from direct contact with an irritant poison and its concommitant effects.

A great many objections have been offered against the use of the hypodermic; some are well gounded, but a great many can be thrown aside if our technic is not at fault. In all other methods of medication when symptoms of poisoning show themselves, we have only to stop the treatment and the symptoms will disappear. This is not the case when the mercury is injected deeply into the muscles and the source of poisoning can only be removed by a considerable operation since we must cut down from the mercury and remove it. Finger, of Vienna, in his work "Die Syphilis und die Venerischen Krankheiten" gives us the following rules to avoid this danger:

1. The first dose must be small, as we do not know the susceptibility of the patient.

2. A week should intervene between this and the second injection and ten days before the third injection; after this time the injections are to be given weekly.

The ground for these rules is clear, because in giving the second injection the store of mercury deposited by the first injection is not yet exhausted. This may be true for the first and second deposit when the third hypodermic is given. Therefore, the patient is receiving the medication from three different places simultaneously. With the increasing number of injection masses, the probability of mercurial poisoning is more nearly approached if care is not taken to give the injections far enough apart. The writer does not believe that so long an interval as this is necessary between treatments.

The objection offered by some that the preparation of the patient and of the doctor's hands is very tedious and troublesome for both persons is not borne out by the facts. Infiltrations may occur after the injections, and I have seen some that have caused a great deal of discomfort and at times considerable pain when sitting down.

This should seldom occur with proper technic. Abscesses are very disagreeable features that some syphilographers have had occur. I have never seen a case in about 1,500 injections and only in one instance did I have any anxiety that one would follow. The insertion of the needle when properly managed gives no more pain than the prick of a pin and cannot be held as an objection to this method. The greatest and perhaps the only objection to this method, or, to put it stronger—danger—is the possibility of striking a vein and injecting the medication into it. From this accident cases of pneumonia have been reported and in Europe a few cases of death. This accident in the cases I have seen gave some symptoms, but they were transitory and ended in complete recovery.

The following are the brief histories of a few clinical cases in which salicylate of mercury has been used and in which this accident has occurred that have come under the observation of the writer:

Case I.—Charles P., male, age 21, February 4, 1905. This man had been under treatment by injections for one year with no untoward symptoms as a result of the injections. He had suffered from some ulceration of the throat and was having two grains of the salicylate each week, a rather larger dose than the routine one. On this date one minute after an injection the patient experienced a sharp pain near the umbilicus which followed up the median line to the throat. Immediately he began to cough. This was a dry cough which lasted almost continuously for fifteen minutes. The patient was able to leave in a half hour and had no further trouble, although he was under treatment and observation until February 3, 1906.

Case II.—J. D., an Italian, age 24, had been under treatment from June 30, 1904, to October 7, 1905, having had in this time about fifty injections with no unpleasant symptoms from the injections. On July 3, 1904, except for a few mucous patches, he was in robust health. On this date, directly after a hypodermic of one and one-half grains of the salicylate of mercury had been administered, he had a dry cough which lasted nearly an hour. He went about his work as usual but for the next two days had considerable pain in his chest and spit up some blood (possibly of tubercular origin).

Case III.—Edward F., age 21, plumber; smoked almost constantly and kept throat sore. Under treatment from December 31, 1904, to October 7, 1905, on which date, after injection of one and one-half grains of salicylate of mercury, the patient had a bad attack of coughing lasting thirty minutes. March 3, 1906, after another injection slight attack of coughing for five minutes. July 29, 1906, a gumma developed on forearm as the treatment had been neglected for a while.

Case IV.—E. D., male, age 22, under treatment from July 22, 1904, to April 29, 1906, having had up to this time thirty injections with no symptoms after the secondary rash except a transitory mucous patch on May 3, and again on July 3, 1905. On April 29, 1906, twenty minutes after the injection a cough came on which lasted a half hour. There were paroxysms of dry coughing for about five minutes and then a free interval of one or two minutes, followed by a new paroxysm. After this the patient rode on the car for half an hour, when there was a renewal of the paroxysms lasting half an hour. These were not so severe or of such long duration. Up to October 12, 1906, the patient had eleven more injections with no bad effects.

The following are cases kindly contributed by Dr. Edward F. Kilbane, assistant surgeon to Roosevelt Hospital, Genito-Urinary Department, O. P. D.:

Case V.—A. H. The 35th injection of one and one-half grains of salicylate of mercury was immediately followed by a burning sensation from the umbilicus to the sternum. The patient had a peculiar sensation in the chest. He could not control cough and coughed continuously one hour. For forty-eight hours felt badly, nausea, vomiting, anorexia, constipation. All symptoms were relieved after a bottle of citrate of magnesia had been taken. In this case the syringe was removed before the injection, but no blood oozed from the needle.

Case VI.—E. B. had several previous injections. When about to insert the needle, the patient coughed once or twice. Needle inserted and syringe disconnected, no back flow followed. During manipulation, the syringe was dropped, thus necessitating a delay in refilling. After the injection the patient coughed once or twice, but because of the cough before injection, no especial attention was paid to this fact. The physician was called to the patient's home next morning and was told that while getting injection the patient saw a ball of fire cross the window immediately in front of him and that he could hardly find his way home because of blindness, which he said was still present. Twelve hours after the injection, another physician was called, who gave him an injection, evidently morphin, after which he slept for six hours. When seen at home by Dr. Kilbane, he complained of pain in the head, dizziness, weakness and blindness.

Physical examination showed the pulse, 74, full and strong; heart and lungs and abdomen negative; reflexes normal; eyes responded to light and accommodation. When patient was off his guard one could demonstrate that his sight was quite good. Forty-eight hours after injection the patient had completely recovered.

Case VII.—C. S.—Seen September 22, 1904, with primary lesion, secondaries developed later. Treated by injection because of intestinal disturbance when mercury was administered by mouth. On July 15, 1907, after one and one-half grains of salicylate of mercury the needle was removed and there was a considerable flow of blood from the wound. Inspection of needle before injection showed no oozing of blood. Patient had persistent short, almost continuous dry cough and pain just below the ensiform which lasted two minutes. Pulse and breathing were accelerated. Considerable shock occurred but he recovered in about an hour.

The following is one example of the untoward action following the injection of a soluble preparation of mercury.

Case VIII.—H. D., male, age 22, came to the clinic March 27, 1905, and was treated by injections of a two per cent. solution of the soluble salt cyanide of mercury. On April 24, 1905, treatment began with eight minims of this solution. The dose was increased one minim each day up to thirty and held at that amount which represented 3-5 grains of the drug at each dose. June 20, 1905, three minutes after this, the thirty-fourth injection, nausea and dizziness developed and twenty minutes later the patient fainted. Treatment was changed to the salicylate and no further trouble occurred.

This fainting, I am told, by those who use bichlorid solutions extensively is not an uncommon accident.

A closer study of the histories of the first four cases shows that these patients did not do especially well under the treatment but at one time or another had had mucous patches. This was a mere coincidence and had no relation to the accidents. It must be borne in mind that this class of patients, all of whom were treated in a

clinic, do not follow their treatment as conscientiously as private patients and that they rarely stop smoking or drinking. It is important to note that after these accidents none of the patients themselves were much alarmed and were perfectly willing to continue the injections, this was in fact done in each case. There was a repetition of the symptoms in but one of these cases and then only a mild attack occurred.

The report of cases similar to these, or the actual seeing of these accidents makes the physician think of the possibility of a much more serious outcome and is apt to cause him to give up this valuable method of treatment. Perhaps some, if not all, of these cases, might have been avoided if more time had been taken with the technic. At times there were 50 to 75 patients to be treated and one or two men were doing the work of three. Perhaps at these times the syringe was not removed from the needle to carefully determine whether the needle was in a vein. In my private work I have never seen this accident happen and this mode of medication has been my routine treatment for about five years. It is important that the mixture should be well shaken directly before using. With a dozen patients ready for injections, if the fluid is not shaken except for the first patient, some one of the others may perhaps get a larger dose than was intended and this may explain some of the accidents noted. Different bottles of medication prepared in apparently the same way have different effects on the patients. The medicine from one bottle has caused pain when being injected while that from another bottle could be used and the patient be entirely free from pain.

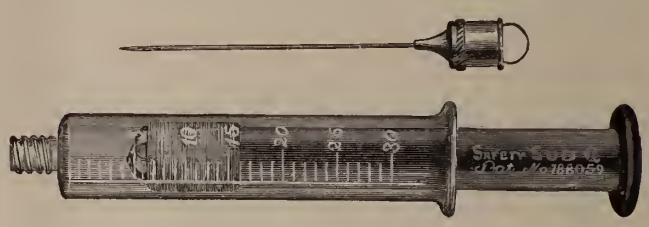
The great array of poisonous symptoms, such as salivation, soreness of the gums, cramps, tenesmus, bloody stools, enteritis, colitis, intestinal ulceration and the even more severe results mentioned by Taylor such as parenchymatous, nephritis or anuria are avoided with proper care. There are patients with a special susceptibility who after the first injection show some of the milder symptoms of poisoning.

The soluble preparations of mercury most frequently used hypodermically are the bichloride (gr. 1-24 to 1-4) and the bicyanide (gr. 1-5 to 3-5). The benzoate, albuminate and many other preparations have also been used. The insoluble preparations are usually the salicylate and the mild chlorid (calomel). The yellow, the red, and the black oxids as well as the tannate and several other salts have been tried and have been discarded by most syphilographers.

Metallic mercury in the form of gray oil which stands midway between the two first classes of mercurials has been much used in the form of an emulsion.

The technic for the injection of the insoluble salicylate of mercury is as follows:

The Syringe. Many syringes have been specially devised for this purpose but one thing should be insisted upon. The syringe should be of glass and have accurate and distinct markings. The character of the suspension can then be easily observed. Care must be used that the required amount is actually put into the tissues and does not go back of the piston; this accident may be avoided by proper packing. The Sub-Q syringe holding 30 minims will admirably answer the purpose. This barrel can be easily cleaned and sterilized. It is important that the needle should be very sharp and 1¼ to 1½ inches in length to be able to reach well into the muscular tissue. The calibre of the needle is No. 18 or 20, the size depending upon the care with which your medication has been prepared. The smaller size should be given preference. Dr. William S. Gottheil of this city thinks it sufficient to pass the needle through the flame to sterilize it. This is very apt to injure the needle and the writer therefore considers that boiling is better. This can conveniently be done in a large test-tube. A necessary precaution is to put a wire, dipped in sweet oil in the needle after use or it will soon rust so the medication cannot be forced through it. A separate needle for each patient is rather an unnecessary refinement.



The location for the injection is either in the calf muscles or in the muscles between the scapulæ or in the gluteal region. The two former locations are rarely used, the latter almost always. The point for injection in this last mentioned area is above a line connecting the great trochanters of the femur and rather near the gluteal fold. This point being high allows the patient to sit down without pain and to even take horseback rides the same day after the injection. The skin is first scrubbed with water and green soap, then with alcohol or ether. Ether is better because of its more marked anesthetic effect and it also dissolves the oil of the skin.

The insoluble salicylate of mercury is mixed in a 10 per cent. oily medium, either of paraffin oil or of liquid albolene.

The suspension is prepared as follows: The best quality salicylate of mercury must be used; the powder must be extremely fine. The required amount is rubbed well in a mortar with the oily medium selected. It is placed in a clean bottle and then the cork is securely tied in place. It is then sterilized in an oven with dry heat. The temperature is maintained at 240 F. for one-half hour.

The needle and field being ready, the prepara-

tion is thoroughly shaken and the syringe without the needle is plunged into the neck of the bottle in which it is contained. The bottle mouth should be of such a size that the end of the syringe will fit it accurately like a stopper. The bottle is then inverted and about 25 minims of the suspension are drawn into the syringe, the extra amount is for use in case of leakage. The needle is then held by a sterile forceps or by the fingers at its base and placed on the syringe, all the air is then expelled. The patient is told he will receive a prick similar to that of a pin but not to jump as the needle might break off in his body. The patient stands erect, before the operator who is seated and a quick plunge drives the needle, practically without pain, up to its guard in the gluteal muscles. The direction chosen should be about horizontal, the tip of the needle going somewhat downward to allow any air to go to the upper end of the syringe.

The barrel of the syringe must now be removed from the needle to see if there is any bulging of oil or oozing of blood from the needle which would show that a vein had been entered. If either of these conditions are present the needle must be removed and reinserted in another place. This should, and probably will avoid an embolus, but authentic cases have been recorded when this precaution has been taken (see Cases V, VI, and VII).

Another circumstance should cause us to change the site of our injection if we are able to detect it, namely, the lack of resistance of the tissues when we are injecting. This would point strongly to the needle being in a vein.

The syringe is now tightly screwed on the needle, care being taken not to move the point around within the tissues as this might cause unnecessary pain. From the time we shake the solution there should be no delay with the injection, as otherwise there is no true suspension but the insoluble mercurial salt becomes a deposit in the syringe as it was in the bottle before it was shaken. The proper amount of medication is now slowly injected, which can be done with absolutely no pain. If pain occurs upon injection, remove the needle and select a new site. The same procedure should be followed in case the needle becomes clogged. The needle is removed by a quick pull after the injection is finished. Some dress the wound with zinc oxid plaster; others more carefully with sterile gauze. For the ordinary case, the writer does not consider any more than a thorough rubbing with alcohol or ether to be necessary.

What is considered by the writer as an important part in the technic is that the site of the injection should be rubbed with a rotary motion for about ten minutes and not for the much shorter period of half a minute so generally advised by most syphilographers. By this precaution the discomfort is much lessened and in most cases entirely done away with. The mercury is better diffused throughout the tissues and there is less risk of persistent induration or abscess. The infiltrations usually last about ten days. The first injection may be more painful than the subsequent ones, and it is with this injection that symptoms of poisoning are most apt to occur should we have to deal with a person especially susceptible to mercury. Many of the patients have absolutely no discomfort after the first few injections. When they do, they describe the sensation as the same as the result of a kick.

Dosage. The first dose should be small to avoid any risk of poisoning; 5 minims of the 10 per cent. suspension which represents half a grain of mercury salicylate. If no serious luetic lesions are present I wait a week and then inject in the other buttock 10 minims which represent one grain of the salicylate; after another week an injection in the first buttock of 15 minims which represent one and one-half grains of the salicylate of mercury. This last amount is the usual dose for the routine treatment, but with threatening symptoms I have often used two grains at a time with good effect. In one case I used this dosage twice a week where the integrity of the nose was threatened and was thus able to save that organ. There were no symptoms of mercurial poisoning present in this case. Authors differ as to the dosage and the length of time the treatment is to be continued. Some advise a grain and a half every week for three years; others (Gottheil)* give ten to fifteen injections of one-third to one grain of the salicylate of mercury at intervals of every two weeks and then a rest of from four to six weeks. Two or three such courses the second year and one or two the third year are recommended.

Personally, as routine treatment, I favor an injection of one and one-half grains each week for ten doses; a month's rest and a repetition of these courses during the first year; forty injections in all. The second year the intervals between courses are lengthened to six weeks; about thirty injections. The third year but two courses are given with a longer interval between; this means twenty injections. Serious symptoms call for a change of dosage and of courses to suit the individual case. The other methods must not be forgotten in our enthusiasm, and if we find this method does not do good, let it be abandoned for another or a combination of others.

We must first get our patient's confidence to carry out this method. To do this we may perhaps employ the usual methods for a while and then explain the advantages of the intra-muscular method before we can adopt it. Once having adopted this method, most patients are willing to continue it.

At the best we have not found a sure and ideal method to insure us in fulminating cases against the ravages of syphilis.

133 East 57th Street.

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SYPHILIS OF THE GALL BLADDER AND BILE DUCTS.

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SYPHILITIC inflammation of the gall bladder and bile ducts is rare, except in the early secondary stage of syphilis when cholangitis is common. Of indubitably authentic cases there are of the congenital type 6, perhaps 9 (Rollston's analysis of Thomson's paper), and of tertiary cases thirteen, not including the present unique case, reported in the literature.

The inflammation may be *hereditary;* may attack the common duct *early* in the course of the *secondary* period of syphilis or this may happen *later* in the *secondary* period; or it may occur in the *tertiary* period.

The inflammation may be present at birth (hereditary syphilis) and is responsible for a certain proportion of the congenital anomalies (Thomson, Labadie-Lagrave) and malformations of the gall bladder and ducts either by having its initiation in the wall of the gall bladder and ducts or by starting in the neighboring structures in relation to them (glands, peritoneum, pancreas) and involving them secondarily. In the congenital cases the inflammation may take the form of an obstructive process outside the ducts and pressing upon them. The common bile duct is the part of the biliary system external to the liver most frequently so attacked. The cause of this form of obstructive process is syphilitic pancreatitis, enlarged glands in relation to the ducts or a productive inflammation of the peritoneum and tissues directly surrounding the ducts (Frerrich's cases). Pressure may be exerted upon the hepatic duct by a gummatous process in the liver in the neighborhood of the duct. The inflammatory process may occur in the form of localized miliary gummata and round celled infiltration of the gall bladder and duct walls [Beck's cases, Biaz' two cases (probably) Roth's case (probably)], resulting in an obliterative inflammation of one or more of the ducts, usually the common duct. This last form may result from one of the two forms previously cited and is responsible for a few of the cases of congenital absence of the ducts though not for all, as defective development may occur with no luetic history obtainable. Thomson's view that syphilis is not an element of essential importance in the etiology of these cases of congenital absence of the ducts is probably correct. Albutt holds a similar view.

Syphilitic Inflammation of the Gall Bladder and Ducts Early in the Secondary Stage of Syphilis. It is generally admitted that syphilis is one of the causes of acute catarrhal cholangitis (Murchison, Waring, Mayo, Robson, Fowler, etc.). The inflammation is slight, of a catarrhal nature and usually attacks the common bile duct. It is probably caused by the irritating character of the bile due to chemical changes and is probably not accompanied by any decided structural changes, since the accompanying jaundice while it may be severe is usually mild and of short duration. This form is rather a common occurrence. It usually appears in the eruptive stage (Morrow). It is held by some to be a characteristic symptom of syphilis and to appear with the first syphilic eruption or with later relapses (Gubler). It is accompanied with some fever. In some cases the jaundice may be due to pressure from enlarged lymphatic glands in the transverse fissure of the liver (Lancereaux). The clinical picture is that of a syphilitic having discomfort and tenderness over the liver area with some fever and jaundice. The liver may or may not be palpably enlarged. The gall bladder is usually not enlarged but there may exist tenderness in the gall bladder region. An eruption may or may not be present. The pain is not the severe pain of gall stone disease nor is the tenderness exquisite, consequently rigidity is not marked. The inflammation is readily amenable to specific treatment.

Syphilitic Inflammation of the Gall Bladder and Ducts late in the Secondary Period. The same conditions causing jaundice may occur late in the secondary period as have been noted in the early secondary period with or without a second eruption. Occurring later, however, the inflammation usually takes on a more serious aspect and is less rapidly amenable to specific treatment so that though actual proof is wanting in the form of autopsies at this stage it is yet plausible to suppose that more marked syphilitic changes have occurred either in the wall of the gall bladder or ducts, particularly the common duct, or in the structures in relation to them (glands, peritoneum, pancreas or inferior surface of the liver). As an example of syphilitic inflammation of the gall bladder and duct occurring in the late secondary stage of syphilis the following case is reported:

Mr. E., aged 46, called me to his home in September, 1906. He gave a history of having had a chancre twenty years before with the usual secondary symptoms among which was a mild jaundice lasting for two weeks. There was no malarial or alcoholic history. He had received two years' intermittent treatment with mercury and potassium. For the past two years his bowels had been irregular and he had mild attacks of discomfort over the liver area but never sufficiently severe to compel him to stop his work as contractor, which took him about in all sorts of weather. There had been also occasional attacks of indigestion of a mild type. While there had been "soreness" over the liver there had never been any acute pain. He always promptly took salts in repeated doses when the attacks began, and in a few days the soreness would disappear. There had been no accompanying marked jaundice with the attacks, though the sallow look which Mr. E. told me of as accompanying the attacks probably was a mild jaundice.

The present attack began one week before my visit. There was the usual soreness over the liver with constipation, which was relieved by salts, the movement being very light yellow. The jaundice persisted and

rapidly increased until his entire body became a brilliant yellow. On the morning of the day on which I was called the pain became more severe, though not agonizing, and the tenderness to pressure marked and in a place where he had not had tenderness before, *i.e.*, below the ribs on the right side.

My examination showed a robust man of medium height, somewhat over weight. He was bald as a result of his syphilis. The skin was dry and of an intense yellow color. The temperature 99° F., pulse 90°, respiration 20. Heart and lungs normal. Occipital and elbow glands enlarged. No scars. Conjunctivæ yellow. The abdominal wall somewhat adipose, not rigid; liver slightly larger than normal, the portion felt below the free border of the ribs smooth; tenderness and "soreness" over the entire liver area but not marked; spleen not enlarged; pain over the gall-bladder not radiating and moderately severe pain on pressure on the gall-bladder, which could be readily mapped out as a smooth globular tumor about the size of the fist. The diagnosis lay between stone in the common duct and a syphilitic cholangitis and cholecystitis. The history led me to believe that I had to do with the latter condition, *i.e.*, a syphilitic cholangitis resulting from continued irritation of the common duct and accompanied by a syphilitic cholecystitis in all probability accompanied with more marked changes in the ducts and gall-bladder than is present in cholangitis in the early secondary stage. He was given iodide of potassium, 20 drops of the saturated solution, increasing one drop each dose, three times daily, and protiodid of mercury, gr. ¼, four times daily. The pain was not severe enough to require morphine. One teaspoonful of artificial Carlsbad salts was given in hot water each morning and he was kept in bed. On the third day the soreness had decreased, there was no decrease in the jaundice but the gall-bladder tumor was smaller. The treatment was continued for two weeks, at the end of which time the jaundice was less, though still present, the gall-bladder tumor had disappeared and there was no tenderness or soreness. Two weeks later he himself discontinued the treatment, as his jaundice had about gone. Three weeks later he had a recurrence of all his symptoms in precisely the same order, discomfort, jaundice, pain and tenderness with enlargement of the gall-bladder. This time I further urged upon him the necessity of prolonged treatment and kept him under treatment for three months, since which time he has remained well. It is interesting in this connection to note that this man's wife had a gumma of the liver with an enlargement of the entire liver without jaundice about one year before the husband had his trouble. The gumma was the size of the open hand, smooth on the palpable surface with irregular outlines and situated on the anterior border of the liver to the right of the round ligament and extending over the gall-bladder region. The entire affair disappeared in four weeks under treatment with iodide of potassium and mercury, not to reappear up to the present writing.

Syphilitic Inflammation of the Gall Bladder and Ducts occurring in the Tertiary Stage. Here the condition may be: 1st, one of gumma of the ducts themselves with obstruction of the lumen (similar to that discovered by Beck in his congenital case), of this form I have not been able to find an example; 2d, obstruction of a duct through involvement in a gumma of the inferior surface of the liver (Frerrich's case, MacDonald's case) or in a peritonitic process (Riedel's first three cases, Mayo's two cases), or tertiary syphilitic inflammation of the head of the pancreas (Riedel's four cases combined with cholangitis and cholecystitis); 3d, an obliterative process in the gall bladder and duct beginning in the mucosa and finally involving all the structures of the ducts or gal bladder or both, characterized by the changes which are described in Dr. Harlow Brook's report of the case referred to me by Dr. William J. Cruikshank. The history of this case is as follows. Dr. Cruikshank has kindly supplied me with all that portion of the history included in quotation marks:

"On the 13th day of January, 1907, at the German Hospital in Brooklyn, Dr. Russell S. Fowler, at my request, performed a laparotomy for the relief of a condition which we had diagnosed as syphilitic disease of the gall-bladder. This case becomes especially interesting and instructive to the physician because there seems to have been very little literature contributed to the general subject and also because the pathological findings enable us to confirm the diagnosis. It should be very interesting to the surgeon because of the fact that surgical relief was sought and obtained in a pathological condition which, under ordinary circumstances we might hope to treat successfully by the proper application of medicinal therapeutics, but, which application, on this occasion fell far short of producing the desired results.

"J. B., native of Brooklyn, married, the father of two children, is now sixty years of age. He contracted syphilis when he was thirty-six years old. He had had one attack of gonorrhœa preceding his specific infection. Beyond that fact there is no history of important illness in all his life, excepting that which is at present under consideration. In 1884 a hard chancre made its appearance in the glans penis near the attachment of the frenum. This was followed in four weeks by a very marked confluent roseola. He then consulted a physician and was immediately placed by him upon treatment which resulted in the early disappearance of his eruption. That treatment was continued, irregularly, however, until the summer of 1886, when the patient was suddenly seized with vertigo, blindness of the left eye and thickened speech. At that time I was hastily summoned to his bedside and found him suffering from right hemiphlegia. A history of syphilis was obtained and he was immediately placed on gradually increasing doses of the iodide of potassium, together with the hypodermic administration of one-twentieth of a grain, twice each day, of the bi-chloride of mercury in twenty minims of normal salt solution. This plan of treatment was persisted in with the result that the man completely recovered from his paralysis, regained his sight and speech, although a large node which was situated on the left tibia, continued very painful and resisted, and still resists, all treatment. This node pain was accompanied by a boring ache referred to the top centre of the skull, which was at times very distressing, the patient complaining that he felt as if something about the size of a quarter of a dollar or perhaps of two finger tips was continuously making hard pressure on the top of his head. As time went on and these symptoms improved the man resumed his occupation, which was that of a clerk, and, as is not unusual in such cases, neglected further treatment. In the year 1895, about eleven years after his initial lesion, he again consulted me, complaining of disturbance of his digestion. He then informed me that during that year he had suffered three or four attacks of pain in the region of his stomach, with nausea, vomiting and diarrhea. At that time his general health appeared to be good. He was about five feet nine inches in height, well nourished and weighed 190 pounds. Physical examination revealed nothing in the way of tenderness or tumor and there was no jaundice. As these attacks persisted I suspected that he might be suffering from specific disease of the liver (although no change in that organ could be made out) and I therefore insisted on his persisting with anti-syphilitic treatment. This resulted in a cessation of the symptoms and subsequently there was an interval of several years of comparative health, during which time I saw him only incidentally. From 1899 to

1905 he took no medicine, although he still complained of more or less pain in the node and his head pain was at times troublesome. In 1905 he began again to complain of attacks of epigastric pain, nausea accompanied with diarrhea, and these attacks increased in frequency until they occurred about once in five or six weeks. Specific treatment was again resorted to and, at different times, mercury was given by inunction, hypodermically and by the mouth, and the iodide of potassium was also administered in large and gradually increasing doses, but with no apparent result. These attacks finally assumed the character which we are in the habit of observing in gall-stone cases. They presented about the same clinical phenomena. The patient was always suddenly seized with severe colicky pain in the region of the gall-bladder, the pain extending through to the angle of the scapula. Nausea and vomiting were always present and latterly there was always accompanying jaundice with colorless stools. The dejecta were carefully watched for stones but none were observed. Each attack was attended with some rise in temperature (100° to 101°) and some acceleration of pulse. Chilly sensations were usually complained of and sometimes there would be a distinct chill. Upon each of these occasions examination revealed tenderness directly over the gall-bladder, most marked about midway on a line drawn from the nipple to the umbilicus, but no tumor could be palpated. The patient usually wore an anxious expression, complained greatly of his pain and begged to be relieved of it. Morphine hypodermically was always administered for relief, the man remaining in bed for a period of time extending from twenty-four hours to several days, according to the severity of the symptoms. In the month of December, 1906, the patient having been treated persistently with anti-syphilic medication, and having obtained no permanent relief, I explained to him the situation, saying that I believed he was suffering from syphilitic disease of the gall-bladder, probably involving the ducts, and suggested surgical interference for his relief. On the 26th day of December, 1906, Professor William H. Thomson saw the patient in consultation, and, after having made a careful examination of him, concluded that he was suffering from gall-stones. Professor Thomson thereupon suggested a plan of treatment based upon that diagnosis. That plan of treatment was carried out but failed absolutely to give relief. In the early part of January, 1906, I had a conversation with Dr. Russell S. Fowler to whom I explained my theory of the case, suggested to him the advisability of an exploratory laparotomy, and requested him to see the patient with me. Operation was decided upon."

Operation: January 13, 1907. The gall-bladder and neighborhood was exposed by the incision of Kocher, a sand pillow having been placed beneath the patient's back in order to render the field of operation more accessible. (The placing of a sand pillow or air cushion beneath the patient's back brings the gall-bladder, ducts and under surface of the liver well forward and within easy reach both of the eye and finger.) A hand passed over the upper surface of the liver demonstrated the absence of nodules. The liver was normal to touch and sight. The examining hand dislocated the liver downward and pushed the inferior surface forward into the wound. (This is a second point in gall-bladder and duct technique which is essential to easy performance of operations in this region.) One laparotomy pad was inserted to push back the stomach and a second one to restrain the hepatic flexure of the colon. (This forms the third essential step in successful gall-bladder technique.) The condition of the gall-bladder, ducts and neighboring liver surface was now capable of demonstration. The liver surface was normal except at the site of the atachment of the gall-bladder to the liver. The gall-bladder was contracted to the size of an ordinary feeding bottle nipple and formed the centre of a mass of cicitrical tissue on the liver surface at the point of attachment of the gall-bladder to the liver. The mass of scar tissue representing the gall-bladder and its fibrous attachment to the liver had through its contraction caused a drawing in of the inferior liver surface and a drawing down of the anterior edge of the liver. The result of the cicatrazing process was a somewhat starfish shaped appearance, the body of the starfish being represented by the contracted gall-bladder and the fingers by five furrows in the liver surface similar in appearance to the contracted gummatous process seen in ordinary gumma of the liver. The cystic duct was represented by a fibrous thickened cord. The common duct was thickened to the size of the little finger. The cystic duct was cut across just above its juncture with the common hepatic duct and the gall-bladder and cystic duct, dissected free from the liver surface and removed. A little bile escaped from a pin-hole opening in the stump of the cystic duct. The peritoneum at the base of the fixed portion of the duodenum was incised and the duodenum mobilized to allow of demonstration of the third portion of the common duct and the head of the pancreas. (This is an addition to the surgery of the common duct which renders the third portion of the common duct readily demonstrable with but slight traumatism.) The common duct was thickened throughout but no stone could be palpated. The head of the pancreas was apparently normal. An attempt was then made to pass a probe through the stump of the cystic duct and into the common duct, but owing to the small size of the aperture this was impossible; therefore the common duct was opened for the space of an inch. The walls were enormously thickened and the lumen small. A slender probe was introduced and readily passed along the duct and into the duodenum where its free end could be felt. The probe was then removed and passed into the common hepatic duct and along this into the right hepatic duct. A second probe was then passed alongside the first and into the left hepatic duct. This was demonstrated by enlarging the opening in the common duct toward the duodenum so that finally almost the entire duct was laid open. No stones were present. A size 10 F. rubber catheter, with a fenestrum cut two inches from the proximal end, was laid in the incision in the duct in such a manner that bile could pass from the liver to the duodenum through the fenestrum and in case of blockage of the common duct through inflammatory changes the bile could flow through the catheter and escape externally. The edges of the incision in the duct was drawn together over the catheter as well as possible, though at no point could perfect closure be obtained owing to the abnormal thickening of the duct wall and the small lumen of the duct. It was hoped nature would cause a growth of mucous membrane to bridge over the gap and result in an increased caliber of the duct in much the same manner as urethral mucous membrane bridges over gaps in the urethra. Two small strips of plain gauze were packed against the common duct to take care of any extravasion of bile. The duodenum was reposited and the operation finished in the usual manner, the wound being closed except at the point of emergence of the catheter and two gauze strips.

Upon incising the shrunken gall bladder it was found to contain two or three drops of mucous and an infinitesimal amount of granular detritus. The walls were much thickened (see Dr. Brook's report).

Post operative History: The patient recovered quickly from the shock of the operation; vomited twice, each time the vomitus containing a little bile. The catheter was attached to a subaqueous drain. The wound pursued an uneventful course, discharging bile freely through the catheter and later upon removal of the tube through the gauze. The bowels moved fairly regularly with enemas, olive oil and Carlsbad Salts, all movements containing bile. The only deviations from a normal course were on the eighteenth, twenty-fifth, twenty-seventh and twenty-eighth days, when there was some pain felt between the shoulders. The stomach distress without vomiting continued and the diet was necessarily limited. This distress was attributable to the large amount of iodide previously taken. For this

reason specific treatment was temporarily discontinued. The jaundice disappeared slowly. He left the hospital on the thirtieth day much improved with a sinus discharging bile and plenty of bile in the stools. "On February 20th all flow from the biliary fistula suddenly ceased, the stools again became clay colored and the patient became deeply jaundiced. After consultation with Doctors Thomson and Fowler it was agreed that a second operation was necessary." This was done on February 24th. A preliminary examination of the sinus failed to reveal a stone. The wound was reopened and the lower surface of the liver, the hepatic and common duct exposed as at the previous operation. The common duct was found enlarged as before, but no opening into it could be demonstrated. No palpable stone. The hepatic duct and common duct were incised from the liver to the duodenum, including the portion of the duct lying in the duodenal wall. Very little bile escaped. The ducts were found of larger caliber than before and the walls not as thickened, especially at the site where the catheter had been sewed in. In the third position of the common duct, however, the part which had not been split open at the first operation, there was the same condition of thickening of the wall and small lumen as obtained at the first operation in the remainder of the common duct. In this portion of the duct there was present a few grains of calcareous material not sufficient to block the canal nor to prevent a probe being passed through the ampulla of Vater into the duodenum. Upon removal this calcareous material crumbled upon the slightest pressure. Exploration of the hepatic duct revealed nothing but a thickening of the duct wall. In the common duct along the previous suture line there were a few grains of calcareous material.

A rubber catheter, size 12 F., with a fenestrum cut in one side three inches from the end, was laid in the common duct, the open end of the catheter near the ampulla of Vater, *i. e.*, in the reverse direction from which the first catheter had been placed and also occupying a portion of the duct, the duodenal portion, which had not been incised before. The common duct was sutured over the catheter. This was easily accomplished except at the duodenal end where the sutures only served to hold the duct walls in relation to the catheter. Two gauze strips were placed against the suture line as a precaution against leakage and the duodenum reposited. The operation was completed in the usual manner and the wound closed except at the point of emergence of the drainage strips and catheter.

Post operative course. This was uneventful except for the weakened condition of the stomach. Bile discharged freely through the tube and into the intestine. The sinus was kept open by packing with gauze after removal of the tube on the ninth day. The patient left the hospital on the thirtieth day with a small sinus discharging bile and with bile showing in the stools. Twice a week after the operation he was given a third of a grain of bichlorid of mercury in a little less than the normal strength salt solution by hypodermic, as recommended by Professor Thomson. "Since that time his medical treatment has consisted in administration of iodide of potash interruptedly, by the mouth, together with the constant hypodermic administration of one-third of a grain of the bichloride or of the salicylate of mercury, twice each week. The patient is now perfectly well. He weighs 202 pounds as against 118 pounds when he left the hospital on March 27, 1907.

"He eats indiscriminately and continues entirely free from digestive disturbance of any kind. His bowels move regularly and the movements are quite normal, always containing the proper amount of bile."

Dr. Harlow Brook's report of the pathological findings is as follows:

"Microscopic examination of the wall of the gall bladder shows a quite interesting condition. The internal mucosa of the bladder has been entirely replaced by a zone of granulation tissue in which a few remnants of the normal mucosa are represented by an occasional island of proliferating gland tubules quite typical in form and clearly growing now under inflammatory stimulus. The remaining portion is made up of a mingled mass of hyperplastic connective tissue, which shows in many places necrobiosis. The blood vessels, while quite numerous are thin walled, and many of them show surrounding extravasation.

"The deeper layers of the bladder wall, the muscle coats, are also almost completely replaced by a mass of connective tissue in which are found numerous areas of small round cell infiltration, new vessel formation and small hemorrhages, especially in areas where necrosis is marked. In these necrotic areas and also where old hemorrhages have apparently occurred, fixed and wandering connective tissue cells with cytoplasm loaded with broken-down blood pigment are frequent. Practically all the old vessels and many of the more recent trunks as well show pronounced peri- and end-arteritis, which in some instances almost amounts to end-arteritis obliterans. The nerve trunks are much encroached upon by this mass of connective tissue and some of them show actual exudative neuritis, perhaps accounting for at least part of the symptom of pain. The areas of necrosis are frequent and some of them are of considerable size. Plasma cells are found in abundance, especially in and about the patches of small, round cell infiltration.

There are no changes present in the tissue which might not be accounted for by causes other than syphilis, but the grouping of the lesions and their degree are highly diagnostic of syphilitic inflammation, and while the process is not gummatous it is beyond doubt syphilitic in nature. There is nothing in the tissue sent for examination indicative of perforation of the bladder, but the process apparently originated as an ulceration beginning in the mucosa."

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To what extent is this new knowledge applied in public hygiene and preventive medicine? Only to a limited extent anywhere in the world. Any one who is familiar with what is actually known to-day regarding this class of diseases, is aware of the fact that even in the most enlightened countries there is not more than a fraction of that knowledge applied. It is here, as is so often the case, that knowledge outstrips application. But in Germany, and particularly in France and England, so much of this knowledge has been applied that the results are very apparent. The death rate has been reduced two-thirds, in many places to one-half, of the mortality which prevailed at that time, and it is mostly in the direction of checking the spread of the infectious diseases.—*Dr. William H. Welch.*

ORIGINAL PRESCRIPTIONS VS. "ORIGINAL BOTTLES."*

By WILLIAM BRADY, M.D
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SOMEONE has defined a physician as a "person who pours drugs, of which he knows little, into the bodies of patients of whom he knows less." Considering the present status of the prescriptions that we write, the definition should be revised: "A physician is a person who pours drugs of which he knows *nothing* into the bodies of patients of whom he knows everything." While the science of pathology has been making wonderful strides in recent years there is grave doubt that the art of therapeutics has kept pace with the general progress. There is a well recognized reason for this inefficiency of therapeutics that should have our careful attention.

As a class, physicians are notoriously ready purchasers of "gold bricks." And we are ever willing to risk something more precious than gold at the call of the shrewd exploiter of pharmaceutical humbug. He suggests that we specify "original package" on our prescriptions, and we promptly proceed to act as his selling agent without salary—to save him the expense of acquainting the laity with his "panacea" through the ordinary channels.

In one sense, our work is all experiment, but it would be absurd for each individual to attempt to thrash out every point for himself; and yet, this is just what the manufacturers ask us to do every day—"to try their latest 'specialty.'" We must depend on *reliable authority* for most of our therapeutic knowledge. It has taken centuries of experiment and study to compile what is known of *opium* for example, and *no* physician would for a moment think of trying *"a sample"* of opium to learn its effect on this or that bodily condition. However, recent events have proved that one cannot be too cautious as to the source of therapeutic information. We have accepted the statements of certain medical journals, pharmaceutical houses and testimonial-writing physicians with too little circumspection.

While regular physicians are subject to increasingly difficult requirements for licensure, ignorant pretenders—such as osteopaths, Christian Scientists, patent medicine men and prescribing druggists—are openly treating the greater number of the sick. Here is a condition that threatens our professional life—a taint that reaches practically every one of us; and if we are to conquer it, each must do his share in the fight against its progress.

We may properly inaugurate this reform at home. We enter practice as a rule with but a precarious knowledge of prescription writing. And far *too many* of us have failed to improve that knowledge because we found that the manufacturers of "proprietaries" were willing to take the burden from our shoulders—to furnish the patient his remedies ready-made, as it were—so that no actual prescription is necessary and no pharmacist, as such, need interfere in the transaction. In fact the astute manufacturer even furnishes the indications for his "specialty" usually in the form of a concise dissertation on the pathology and, more particularly, the symptomalology of the diseases it is "good for"; thus, the Doctor is not led to consult medical authors or to decide for himself what he should prescribe.

Picture, if you can, the patient waiting with rosy anticipations while the modern doctor vainly tries to construct a prescription which shall neither explode on compounding nor poison the patient through some chemical or pharmaceutical incompatibility. This is the psychological moment, for which the watch-dogs of therapeutics have favored us with such a profusion of calendars and "clinical reports." Hastily he jots down the name of the latest proprietary, ready compounded ("irritating and inactive portions removed by a process of the maker's own"), adding the necessary words "original bottle" as if to impress on the pharmacist that we are aware of his tendency toward dishonesty, and speeds the buncoed patient while congratulating himself that neither the pharmacist nor the patient has discovered his ignorance.

This *unfortunate result of the unexplained neglect of so important a subject in our medical schools* is one of the reasons (if not the only reason) for the failure of therapeutics to keep pace with the march of medicines. Therapeutic ignorance, as reflected in prescription writing, is driving our patients over to the arms of the charlatans and bringing ridicule on our profession. On therapeutic ignorance is founded "Christian Science," which sprang directly from the errors of homœpathy, as Mrs. Eddy has explained in "Science and Health with Key to the Scriptures." The same pitiable ignorance gave birth to "osteopathy" and the patent medicine evil, and by it these frauds are strengthened while our own true vocation is discouraged.

Why so much therapeutic nihilism? How may we account for the hundreds of new remedies launched on the market each year, to be forgotten before a second year rolls around in the mad rush for the "latest" discovery? Our pharmacal friends have given the answer quite unanimously—that the secret lies in the deplorable fact that prescription writing is a lost art. They who are the most fanatical nihilists are the very men who have run the whole gamut of proprietary medicine—dissatisfaction rewarding their mistaken efforts, disappointment embittering their sweeping arraignment of an art to which they are utter strangers. For the greater our knowledge of the action of drugs the less the temptation to toy with the proprietaries.

A prescription is an order to a pharmacist to

* Read at the regular meeting of the Elmira Academy of Medicine, Elmira, N. Y., May 6, 1908.

prepare a certain medicine in a certain way—at least that is what it was before the modern specialty in its original bottle was invented to create falsely cautious physicians and cautiously false pharmacists. We write it in Latin to avoid misunderstanding, and the Latin title of a medicine is one that few patients will read on the way to the pharmacy. On the other hand, the catchy name of the nostrum variety has a peculiar permanency in the patient's mind. Such euphonious titles as Listerine, Bromidia, Peptomangan, Glyco Thymoline, Gray's Glycerin Tonic, Sal Hepatica, Antiphlogistine, and a host of others of the same undesirable class, he readily retains in memory along with Peruna and Mother Gray's Worm Powders, to be used whenever his future needs or his friends' needs may seem to require them. And the mystery is that educated physicians will prescribe these concoctions in preference to the reliable pharmacopœial or N. F. products simply because their exploiters keep them ever before our eyes. The editor of an excellent pharmaceutical journal well said, "If physicians are prescribing so many thousands papayans (Bell) because the maker asserts that they will remove indigestion, what is the need of a patient going to the physician in the first place?"

These "specialties may be found to meet every indication of certain cases, or rather their formulas (as given by their makers) may seem well adapted to certain conditions. This is beside the question. It is the moral duty of every physician to write his *own* individual prescription for such combination of remedies as may be required, otherwise he violates his oath of office, for he has sworn that he would "abstain from every voluntary act of mischief or corruption," and who will compute the fearful mischief that has been caused by the nostrum abuse?

Competition is keen on "original bottles," and the pharmacist in order to meet the prices of the department store has to accept a miserable profit; consequently he conducts a general clinic, giving advice and medicine over the counter for one small price, declaring, with truth, that the physicians have destroyed his legitimate occupation.

The most successful proprietaries (commercially) are those which manage to obscure the etiological factors while enlarging on the symptomatology, *e. g.*, antiphlogistine with its "endosmisis and exosmisis" absurdities; and antikamnia with its treacherous power over pain, fatigue, nervousness. And the most successful physician (professionally), with his mind ever on the true pathology of disease, has no place for such clap-trap methods. What matters it to the nostrum prescriber which of the genitourinary organs be at fault or what the fault so long as sanmetto "meets every indication"? Why bother with microscopical nonsense when Tyree's antiseptic powder "relieves every discharge"? Why insist on the young woman who is "all run down" exposing her chest for examination? Fellow's syrup hypophosphites is designed to save this embarrassment. It would be superfluous to examine teeth, eyes, nose or urine of migraine patients when Akralgia (Merrell) "just one dose each morning assures freedom from the suffering."

In this irrational manner the nostrum prescriber, always disappointed in the failure of his rainbow expectations to materialize, changing his remedy with every change of symptoms, stands on a par with the deluded public whom he would criticise for taking patent medicines, and to our shame and dishonor, the same public is now criticising the critic for the same offense.

We now have a court wherein we may "try" the new remedies offered us, and we no longer need depend for information on that army of ex-physicians and ex-druggists known as "detail men."

We have instead a body of *representative authorities* in medicine, pharmacy and chemistry, constituting the Council on Pharmacy and Chemistry of the American Medical Association. Their good work is entitled to the active support of every right-thinking physician. The Council has demonstrated beyond all question the viciousness of such proprietaries as salacetin, phenalgin, purgen, nephritin, anasarcin, cactin, bioplasm, and many others; it only remains for us to do our duty.

Notwithstanding the exposures of nostrum dishonesty by both lay and professional organs, there seems to be an element of mysticism or commercialism still overactive in the medical mind. Otherwise, why should physicians continue to prescribe such products? In our own city, in a series of one hundred and fifty-two consecutive prescriptions filled at a reputable pharmacy early in 1907, there were eighty-four (sixty per cent.) which accepted no standard other than the questionable statement of some dollar-chasing manufacturer, in the face of the excellent standards of the U. S. P. and the N. F. One physician wrote for Wyeth's Elixer Glycerophosphates one day and Sharpe & Dohme's make the next. And what scientific evidence is there to prove either brand preferable to the N. F. Elixer? Several prescribed this, that and the other brand of Syr. Hypophosphites Comp., depending probably on the name of the maker whose blotter happened to be at hand. The U. S. P. Syrup, not being exploited in that manner, had no friends in this list. One prescription ordered four grains of codien to be added to six ounces of syr. white pine compound, and it is reasonable to question whether this prescriber knew he was giving morphine and codien together.

One called for Dr. Thomas's Electric Oil, (!) which only illustrates one humiliating tendency of modern therapeutics.

This fact stands out prominently that, as we ascend and descend the scale of professional worth, so our prescriptions become more or less scientific and exact.

The usual defense offered by the nostrum prescriber is that he will give his patient anything, secret or not, which will promise relief, although he is not always careful to observe whether the promise is fulfilled, but continues to prescribe in a mechanical manner. His argument may have been sufficient fifty years ago, but to-day it cannot stand. We have developed in therapeutics a "show me" habit; we want a reason for every procedure. Rationalism has displaced the old empiricism. Rationalism taught us the fallacy of feeding the sick with beef-tea; science demonstrated the error and we now employ it, not as a food, but in its true capacity as a mild stimulant.

Science now tells us that we have been equally mistaken in depending on the proprietary medicinal foods. We have been prescribing various "predigested" beef preparations and "peptone" nutriments for our patients under the delusion that we were giving sufficient nourishment, whereas the Council has shown us that two quarts of plain milk per diem, at an expense of less than twenty cents, furnishes energy, measured in calories, equal to that of five times the adult dose of any medicinal food on the market. In order to take enough of any of these so-called "foods" to really meet his needs the patient would have to consume, along with the nourishment, an amount of alcohol sufficient to keep him gloriously drunk all the time. The empiricist will go on prescribing these fake-foods because the "detail-man" tells him they are suitable; the rationalist will place them in the category to which they belong—expensive beverages. The report of the Council on these products (which are manufactured by the best houses in America) notably exemplifies how little dependence we should place in the therapeutic suggestions of the manufacturers. Their *intentions* may be good, but their commercial enthusiasm, stimulated too often by the testimonials of certain physicians, warps their judgment, and the patient pays the bill.

In view of the notoriety that has recently come to us through such attacks as that of the editor of the *Ladies' Home Journal* (who has been as well a leader in the war against the nostrums of the laity), it would seem that the time is ripe for a general reform of therapeutics.

We may safely begin by cultivating an intimacy with the Pharmacopeia and the National Formulary by studying these instead of the sample-case of the gay drug-drummer, and, when these sources fail to satisfy our needs, we may safely trust to the invaluable reports of the Council on Pharmacy and Chemistry instead of the tainted literature of the all too commercial "manufacturing chemists."

One desirable effect of such reform will be to give the pharmacist an opportunity to practice his profession. He didn't attend college to learn how to sell "original packages" of Glycoheroin (Smith), Probilin pills or Cascarets; he was there to learn how to compound physicians' prescriptions. We will not specify urotropin, formin, cystogen, sal hexamin, etc., when we intend to use hexamethylenamina (U. S. P.), because we know the latter is dependable. We will not prescribe resinol, with its name and list of diseases on the lid, but we will write instead for ung resorcin compound (N. F.), get results, encourage true pharmacy and discourage self-medication among the laity. Then the pharmacist may find it easier to advise the people who urge him to prescribe for their coughs and colds, claps or dyspepsias," to consult a physician. We will be faithful to our trust, the patient, loyal to our skilled assistant, the pharmacist, and true to ourselves.

The propaganda for reform in prescription writing has already borne fruit. There is good evidence that the prescribing of proprietary remedies is steadily decreasing, especially in those centers where the question has been thoroughly agitated. Indeed, the tendency is strongly toward prescribing simply one drug at a time. It may be too early to advocate discarding all ready-made formulas—whether proprietary, "ethical" or official—but it is reasonable to anticipate that the next generation of physicians will not tolerate compound prescriptions.

Only let us do unto others as we would be done by, and the death knell of the nostrum is sounded —scientific therapeutics will live again.

Clinical Report.

HYPODERMIC USE OF STRYCHNIA IN PARALYZED LIMBS.

By W. G. STEELE, M.D.
MONGAUP VALLEY, N. Y.

CASE 1.—Man, age 57, weight 160, American, farmer. Acute transverse myelitis. September 22, 1899. Paralysis of one leg from hip down; nearly complete.

November 24, 1899. A professor of nervous diseases in one of the medical colleges of this State saw the man and advised hypodermic injections of strychnia.

The patient received a hypodermic tablet of strychnia sulphate 1-20 gr. injected in the paralyzed muscles of the hip or leg daily except Sundays for twenty-six days, Some improvement in motion, very little atrophy.

We doubled the dose to 1-10 gr. continued for twenty-seven days more. Patient improving; no symptoms of strychnia.

We then changed to strychnia nitrate. Commenced with 1-16 gr. and soon to 3-16. Continued the nitrate for sixty-nine days with less effect and less improvement.

Returned to the sulphate, using four tablets of 1-20 gr. each once a day. Soon increased to five tablets, several times six tablets were injected and a few times seven 1-20 gr. tablets were injected at two or three places of the paralyzed leg at one time. Continued the large doses for one hundred and fourteen days more. No symptoms of any effect from ¼ gr. except slight increase of pulse; 6-20 would make him feel nervous and act as if he was in a hurry; 7-20 would make him grasp the lines of his horse with a strong grip. He drove his horse to my office for treatment three hundred and nineteen times during a year and one half. Walked with crutches up and down stairs. Each time use of leg much improved. Can swing his hip with force. Some

atrophy of the calf and foot. Excellent good health, gained fifty pounds, can walk by pressing his hand on the knee without crutches.

Treatment discontinued. Six years later he had another and less severe attack on the other leg.

Case 2.—Man, age 56, weight 160, American, electrician. Apoplexy followed by hemaplegia of the left side.

July 14, 1908. Arm and leg paralyzed, completely helpless, did not know when or where his left arm or leg were moved, head and eyes turned rigidly toward the right, could not turn them to the left, talked slowly but quite sensibly.

Fourteenth day after the stroke commenced hypodermic injections of strychnia sulphate 1-20 gr. tablets twice a day. Third day one tablet in his arm, one tablet in his leg; 1-10 gr. twice a day.

Fifth day gave four injections, two in his arm and two in his leg, four tablets twice a day, 8-20 gr. strychnia a day for eight days, sometimes giving two tablets to an injection, one in arm and one in leg.

No pain from inserting the needle, did not know what was being done until he got better and could turn his head so that he could see, then he did not enjoy the hypodermic.

No symptoms of strychnia or of any other immediate effect. A careful nurse kept a record of his pulse—mornings every half hour and afternoons every hour, every day when patient was getting 2-5 gr. strychnia sulphate daily. The pulse varied from 65 to 90 with no traceable effect from a hypodermis injection. No nervousness could be recognized. Temperature usually one degree below normal, sometimes one-half degree above.

This patient gained rapidly in every way except the use of his fingers. Could stand and take a few steps by taking hold of something stationary, move his arm and hand. Four weeks after the attack went home on train four hundred miles; was quite exhausted by journey. Eight weeks after the attack was walking with a cane. Could not move the fingers.

I am convinced that the hypodermic use of strychnia sulphate has a good local effect and temporary benefit in paralyzed muscles; that some patients require five to ten times the usual dose; that ¼ gr. is about the proper amount where paralysis is complete.

LIVES OF OFFICERS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

By JAMES J. WALSH, M.D.
NEW YORK.

JOHN B. BECK.

(*Continued.*)

While thus applying the fruit of previous study for the relief of the sufferer at this great public charity, he did not lose the opportunity of giving to the students and young physicians connected with the establishment those clinical lessons which are of such inestimable value. His clinical instruction was, like all his public teaching, distinguished by great simplicity of language, clearness, and a devoton to utility rather than show. In 1843 he collected and published in a volume a few of the most important of his contributions to periodical medical literature.

In 1848 his work on Infantile Therapeutics appeared, and was received with the greatest favor both at home and abroad. Few medical books of its size contain an equal amount of sound learning and practical good sense.

Dr. Beck enjoyed in an eminent degree the respect and confidence of his professional brethren. Of this he received continual proofs from the commencement to the close of his professional life. He was elected when a very young man trustee of the College of Physicians and Surgeons, and censor of the County Medical Society. He held at subsequent periods the office of vice-president and president of the County Medical Society, before which he delivered an inaugural address on the "History of American Medicine before the Revolution," which was afterwards published and amply sustained his well-earned reputation. He took an earnest interest in the organization of the New York Academy of Medicine, and was early elected one of its vice-presidents, and subsequently orator to the academy. This was the last opportunity his brethren enjoyed of manifesting their unabated respect for him, and regrets as sincere as general were felt that his failing health compelled him to decline the duty he would, under more favorable circumstances, have performed with such ability.

About the year 1842 Dr. Beck was attacked with hemorrhage from the bowels, by which he was greatly prostrated. This was repeated at intervals of some months, two or three times, under circumstances which gave his medical friends too much reason to fear that malignant disease was beginning in some part of the alimentary canal. In 1845 he suffered from a local inflammation, which ran on to an unhealthy suppuration from the angle of the lower jaw; the accumulated purulent matter broke into the pharynx, and some of it finding its way into the stomach, caused an almost uncontrollable vomiting, by which he was so much prostrated as to cause in the minds of his attendants apprehensions of an immediately fatal result. From this time Dr. Beck continued an invalid, rallying occasionally, but soon falling off, and only enabled to perform his duties as a practitioner and teacher by the most indomitable strength of will, the most determined purpose not to give up.

For the last few years of his life he was a martyr to neuralgia and spasmodic disease, from which his sufferings were most intense; still he bore up with almost superhuman resolution, and continued to visit his patients and to lecture in the college till the beginning of the session of 1850-51, when he was at last compelled forever to withdraw from the scene of his honorable labors, and the service of an institution to promote whose interests had been for so many years the main object of his professional life.

During the winter of 1850-51, his disease made steady progress, and it became evident that the term of his labors and sufferings was nigh at hand. These sufferings soon became so intense as to induce his best friends to pray

for his early release. He derived, at one time, some relief from the use of anesthetics and opiates, but towards the last was unwilling to use them. "I do not wish," said he to a medical friend, "to die stupefied or insane."

He desired to look the king of terrors full in the face and watch with steady eye his slow approach. At length the time of suffering ended, and "the day of his redemption" arrived. On Wednesday, April 9th, at 6 P. M., he died. His funeral on Friday, April 11th, was attended by almost all the more eminent members of the profession in the city, who vied with each other in manifestations of affection and respect for the deceased.

Dr. Beck's learning was extensive, and extremely accurate. What he knew, he knew precisely and definitely. This, though true in a degree far from common of his classical, was especially so of his strictly professional learning. The latter took a far wider range, embracing not only the popular authors of our own time and the age immediately preceding us, but also all the best writers of bygone days, those venerable classics on whose merits Time has set its seal. Of these authors he was a constant reader, referring to them as the charts by which he was best pleased to sail.

The success of Dr. Beck as a public teacher has already been noticed. He united in a degree quite peculiar to himself the qualities often seen apart that made him both useful and popular. His lectures were clear, precise, and singularly practical; no merely specious theories, no rash generalizations, no loose assertions, found place there; all was logical, accurate, true. Those qualities and the ready courtesy with which, when the lecture was over, he answered the questions and solved the doubts of his pupils, and removed by repeated and varied illustration—in which he was singularly happy—the difficulties in the way of their perfect comprehension of a subject, gained him a very strong hold on the respect and affections of his pupils, and secured their entire and implicit confidence.

The personal character of Dr. Beck was of a very high order; a steady adherence to principle, an ardent love of truth, an unhesitating, unwavering, almost instinctive preference of the right over the expedient, marked him in the best and highest sense of those words as a man of honor; and if in early life he manifested, perhaps sometimes too plainly, his disgust at pretension, his abhorrence of fraud, his contempt for meanness, it was but the working of a noble nature, to which such faults were in their very essence alien and abhorrent.

Like, practically, all men to whom the distinction of election to the presidency of the State Medical Society came, Dr. Beck was a consistent believer in a Providence that oversees all earthly things, and during the long and hard trial of his illness, protracted during many years and attended by sufferings nearly constant and often agonizing, this proved to be the best source of his consolation. So unremitting and so long continued were his pains that some months before his death he said that he had not been free from pain for one single hour. His biographer, in Gross's American Medical Biography, Mr. C. R. Gilman, says: "Through all, his patient submission to the Divine Will failed not for a moment, no repinings disturbed the calm serenity of his soul, no doubts dimmed, even for a moment, his clear perception of the Divine Benignity."

WILLIAM TAYLOR.*

Dr. William Taylor was born in Suffield, Conn., October 12, 1791, and died at Manlius, N. Y., after a brief week's illness with dysentery, September 16, 1865.

In his youth he enjoyed the literary advantages afforded by a neighboring academy; and at an early age entered upon the study of medicine with Dr. Healy, of Westfield, Mass. In April, 1811, he came to Manlius, and completed his preliminary studies under the direction of Dr. Hezekiah L. Granger, an eminent practitioner of that day, and at an earlier period a fellow-townsman of this young student. He was licensed to practice by the Onondaga Medical Society, November 1, 1812.

He immediately entered upon the practice of medicine as an associate of Dr. Granger. What were the terms of partnership we cannot now ascertain; but from what we know of Dr. Taylor's modesty and desire to please, we can well imagine that the younger physician bore the heavier burden of the practice and received the lighter share of the profits. At all events, we find him, before long, removing to Cazenovia (some eight miles distant), as if not well satisfied with his business arrangements. In about a year he returned to Manlius, then a more promising place than Geneva, and continued there in the pursuit of his self-denying and laborious profession during the remainder of his life.

For a few years his mind was so much absorbed in politics as to withdraw too much of his attention from his profession. At this period some complaint was no doubt justly made that he neglected his patients; but in the main, he was very faithful to the cases he undertook, and his attentiveness was but little affected by the social position of the patient. He took the same pains to relieve the pauper of his suffering that he did the man of affluence. It is believed that he never refused to attend a person simply because he was poor and not likely to

*From sketch by Dr. Wm. Manlius Smith. Read before the Onondaga Medical Society, June 12, 1866. Transactions 1867.

pay. The first consideration with him was to render relief, and he was not sparing of himself in his efforts. If he was well paid for his labors, he was, of course, well satisfied; if he received nothing, he was still ready to attend upon the suffering again whenever he needed his aid.

There frequently arise in medical practice cases which sorely try the patience of the physician, on account of the little heed paid by the patient and his friends to the directions given; of their absurd prejudice against some needed medicine; of their perversity in tampering with other remedies than those prescribed; of their obstinacy in pursuing practices that counteract the physician's efforts; and of their folly in giving to the opinion of any ignoramus the same weight as to that of their well-informed attendant. Some, under such circumstances, are wont to fly into a passion, and harshly chide the delinquent, but Dr. Taylor seldom, if ever, lost control of his temper, even under the most aggravating circumstances. He could administer reproof to a refractory patient if needful, but it was usually couched in courteous language, and given with kindliness of manner.

While living strictly up to the code of medical ethics, and refusing to attend a case in company with irregular practitioners, he yet treated them with civility when he found them in attendance upon patients he was invited to visit. He would sometimes take pains to ascertain their views of the disease and its treatment, and so form a judgment of the amount of their knowledge of the case. On suitable occasions he would express his views of their medical ability, but he was not wont to dwell upon their shortcomings in his intercourse with his patrons, nor to seek to build up his own reputation on the ruin of theirs. He sought to improve his own practice in all available ways, and trusted to the results of his standing in the profession. Though not unconscious of his medical skill, he did not make a parade of it, nor seek to gain more business by recounting his wonderful achievements in the healing art.

The new remedies, from time to time, brought forward in medical periodicals he was always ready to try, and was probably one of the first in this section of the country to become familiar with the use of veratrum viride, as recommended by Dr. Norwood. He was, however, very cautious in the use of untried medicines; generally commencing with doses considerably less than those recommended and carefully feeling his way, till satisfied with their powers and proper applications. He was, at the same time, ready to push a well-known medicine to its full operative effect when the nature of the case demanded it. He was no slave of mere routine, confined to a fixed range of remedies for certain diseases, but a man, beyond most others, fertile in medical resources and prompt in resorting to new expedients when the old ones proved inefficacious. The more difficult the case the more he was aroused to the employment of all the means at his command. An ordinary case would sometimes fail to awaken the proper degree of interest, and he might under such circumstances make somewhat careless prescriptions; but a case that required study and thought brought his talents into full exercise. Some men can make an off-hand prescription, often with great brilliancy of result. If they fail, however, in their first attempt, they fail utterly, having no power of retrieving their errors. Not so with Dr. Taylor. If he less often gained his object by a single stroke, he knew how to follow up his well-directed blows till victory was achieved.

He became connected with the Onondaga County Society about the time he received its license to practice, and was one of the most constant of its members in attendance upon its meetings. In 1830 he was sent as delegate to the New York State Medical Society, of which in 1834 he became a prominent member, and in 1842 was chosen president.

As a citizen he was characterized by a large public spirit. Anything promising the welfare of the community met with his hearty sympathy and coöperation. He was foremost in the cause of education, and was largely instrumental in founding the Manlius Academy. Of the board of its trustees, he was always a member, and for several of the last years of his life the president. He also contributed greatly to the formation of the Manlius and Pompey Agricultural and Mechanical Association in 1859, taking a laboring oar in raising by personal solicitation the requisite funds for its organization. His engaging manner and well-tried integrity rendered him most successful in his appeals to individuals for money to help forward any public measure that engaged his attention.

His fellow citizens placed great confidence in his ability and integrity as a public man, and several times elected him to office. He had been supervisor of the town, a member of the State Assembly for two years, a delegate to the convention for revising the State Constitution in 1846, and a representative in Congress for three successive terms from 1833 to 1839. As a Christian man he commanded respect for the sincerity of his religious convictions, and for the consistent character of his daily life.

Though held in high respect and admiration for his talents and virtues, yet the prevailing sentiment towards him was that of affection. He may peculiarly be said to have been a "man greatly beloved."

(To be continued.)

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Editorials

THE TRUTH ABOUT FRACTURES.

FROM time beyond the records of surgery there seems to have been a general misconception concerning the nature and treatment of fractures. The public, and the profession also, have thought of a broken bone as a simple mechanical proposition to be considered in the same light as a broken stick or other similar material, the treatment of which consisted naturally in putting it back into its right position and keeping it there until it grew together.

There is an unfortunate practice of thinking of a fracture as being a matter of the bone alone, when in truth so many other structures are involved that the broken bone is but a part of a pathological and mechanical complex.

The use of the X-ray has thrown much light upon this subject. It has taught, or at least corroborated, what was known by a few surgeons before, that an accurate replacing of the fractured parts is rarely attained. It is unfortunate that the public mind expects that accurate restoration of the broken bone must be accomplished. The reposition which the public, and much of the profession, thinks of is that which is similar to the reposition which is demanded from a carpenter in joining a piece of moulding, but the truth is that this is exceptionally secured. This error has been encouraged by our profession. We have reduced fractures, secured perfect functional results without palpable deformity and promulgated the impression that the bone was accurately joined. This has gone on from time immemorial. Now comes the X-ray and we see that what was going to be a good functional result is not good from a carpenter's and joiner's point of view. The operation of joining a broken and splintered piece of wood which is dead and inert and open to view is one thing, and performing the same operation upon a bone which is living, surrounded by a thickness of muscle and in close relation to fascia, nerves, and vessels, and hidden from view, is another thing.

"Reducing the fracture" unfortunately conveys with it the idea of accurate apposition. Let a patient see an X-ray picture of his broken bone, and if it does not conform to this notion, no matter how perfect the functional result, he feels that the surgeon has not done a good job. He would think so of the joiner, why not of the surgeon?

In the case of the common oblique fractures of both bones of the leg, perfect apposition is practically impossible without operation, and even then it is difficult. However, with proper treatment the patient secures a good functional result, so good that he believes he has had a good piece of joining done for him. If he had seen a picture of the bones during the process of healing he would have been horrified at the prospect.

Perfect results should be the surgeon's aim, and in the treatment of fractures he can come very near to his mark, but he should bear in mind that he is dealing with a complex problem and that the restoration of function with as little damage and danger as possible is the main point. We will do wisely to teach the public these things. Above all it should be understood that the X-ray has many dangers, among the greatest of which is the misinterpretations of the shadow which it casts upon the photographic plate; and another, and not the least, of which is the misconceptions which these shadows may cause when cast upon the sensitive human mind.

ANCIENT SPLINTS.

AS a result of excavations it has long been known that the ancient Egyptians secured excellent results in the treatment of fractures, many bones having been found showing the signs of the healing of such injuries. But little has been learned, until recently, of the methods of treatment employed in those ancient times.

Dr. G. Elliot Smith, professor of anatomy in the Egyptian Government School of Medicine, Kasr-el-Ainy, Cairo, has reported upon some splints which had been applied to fractured limbs about five thousand years ago.* These are the earliest examples of splints that have been brought to light. They were found by the Hearst Egyptian Expedition of the University of California under the direction of Dr. George A. Reisner.

During the progress of the Hearst Expedition's work at Naga-ed-der, about a hundred miles north of Luxor, a cemetery of rock-cut tombs was excavated which had been made at the time of the fifth dynasty, about 3000 B. C. In these tombs were found two sets of splints applied to broken limbs. One case was that of a fracture of the middle of the shaft of the right femur, presenting evidences which are interpreted as pointing to compound fracture. In this case the broken limb had been treated with splints passing from a point just above the fracture to a point well below the knee. Each splint consisted of a rough, slender strip of wood, wrapped about by a carefully applied linen bandage before being firmly fixed to the limb. The splints were held in position by two bandages, each tied in reef knots, one above and the other below the knee.

There was an anterior splint four inches long. This was carefully wrapped with two layers of linen bandages applied obliquely in such a way that the direction of the superficial bandage was at right angles to that of the deeper one. A large pad of linen was placed a short distance below the fracture attached to this splint. It is interesting to observe here that while there are evidences of blood on this dressing no biological reaction for blood has been secured in specimens over two hundred and fifty years old. Iron has been obtained from such stains, but no blood reaction. In addition to the anterior splint there was a postero-mesial, an antro-lateral, and a postero-lateral splint, all wrapped like the first described. Death, in this case, had occurred soon after the injury, as there was slight evidence of healing.

The other case was of a compound fracture of both bones of the forearm. In this the arm had been encased in a complete tube of splinting from a point about an inch below the upper end of the radius as far down as the carpal bones. It was made up of three pieces of wood, apparently bark, and a bundle of straws. The wound had been dressed, the forearm invested with a fine linen bandage, the three bark splints (covered with linen) applied and the interstices between the three splints filled with additional splints of straw bundles. Then a broad sheet of linen was wrapped about the complete tubing of splints and tied about with two tapes. In this forearm also there is no evidence of healing, showing that death occurred soon after the fracture.

It is interesting to note that even at the present time splints of a similar character are employed in the treatment of fractures in Egypt. Among the poor people fractures are treated by individuals who have some special skill in this field, very commonly women. Instead of double coaptation splints, as are employed in the western countries, we find here the use of three or four splints applied in such a way as to encircle the limb, just as was found in these cases which carry us back to the surgery of five thousand years ago.

* *British Medical Journal*, March 28, 1908.

ARTHRODESIS.

THE operation of arthrodesis, or the artificial production of ankylosis, has found a wide range of usefulness in the treatment of hopelessly paralyzed joints. By this operation an ankylosis is induced in joints which are unduly mobile, but free from essential disease, and in which the governing muscles are wholly, or in large part, paralyzed. In an article on this subject by Robert Jones, in the *British Medical Journal*, March 28, 1908, he reports that he has used it in over five hundred cases. He believes that the operation usually should be confined to joints which depend for their usefulness upon outside appliances and which offer no opportunity for a successful tendon operation. The object of this operation, in the lower extremities, should be to make a "flail joint" sufficiently firm to bear the weight of the body without yielding. When this can be done, the patient is able to dispense with supporting braces. Jones holds that a less successful result than this may still justify the operation. The ankle-joint, for example, may be so improved in position that less complicated apparatus will suffice to give support.

The early failures which Jones encountered arose from operating upon children who were too young. He emphasizes the principle that arthrodesis is best performed in children over

ten years of age and should never be performed in children under eight. Operations in young children result in feeble fibrous ankylosis, and later, as a result of sacrifice of cartilege, irregular growth. Bony union is not secured in young children. In children of ten or twelve bony union can be obtained, and what deformity occurs at the ankle is usually in the nature of a varus and may be prevented by placing the proper obstacle in its way.

In his judgment the joints best adapted to arthrodesis are the ankle, the mid-tarsal, and the knee-joint. In rare instances the shoulder may be thus fixed. The hip, wrist, and elbow he regards as not fitted for bony fixation. The ankle-joint should not be fixed until we know that the paralysis is complete, and depends on the destruction and not on the temporary disorganization of motor cells; that at least two years has elapsed in the case of muscles suspected of being completely paralyzed; and that apparently paralyzed, but really overstretched muscles have first undergone appropriate treatment.

THE FAMILY HAZARD.

GIVEN a good doctor and a sick man, just those two alone, and the latter is to be felicitated upon the situation. When there is introduced the complication of the anxious wife, the solicitous family, or the critical neighbor, God help both doctor and patient, and all of us! Many an important life has been sacrificed upon the altar of extra-medical solicitude, when with the same disease a poor devil without friends would recover. To harrow up the doctor's soul with the anxieties of his responsibility warps judgment, saps vitality, and introduces an extraneous element with which the doctor has no business to deal. His duty to every patient is the same; to give him his best talent to make him well. When the life of the Empress was in danger, Napoleon saw that the physician was embarrassed by his great responsibility. With his extraordinary knowledge of men and his faith in the conscientious skill of his physician he said: "She is but a woman; forget that she is Empress, and treat her as you would the wife of a citizen of the Rue St. Denis." The physician simply did as he thought was best for his patient in peace of mind and confidence, and the Empress recovered.

The best results to both doctor and patient accrue if the former can concentrate his attention upon one thing—the proper treatment of the case before him. When he has to practice feints, and exercise his ingenuity to make his conduct and practice conform to the whims of bystanders; when the demand for concealments from some and collusions with others are thrust upon him; and when his nervous system is assaulted by alarms and solicitations, the interests of his patient are jeopardized and his own days shortened.

The wise physician does the best he can for all. The wise friends of patients spare him as much annoyance as possible and aim to help rather than to hinder him in the work of his lofty calling and in the exercise of his best skill and judgment.

THE SMALL MEDICAL SOCIETY.

SOME of the best inspiration that medical men have ever received has come from the little coteries of brother practitioners who make up a medical society. The large societies serve their purpose and are necessary, but the small societies, made up of the select few, often supply inspiration for the members which could be created in no other way. The element of mutual admiration, engendered by compactness of organization, is the important thing. As a matter of fact no man really does good work unless he belongs to a mutual admiration society of some kind; it may have only two members; but the best work we do is done for the approval of someone else.

The small size of a medical society is no reproach. If it has sufficient compactness, that is closeness and harmony, its good can not be measured by its size. The fact of the existence of a small society implies that it is successful. Its members are so close that if there is lack of sympathy or profit from its meetings it falls apart and is no more. All small societies are good societies. To designate such with the appelation of "mutual admiration society," is a high compliment to its members. If our great societies were tinctured more with mutual admiration it would be good. One of the best spirits that can come among medical men is that of mutual admiration, and the little societies often contain it to an admirable degree.

"I hold every man a debtor to his profession;
He should be a help and ornament thereto."—*Bacon.*

CRIMINALS AND THEIR APPREHENSION.

THE district attorneys' offices in New York State spend thousands of dollars to convict some poor fellow who kills a man whom he thinks has wronged a silly chorus girl, but murders and still worse crimes are enacted by quacks and abortionists who receive little attention from the administrators of the law. District attorneys turn loose sleuths and all the agencies of the law to apprehend an unfortunate fellow who picks up a diamond stomacher from the dressing table of a magnate's wife but the predatory bands of criminal practitioners who flourish within the cities are scarcely molested. New York district attorneys raise heaven and earth to send men to jail for betting on horse races, but the abortionist plies his trade in every ward in the city; his advertisements and bids for business are flaunted before the eyes of the district attorneys every day as they read their daily papers; and the abortionist is interferred with under two conditions: when a private society or citizen collects all the evidence sufficient for a conviction and hands it to the district attorney, or when the abortionist kills someone and the necessity of conviction becomes a matter of public clamor and a county society furnishes the evidence. It is not the business of county societies to bear the burden of convicting the criminals. It is distinctly and decidedly that of the people and their accredited representatives.

ALCOHOL

WE have learned much of alcohol in recent years, but we have not given the public the benefit of our knowledge. We have steadily diminished the amount of alcohol used in our hospital wards until it has become almost obsolete as an internal remedy; but still the public has continued to judge the medical profession's attitude toward alcohol by the copious prescribing of it in the past and by what it sees of the doctor's habits at his club. So far as the public goes, alcohol is still approved by the medical profession. It is time to set the public straight in this matter; and if we have not agreed to cast it out entirely, much good would come if the public could know that it is now but comparatively little used as a medicine. The practical layman will understand the meaning of the fact when we tell him that in the last twenty-five years the medicine use of alcohol has decreased more than seventy-five per cent. A remedy which is being eliminated at this rate is approaching its end.

MEDICAL ERRORS.

THE erroneous medical notions of the laity were once the accepted views of the medical profession. The popular errors of to-day are the professional errors of our forefathers. For a long time the public cherishes as truth what was once believed and then relinquished by medicine. Medicine is advancing by discarding errors and acquiring new knowledge. The public has not the discernment to discard medical errors, but holds on to them, and they become of service to the charlatan in fastening himself upon the public.

TO DISGUISE BITTER MEDICINE.

IN order to administer bitter medicines we usually resort to covering them in pills, capsules, or wafers, but sometimes the liquid form is most desirable. Instead of exercising ingenuity in the direction of covering up the medicine, or disguising its taste with other materials, we may go to the physiological taste appreciation of bitterness and modify that. There are certain substances which have the power of paralyzing the terminals of the nerves of taste. Among these is gymnemic acid (C^{32} H^{55} O^{12}) a glucoside which is found in *gymnema silvistris* of the British pharmacopeia. It is also known as *mera-singi* and *kavali*.

This glucoside is similar to glycyrrhizic acid. Gymnemic acid has the curious property of temporarily destroying the sense of taste for sweetness and bitterness, although the taste for salty and astringent substances is not changed. It occurs in the form of a whitish powder which is soluble in water but poorly soluble in diluted alcohol. It is not poisonous, and so far as is known has no harmful action. After rinsing the mouth with a ten or fifteen per cent. solution of gymnemic acid in water, to which a little alcohol has been added, quinin or other bitter medicine can not be distinguished from sugar.

Observations.

Caveat Lector.

Concerning the authority of great names let us remember that the man who deserves to have weight with posterity is he who has been able to rise above the dominant errors of his own time; who, like the stately peaks of the Alps, has had poured upon his head the light of truth before its rays reached the level of common minds; who, like Pasteur, has stood upon an eminence alone and looked into the future and foreseen with the clear insight of demonstrated truth the promises to be fulfilled; or who, like Servetus, from his height of vision, saw the things which all should some day know, without himself being allowed to enjoy them with his fellow men.

The masters of science who deserve the name of greatness are they who labor on, preferring to deserve contemporaneous applause without obtaining it than to receive it without deserving it. This is a nobler state of mind than that of those who court the applause of to-day even though they must sink into oblivion to-morrow. It was Cato who observed that he would rather that posterity should inquire why no statues were erected to him than that it should inquire why they were.

He who speaks ill of his own profession, often will not bear patiently with another who does the same. The reason of this is to be found in vanity. When we malign others we self-consciously exalt ourselves above them. When one abuses his own profession he privately, in his own mind, exempts himself; but when he hears another abuse it, he is not sure that he is exempted.

A patient who had been committed to one of our hospitals for the insane was asked how he came to be there. He replied that he and all the other people in the world happened to have a slight difference of opinion; they said that he was insane, and he said that they were insane; then they put it to vote, and outvoted him, and there he was. This shows that when the majority against one is overwhelming he must have much courage of conviction to persist in his own opinions.

In dealing with a large man whose good-will you desire, take care that when he quits you he has formed a good opinion of you; when dealing with a small man, take care that he quits you with a good opinion of himself if you desire his esteem. This, however, involves two parties to the interview; and if you are large yourself, you will not be concerned one way or the other.

In the preparation of a scientific paper for presentation or publication one should play the part of two artists—first the painter and then the sculptor. The former produces his result by adding, the latter, by taking away. The author after constructing his paper may do wisely to turn sculptor and chip away until it stands out free from the dross of verbiage with which it was originally encumbered.

There are two evils which have no cure, and which in the present state of social dishonesty are as irremediable as they are unfortunate; they are that, even the most enlightened give their assent to a probable falsehood rather than to an improbable truth, and bestow their esteem upon those who have a reputation in preference to those who only deserve it.

If there is any joy which man should prize, it is the joy of relieving distress. There is but one greater, and that is the joy of preventing distress. The life of the physician is spent in the midst of both of these; and he should be the most blessed of men.

None is perfect in the eyes of all. The wise man has his follies as well as the fool,—the difference being that the follies of the wise man are known to himself but hidden from the world, while the follies of the fool are hidden from himself but known to the world. Hilarity and buoyancy are not the exclusive property of the fool but are often the attributes of genius; we are often deceived when we mistake gravity for greatness, solemnity for wisdom, and pomposity for erudition.

Beware of being spurred to success by emulation. Emulation aspires to equal, and in its efforts may strive to drag down the object of envy in order to make the contest more easy. To pursue knowledge, virtue, and success for their sakes alone, without regard to the portion of these which others have, is fraught with no hazards either to one's self or neighbor.

Pride possesses this merit—it prevents some men from being ridiculous; and this disadvantage—it makes some men ridiculous. Cultivate pride; beware of pride.

The ignorant often look up to the wise and attribute to them powers which are possessed by none, because the wise alone have made good use of the simple powers which are within the reach of all.

If there is a charlatan in your neighborhood, be thankful for his calumniation; it is the only service he will render you.

* * *

Many excellent medical authors are more occupied in writing what deserves to be read than in doing what deserves to be written.

* * *

There are two great temporal blessings in constant conflict, one being weighed against the other—health and money. Money is most envied but least enjoyed; health is most enjoyed but least envied. The superiority of health becomes more obvious when we reflect that the poorest man would not part with health for money, and that the richest, would gladly part with his money for health.

* * *

The man who has resources within himself needs friends the least, but is most apt to understand the value of friends. He also knows that no company is better than bad company, for we are more apt to catch vices than virtues, as disease is more contagious than health.

* * *

It is an ancient error to assume that what an author writes is the mirror of his mind. If the devil himself should write a book, it would be in praise of virtue, because the good would buy it for use, and the bad for ostentation. Sanitary and moral prophylaxis enjoys this great advantage in the production of its literature.

* * *

Men usually covet that particular trust which they are least likely to keep. He who thoroughly knows men, if he did the choosing himself, might with safety confide his wife to the care of one, his purse to another, and his secrets to a third; when to permit them to make their own choice would be his ruin.

* * *

The spirit of saving and the spirit of destruction have grown up side by side in the hearts of men. Medicine and war are older than history, yet history has taken but meager cognizance of the heroes of medicine and has written large the names of the heroes of war who have drenched the world with tears, manured it with blood, and the stories of whose lives have been handed down to us with precision and zeal proportionate to the mischief they have done.

* * *

Io victis! To know a man observe how he wins his object, rather than how he loses. When we fail, our pride supports us; when we succeed, it betrays us.

Items.

EDITED BY

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International Congress on Tuberculosis.—The sixth International Congress on Tuberculosis was formally opened on September 21st, over 1,500 people being present. On the stand were James S. Wilson, Secretary of Agriculture; Gen. George M. Sternberg, U. S. Army, retired, treasurer of the Congress; Dr. Lawrence M. Flick, Philadelphia, chairman of the Central Committee; Patten MacDougall, vice-provost, Edinburgh, Scotland; Dr. Abraham Jacobi, New York; Dr. Samuel G. Dixon, State health officer of Pennsylvania, and Dr. Eduardo Liceaga, of Mexico.

Commissioner MacFarland presided and welcomed the visitors on behalf of the citizens of the District of Columbia. He referred to the important step achieved by securing the law requiring registration of those afflicted with tuberculosis and free examination of sputum. He introduced General Sternberg, who gave a history of the great conquests of science over smallpox, cholera, bubonic plague and yellow fever. He called attention to the frightful mortality from tuberculosis and predicted that the present Congress and exhibition would stimulate the anti-tuberculosis crusade in all parts of the country.

The official opening of the Congress was held at the auditorium of the new National Museum, on September 28th.

When Secretary of the Treasury Cortelyou, as the personal representative of the President, declared the Congress open, there were grouped on the platform such men as Dr. Robert Koch, the discoverer of the tubercle bacilli; Dr. A. Calmette, of Paris; Prof. Bernard Hang, of Denmark; Dr. Arthur Newshole, of London; Dr. G. Sims Woodhead, of Cambridge, England; Dr. Clemens von Pirquet, Dr. R. W. Philip, of Edinburgh, founder of the first tuberculosis dispensary; Prof. L. Landouzy, Dr. N. Tendeloo, of Leyden; Dr. Simon von Unterberger, Honorary Physician to his Majesty's Court of St. Petersburg, and Dr. Camillo Callaja, of Madrid. Among the members of the diplomatic corps present was Wu Ting-Fang, the Chinese Minister.

The official welcome on behalf of the United States Government was extended by Secretary Cortelyou. He said in part:

"We are living in a day of great moral and material movements. It is a time of uplift, of widening vision, of deepening research, of broadening co-operation. The days when the people of a State or a nation sat idly by and left to desultory investigation the study of evils which gravely menaced the welfare of large numbers of people are passing away.

"The National Government has prescribed rules to prevent the spread of the disease among

its employees, and has also established Governmental sanatoria.

"The Fifty-ninth Congress, during its first session, made provision for an investigation as to the prevalence of tuberculosis among the Indians and the desirability of establishing sanatoria for the treatment of Indians afflicted with tuberculosis.

"From figures given by the United States it is estimated that since the year 1793 there have been approximately 100,000 deaths from yellow fever, whereas tuberculosis is estimated to have caused 160,000 deaths last year alone.

"Statistics show that tuberculosis in the past four years caused more than three times as many deaths in this country as occurred in action and from wounds received in action during the entire period of the Civil War."

When Dr. Robert Koch arose to respond in behalf of the German Government there was a remarkable demonstration in his honor, men and women waving hats and handkerchiefs for nearly five minutes.

"The tuberculosis situation in Germany," he said, "has become distinctly favorable during the past three decades, the mortality from tuberculosis in Prussia having been reduced practically one-half."

Dr. Jee, the Chinese delegate, declared that notwithstanding the fact that tuberculosis is prevalent in China, his government was doing little for its prevention. He hoped that the next Congress would be held in China.

President Roosevelt and Mrs. Roosevelt received the entire Congress on Friday afternoon, October 2d.

Public Lectures on Medical Topics.—A series of lectures of general interest are to be given under the joint auspices of the Medical Society of the County of Kings and the Brooklyn Institute of Arts and Sciences in the Library Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, New York. The public is invited to attend these lectures.

The dates, subjects and lecturers are as follows:

Wednesday, October 7, 1908, at 8.30 P. M. "What Can and Cannot be Accomplished by the Medical Treatment of Diseases." By Glentworth Reeve Butler, M.D.

Wednesday, October 21, 1908, at 8.30 P. M. "The Relation of Animal Experimentation to Human Life." By James P. Warbasse, M.D.

Wednesday, November 4, 1908, at 8.30 P. M. "Modern School Life in Relation to the Health of Children." By LeGrand Kerr, M.D.

Wednesday, November 18, 1908 at 8.30 P. M. "Diet in its Relation to Disease." By Henry G. Webster, M.D.

Wednesday, December 2, 1908, at 8.30 P. M. "The Unity of the Medical Sciences." By Algernon T. Bristow, M.D.

Wednesday, December 9, 1908, at 8.30 P. M. "Nursing in Acute Contagious Diseases." By James S. Waterman, M. D.

These lectures are free to the general public and no cards of admission are required.

Congestion in Lower New York.—The Committee on Congestion of Population in New York has sent to the Building Code Revision Commission a number of suggestions regarding the regulation of building construction in Manhattan. One was that the height of buildings in future should be limited either by confining high buildings to certain sections, by taxing them according to the number of their stories, or by a flat limitation as to height. It is also suggested that all buildings should be compelled to have an elevator capacity which, with a definitely fixed celerity, will empty them of all their tenants in a fixed time. A third suggestion is that to protect the constantly increasing passenger traffic vehicular traffic should be prohibited south of Chambers Street during certain business hours on all main passenger streets. Accompanying these suggestions was a résumé of an interesting investigation which the committee has made, during the last few weeks, as to building-space conditions, throughout the city, and, particularly, below Chambers Street. According to this résumé, 52 per cent. of the land area below Chambers Street is now occupied by buildings. Forty-seven per cent. is not available for new buildings, being occupied by streets and parks. One per cent. is not occupied and can still be built on. The space already built upon contains office space for 129,459 persons, factory space for 236,734 persons, as well as a store space of over 13,000,000 square feet. Thirty-five thousand persons a day and 125 a minute have been found by the committee's investigators to pass certain points in this downtown section. This traffic is greatly interfered with by the continual tearing up of the streets. In 1907 twenty-one openings were made in Wall Street alone, involving interference with traffic 364 days in the year. Thirty-four per cent. of all the office space in Manhattan is south of Cortlandt Street and Maiden Lane.

Precocity Costs Too Much.—A child that can read and write when two years old, speak four languages at five, and enter the Massachusetts Institute of Technology at ten, is evidently a remarkable infant. William J. Sidis, of Brookline, Mass., is the child who has had this marvelous and almost incredible record. His parents are Russians, a fact which, according to the popular though ill-founded notions, explains his linguistic achievements, and they are both doctors. Their profession, in turn, presumably supplies a hereditary basis for intellectuality, but it also would have led them, one might suppose, to delay rather than to hasten the mental growth of their remarkable offspring, for they must know the danger of allowing a development so obviously out of season. A few child prodigies,

indeed, have grown up to be men of talent, and even of genius, but this has rarely been the case.

Yet this child may be one of the exceptions of whom history mentions perhaps a dozen who leaped the vegetative and animal stages of human growth almost entirely, not by a rush through life that compressed years into months, but by a sudden rise to the level of maturity. Even that is a misfortune, for childhood, though not, as the platitudinists have it, the happiest part of life, yet has its joys and amenities, and it is not well for any human being to miss them.—*New York Times,* September 29, 1908.

A New Collection of Osler's Addresses.—A volume of occasional addresses by Dr. William Osler, the Regius Professor of Medicine at Oxford, entitled "An Alabama Student and other Biographical Essays," will soon be published by the Oxford University Press. The greater portion of the book deals with aspects of the life of physicians in the United States, and Professor Osler is of the opinion that in no age and in no land have the Hippocratic ideals been more fully realized than in some of the lives which he portrays. Chapters are devoted to Sir Thomas Browne, Harvey and his discovery, John Locke as a physician, "Keats the apothecary poet," and Oliver Wendell Holmes.

Coney Island Camps.—The Health Department has ordered closed the camps at Coney Island because of alleged unsanitary conditions prevailing there. This was to have been expected. While tent life is becoming very popular, but few people who live in tents have an appreciation of the importance of sanitation. They have an idea that habits which would be regarded as filthy in the house are permissible in the tent. Persons who have had a military training are about the only ones who seem capable of living decently and safely in a canvas house.

Rabid Dogs.—The Department of Health of the City of New York in 1906 received 101 rabid dogs for examination; in 1907 it received 181, and for this year the number will be about 250. All these dogs had rabies. The general impression that rabies is a rare disease is not borne out by these figures, and those who are promulgating that idea are doing a public harm.

Female Nurses for the Navy.—Orders are being prepared at the Navy Department, organizing a corps of female nurses for the Navy. A woman physician will be chief of the corps, at a salary of $1,800 a year; and 100 nurses will be engaged with salaries of from $45 to $75 a month. Candidates will report in Washington for a special course at the Naval Hospital Medical School.

Progress of Medicine.

PRACTICE OF MEDICINE.

EDITED BY
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THE SIGNIFICANCE OF OVERWEIGHT AND UNDERWEIGHT.

The influence of overweight and underweight on vitality is a subject concerning which the general practitioner as a rule has only vague ideas. To those especially who examine for life insurance will the article on this subject by Brandreth Symonds, chief medical director of the Mutual Life Insurance Company of New York, prove interesting.

Overweight or underweight are defined by the author as a deviation of more than 20 per cent. from the standard weight for the given age and height. The standard tables of height and weight were prepared in 1897 by Dr. George R. Shepherd, and were based upon the data of 74,162 applicants accepted for life insurance. The weights and heights include ordinary clothing and shoes, the difference in various individuals not causing great departure from the average.

In overweight two fundamental factors are important: (1) Percentage of the overweight; (2) Age of the individual. It may be said that as the percentage of overweight at a given age increases, the mortality, or ratio of actual deaths to expected deaths, increases. Mortality increases greatly as the weight rises 20 per cent. in excess, and to a still greater degree when the weight passes 30 per cent. in excess. Moderate degrees of overweight in persons below age 30 are not harmful, provided the party does not get actually heavier with advancing years, for without taking on the natural increase due to years he would continue to approach closer the standard later in life. Beyond 30 years of age the mortality among overweights rises rapidly, and in spite of utmost care in selection. Increasing abdominal girth, exceeding the chest at expansion, causes another serious increase in mortality.

Considering underweight, statistics show that so long as the weight is not more than 20 per cent. below the standard the effect seems to be slight, but below this the mortality rises. The influence of age is reversed among underweights; the younger ages are most affected, and the older ages are but slightly disturbed. The association of dyspepsia with underweight is a serious matter with those below 25. It is the author's belief that this combination in the young is often

indicative of incipient tuberculosis which is so small that it is not determined on physical examination. The association of underweight and tuberculous family history has long been recognized as serious, especially in the younger ages.

As to causes of death, overweights suffer from the acute infectious diseases a little more than underweights. Underweight seems to predispose to tuberculosis, or rather to fatal tuberculosis, and the reverse is the case with overweight. Diabetics are scarce among the underweights, but they are five times as numerous among the overweights. Pneumonia is nearly twice as fatal among underweights as among overweights, although the prognosis is usually regarded as more serious in an overweight than in an underweight. Taking these two factors into account it would almost appear that overweights have a certain immunity from the pneumococcus, while the underweights are more than usually susceptible. Cirrhosis of the liver is three and a half times as prevalent among overweights as in general experience, due undoubtedly to alcoholism. Bright's disease, both acute and chronic, is nearly twice as prevalent among overweights as in general experience.

As a result of his investigations the author is convinced that the same percentage of overweight is a more serious matter than if it were underweight, for the excessive weight, whether fat or muscle, is not a storehouse of reserve strength, but is a burden which has to be nourished if muscle, and which markedly interferes with nutrition and function if fat. Of course, for the best interests of health, one should be near standard weight, and that is the sermon which should be preached to patients, for within 10 per cent. of the standard is found the lowest mortality and greatest vitality.—*Medical Record,* September, 5, 1908.

PATHOLOGY OF TABES DORSALIS.

The pathogenesis of tabes dorsalis is a subject concerning which no very definite and satisfactory conclusions have been reached. A careful review of work on this subject is made by Williams, and he makes the following conclusions, based largely on the work of Nageotte, whose theories seem thus far to have most nearly approached the true explanation. He says:

1. Tabes dorsalis is a secondary degeneration in the posterior columns, due to a chronic meningitis, very probably of syphilitic nature.

2. The arrangement of the meninges surrounding the radicular nerve renders it peculiarly susceptible at that spot to mechanical or toxic injury.

3. The unequal incidence of the affection upon different fibers of the posterior root is probably due to unascertained peculiarity of structure or arrangement of fasciculi, rather than to any selective toxic influence.

4. The lesions tend toward resolution and arrest, even though the process may continue during the life of the individual.

5. With this arrest, regeneration tends to occur in the radicular nerve, the amount in the anterior root being relatively considerable while that in the posterior root is less in amount and functionally insignificant, as a rule.

6. The otherwise inexplicable vasomotor and cranial nerve symptoms and postmortem findings in this disease are shown thus to be necessary concomitants of the tabetic process.

7. The question of the pathogenesis of the polyneuritic manifestations found in tabetics is not yet answered.—*American Journal of Medical Sciences,* August, 1908.

THE URINE IN MENTAL DISEASES.

Funk examined carefully the urine of 157 patients suffering from mental diseases, making special note of the occurrence of indican and indoxyl, and has arrived at some interesting conclusions. Indicanuria was found in the course of the most varied psychoses, but was especially frequent in melancholy and depressed conditions. A parallelism between the amount of depression and the quantity of indican was only seldom possible to determine. Indoxyl occurs secondarily in the urine and is to be explained by the fact that in a condition of depression all the functions are depressed, the intestinal peristalsis is weakened, albuminous decomposition takes place, and indoxyl therefore appears in the urine. Only in certain cases is the quantity of indoxl in depressed conditions to be taken as an indicator for the grade of psychical depression. It is possible also that the secondary symptoms of autointoxication, according to their nature and intensity, can add to the severity of the underlying psychosis. The author advises for the treatment of these patients a diet of vegetables and colonic irrigation.—*Revue v neurologii, psychiatrii, etc.,* Vol. IV, p. 225. *Zentralblatt für innere Medizin,* 1908, No. 17.

NEW TEST FOR ACETONE.

Ricci has in his clinic at Rome announced a new test for acetone which is said to be fivefold more delicate than the commonly applied tests of Legal and Le Nobel. The method detects acetone in quantities of even 15 or 20 milligrams per litre. Acetone is present in normal urine only in slightest traces, and with the commonly used tests has not formerly been recognizable. By methods of investigation in the De Renzi clinic at Naples it was determined that normal urine contained constantly a daily quantity of 12 to 15 milligrams of acetone.

Ricci's test is as follows: To 10 cc. of urine in a common test tube 10 drops of acetic acid, and 10 drops of a saturated solution of sodium nitroprusside, freshly prepared, are added. Then with the test tube tilted a few drops of ammonia

are allowed to slowly run in, and to overlie the other liquid, which it does on account of its lower specific gravity. The reaction occurs at the place of contact of the two fluids, and consists of a beautifully tinted violet ring, which is greater or lesser according to the amount of acetone in the urine examined.

By control tests with prepared solutions it is found that this test will detect acetone when present in quantities of 15 to 20 milligrams per litre, as above stated, whereas with the ordinary tests the lowest quantity is about 100 milligrams per litre.—*Policlinico,* 1907, *sez. prat.*

THE SIGNIFICANCE OF CASTS IN THE URINE.

The occurrence of cylindroids in fresh urine is not at all a rare occurrence, says Mixa. It is related to albuminuria, but is by no means closely connected with it. Cylindruria may be caused, just as albuminuria, by renal lesions, disturbance of circulation, or toxins. Of influence in the causation of cylindruria is a long continued renal irritation by uric acid and the urates, and especially if the acidity is of a high degree. Surprisingly often cylindroids are found in urines containing an increased amount of thereal sulphates. More cylindroids appear in the day urine if the person concerned makes much muscular effort. Ordinarily the cylindroids are hyaline; rarely are they granular. Cylindroids vanish promptly in the urine of most individuals when a regulated diet combined with a Carlsbad cure is instituted. Their presence is not to be underestimated, however, if they continue for a long time and are not influenced by diet.—*Casopis lekaru ceskych,* 1907, p. 1351. *Zentralblatt für innere Medizin,* 1908, No. 17.

HYSTERICAL SKIN DISEASES.

Hysterical skin diseases form a most puzzling class of cases, says Hall, in discussing difficulties of diagnosis. When they present some strikingly great exaggeration diagnosis may be easily made in some cases, but very frequently such is not the case. Careful observation, however, nearly always reveals the one marked quality—*their excess.* General rules for their diagnosis are:

(1) They do not fit in with ordinary skin disease. (2) The outline of an individual patch frequently shows some angular contour, such as is never seen in spontaneous disease. (3) They are almost always in some actually or easily exposed part, visible either to passers-by, or to the domestic circle. (4) They are always in a position which can be got at easily by the hand, usually the right hand. (5) They are characterized by their rapid power of completely healing when protected, and their extremely sudden appearance either on the same or on other sites. —*Practitioner,* September, 1908.

SURGERY.

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TRANSPLANTATION OF COSTAL CARTILAGE.

Before the Society of Natural and Medical Science of Dresden, v. Mangoldt demonstrated a piece of costal cartilage that had been transplanted eight years ago. Anatomic investigations led him to believe that the cartilage was not resorbed and then regenerated, but that it had healed in the tissues in living condition and so continued. He thinks therefore that costal cartilage is suited for plastic operations *if transplanted with the perichondrium.* v. Mangoldt has used this method in five cases with excellent results (1, saddle nose; 1, defect of trachea; 3, defect of larynx). He is of the opinion therefore that in cases of antiglosis it may be used to make new joint surfaces.—*Deutsche Med. Wochenschrift,* No. 32, p. 1415.

THE TREATMENT OF GANGRENE IN STRANGULATED HERNIA.

E. M. Corner, at St. Thomas' Hospital, gives the mortality of strangulated inguinal hernia at 37 per cent., of femoral at 66 per cent., and of umbilical and ventral hernia at 80 per cent.

In 216 cases of inguinal strangulated hernia gangrene was found eight times (3.6 per cent.). In 133 strangulated femoral hernia 12 times (9 per cent.), and in 46 ventral or umbilical hernia 10 times (21.7 per cent.). Early operation with extensive resection and end to end anastomosis gave the best results. Resection followed by artificial anus give a mortality of 90 per cent.

The invagination of gangrenous or nearly gangrenous points was followed by a favorable result in two cases, but the author recommends that this method be used only in very mild cases. —*Lancet,* June 13, 1908.

PENETRATING WOUNDS OF THE GASTRO-INTESTINAL CANAL.

Braun (*Berliner Klin. Wochenschrift,* No. II, 1908), reports seven cases of penetrating wounds of the gastro-intestinal tract, of which only one died.

1. Penetrating wound of rectum. Laparotomy, suture of wound. Recovery.

2. Stab wound of abdomen; prolapse of loop of small gut; eight wounds in small intestine. Suture, irrigation. Recovery.

3. Stab wound of abdomen; prolapse of omentum; no wound of intestine. Recovery.

4. Gun-shot wound (9 mm. hunting rifle).

Intestine perforated eight times. Recovery protracted on account of phlegmon of abdominal wall.

5. Gun-shot wound (Flobert). Two wounds of transverse colon. Recovery.

6. Wound of right kidney region (Browning, pistol). Two holes in stomach, four in duodenum and wound completely through liver. Wounds of stomach and duodenum sutured and omentum fixed over them. Removal of right kidney and tamponade of liver wound. Recovery.

7. Gun-shot wound. Entrance wound under apex of heart (Browning, pistol). Bullet in first lumbar vertebra, paralysis of left leg, hæmothorax, one hole in diaphragm, two in stomach. Death.

All these cases came under observation one half to one and a half hours after injury. The author advocates operation in penetrating and gun-shot wounds of the abdomen and declines to consider whether the initial symptoms are severe or mild, and lays no great weight on the direction of the stab or gun-shot wound.

The prognosis depends entirely upon the time of operation.

THERAPEUTICS.

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DYSENTERY AND PARADYSENTERY IN INFANCY.

Dr. Wilhelm Knoepfelmacher, of Vienna, in *Medizinische Klinik,* Aug. 23, 1908, discusses the several forms of dysentery as occurring in infancy, with treatment. Referring to the change of view which clinical observations of recent years have necessitated, he states that part of the cases we have to attribute to alimentary faults, while others are due to an infection. The latter group includes the cases formerly called enteritis follicularis. He calls attention to the several forms, (1) the tropical amebic dysentery, (2) the epidemic dysentery caused by the Shiga-Kruse bacillus, occurring also endemically and sporadically; but the majority of dysentery-like cases occurring apart from epidemics, whether in small groups or scattered, are to be distinguished, by their course and especially by the results of bacteriological observations, from true dysentery. In the Caroline Children's Hospital, since attention has been given to the matter, repeatedly have such cases occurred, some mild and others of greater severity, with absence of the bacillus dysenteriæ (Shiga-Kruse) in the stools. In their cases Dr. Leiner found bacilli that often were identical with those described by Flexner. Flexner's bacillus is distinct from the Shiga-Kruse in that it forms no perceptible toxine. Upon litmus-mannit agar it shows the formation of acid, while the Shiga-Kruse bacillus does not. The author, with others, regards the Flexner bacillus as representing a group which comprises differing varieties. Nearly all cases diagnosed clinically as enteritis follicularis show germs of the Flexner group in the stools. The Shiga-Kruse bacillus had not been met with in any case in their hospital, while the Flexner bacillus was found regularly in the small endemics which, especially in summer, appeared in different parts of the hospital. It is urged that the diagnosis of acute infections of the colon is not difficult, and that it is incumbent to determine the bacteriologic cause, as to whether true dysentery, paradysentery, or other disease is present.

Energetic treatment is advised with every child that has muco-purulent-bloody stools. First of all the child must be isolated, as the disease may be spread by the stools or by whatever comes in contact with them. On that account also, strict asepsis is demanded in the nursing, the stools to be disinfected. Similarly all articles of use, nurses' and physicians' hands, etc., should be rendered aseptic. The succeeding treatment depends partly upon the bacteriologic findings. The Shiga-Kruse bacillus forms a toxine; accordingly an antitoxin has been developed which antagonizes the infection. But this antitoxin is of no use in cases of paradysentery, which are caused by bacilli of the Flexner group. As the latter form no toxine, we have no corresponding antitoxin. The author's conviction in respect to the serum is so settled, that he uses it in all cases of Shiga-Kruse dysentery in rather large doses (20 cc. one to several times daily). And in those cases that are severe from the beginning and that show toxic symptoms especially, he does not await the result of the bacteriologic examination, but employs the serum at once, although it is known that it can have effect only in cases of Shiga-Kruse dysentery, the cases caused by the Flexner group of bacilli being uninfluenced by it. Besides this our therapeutics first of all must concern local treatment of the colon. At the beginning a cathartic, such as calomel or castor oil, is given. Later, local treatment by injection is employed, using enemata of starch, or tannic acid 1-2 per cent. solution, or silver nitrate 1:5000 solution, or liquor plumbi subacetatis 10:1000.

Internally, one of the astringent tannin compounds is given, such as tannigen, tannalbin or tannopin, grs. 3-8 (0.20-0.50 gm.) three or four times daily, the dose varying with the age of the child. As a matter of course, the heart and circulation must have special attention. Injections of normal salt solution are employed early as a restorative and antagonist to toxemia. If the heart's strength fails, injections of digalen, ¼-1 fluiddrachm (1-4 cc.) per diem, also of oil of camphor, are used.

The diet of the child is important. During the first days of the illness tea only is given, whose action here as a stimulant is also needed. After several days diluted milk enriched with carbohydrate, such as a Liebig mixture or malted milk, is used. E. H. L.

GENITOURINARY DISEASES.

EDITED BY

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NEW YORK.

CONSERVATIVE TREATMENT OF TUBERCULOSIS OF THE TESTICLE.

E. Hartung (*Zscrift. f. Urologie,* B. 11, H. 8, 1908) has an interesting paper upon this subject which bears out and reinforces modern teachings concerning tuberculosis everywhere in the human body. The chief point is that conservative treatment combined with proper attention to the nourishment of the body will oftentimes avoid the damage of radical procedures. Perhaps in no part of the body has the damage of the radical measures been greater than in the testicle. In years gone by many men have been deprived of one or both testicles on the diagnosis of tuberculosis, who to-day might well be spared this mutilation.

Our author quotes Kocher, Simmonds and Haas in stating that the ages between which tuberculosis appears in the testicles are from 20 to 50, which is as a rule, precisely the period when the resistance of the body to all forms of disease is greatest and when response to treatment is ordinarily the most prompt, rapid and satisfactory.

The writer wisely states that the ground-work of successful conservative treatment of tuberculosis of the testicle is patience and comprehension upon the side of the doctor and also upon the side of the patient and his relatives. He emphatically adds that most modern surgeons have still to learn the art of true conservative treatment of tuberculous testicles.

The indication for radical operation is determined much by the age of the patient. For children, youths and men in the prime of life, it is usually to be avoided. In old age, however, the onset of tuberculosis in the testicle would justify prompt castration. The dangers of operation in old age are much less than those of allowing a node of tuberculosis to remain in the body at this time of life when resistance is on the decline. This is particularly true of the laboring class who cannot change their mode of life in any way. On the other hand, when the old man is of the wealthy class it is frequently possible for true conservative treatment to succeed, because he can command the expenses for a sanitorium and other special treatments.

The condition of the lungs is next of importance to the general health of the subject in determining the course of treatment. In a man with extensive tuberculosis of the lungs which do not promise benefit through medical care in a sanitorium, castration of the diseased organ or organs is practically the last hope and the only thing to be done. (Unless, of course, the operation itself through the anesthetic would greatly increase the process in the lungs.)

As a rule, the author believes that the testicle should be removed when the testicle proper is in whole or part really destroyed. Conservative management may be adopted for those patients in whom the testicle itself is as a whole in good health while the epididymis is alone diseased. Unfortunately, the author has but three typical cases in his paper, which, however, are of a type suggesting the great benefit of good judgment in the diagnosis and great care in the operation. In brief, his plan is to locate points of softening where pus is doubtless present, expose, incise, evacuate, drain and treat these pockets, with the result that the formation of other pockets is frequently avoided.

The author promises that later he will have another report of similar cases to offer, which may indicate that many testicles which formerly were promptly removed may be to-day saved although they may be incapacitated from the production of valid semen for impregnation purposes. The internal action, so-called internal secretion or nervous effect, of the testicle upon the body of man, like the similar action of the ovary upon the body of woman, will be preserved for the balance of life.

Paravicini is quoted as to an interesting case of double-sided tuberculosis of the seminal vesicles and epididymes. An example of the so-called "type tuberculeux vigoreux" of Roux. The patient recovered without operative intervention, notwithstanding an extensive process involving fistula formation and infection of the lungs.

Bier has described in his work on "Hyperamie als Heilmittel," a method of treating tuberculosis of the testes. He states: "Next after tuberculosis of joints, I have most frequently treated tuberculosis of the testicles with hyperemia by stagnation which is carried out in the following way: If both testicles are diseased they are drawn vigorously downward and a soft rubber tube is wound firmly about the base of the scrotum protected from the skin by cotton. It is drawn so tight that it calls forth a vigorous hyperemia by stagnation. The ends of the tube are fastened by a clamp. If only one testicle is diseased, this one is drawn strongly downward while the healthy organ is pushed upward. The tube is then passed around the base of the scrotum in much the same way" (not including, of course, the healthy testicle). "The testicles are then carried in a

well-fitted suspensory bandage. The tube is carried from one to three hours daily. It is possible in this manner to bring about a vigorous hyperemia of the testicle by stagnation.

I have used this method in enlarged and fistulous cases with benefit. In particular have I seen two cases of great enlargement of the testicle from tuberculosis healed. Less successful is this method in cases of tuberculous hardening in the epididymis which one finds so commonly in the beginning of the disease, but in these early, small, cold abscesses many are frequently opened by surgical procedure."

The article closes with the following rules or conclusions:

1. The most highly nutritious diet for the active sustenance of the general body health.
2. Treatment by change of climate with hydrotherapy, especially surf, body and sitting baths in salt water. Overactive efforts must not be indulged in.
3. Diuresis, not with drugs, but with well-balanced drinking of fluids.
4. Minute care as to the condition of the bowels.
5. Avoidance rather of overactivity of the skin (doubtless lest colds be contracted).
6. Strict continence both with regard to normal intercourse and onanism.
7. Treatment of the local condition (if postoperative) with hot fomentations, irrigations, and finally with light.

In the opinion of our author if these general details are carried out combined with Bier's method, many cases of tuberculous testicle will be saved the dangers and mutilation of castration.

The author, unfortunately, says little or nothing on the following two points: Although tuberculosis of the testicle usually begins in the epididymis and is nodular, it may attack the testicle proper first, so that the modern means of diagnosis of the presence of tuberculosis in the system should always be employed with the view of determining the exact nature of the case. This is particularly true because gonorrhea of the testicle and epididymis in a large proportion of cases leaves behind it permanent nodes in the epididymis, which, in the presence of tuberculosis elsewhere in the body, may very readily be mistaken for tuberculous foci in the testicle. It is, therefore, necessary to inquire most carefully into the complications of gonorrhea during the youth of the patient, especially such as invade the testicle.

Moreover, syphilis which usually attacks the testicle and then the epididymis, occasionally attacks the epididymis first, and sometimes with the formation of nodes. It is certainly advisable in many of these testicular lesions to subect the patients to a few weeks of active antisyphilitic treatment, because only by going fully into the details of a case may we hope to avoid errors in diagnosis.

New Books

BORDERLAND STUDIES. Vol. II. By GEORGE M. GOULD, M.D. Philadelphia, P. Blakiston's Son & Co., 1908.

This is a series of essays on subjects of medical and social interest, written by one of the scholars of medicine, who fortunately is one of the most prolific of medical authors. The writings of Dr. Gould have done an immense amount of good. In his own special field—if it can be said that a man of so great versatility can be confined to a special field—he has radiated an influence which has been felt the world over wherever the defects of the human eye are treated.

One of the most instructive essays in this book is that on the History of the House, which studies its evolution from the time men first constructed barriers against the elements. The essay on the Seven Deadly Sins of Civilization we reviewed editorially in the August number of the JOURNAL. The paper on Disease and Sin contains a large amount of information upon the extent of morbidity in the world. Dr. Gould is learned in philology, and the essays dealing with the origin and uses of words are fascinating reading and instructive. Authors can read with profit the chapter on Style. The essay entitled "Vocation or Avocation" is good reading. It displays a large familiarity with some of the methods of the regular profession which are tinctured with quackery. We wish that the author were less harsh. When he arraigns the profession so severely we almost wonder if he is talking about us. But he surely is "on to" the bombastic pretenses of some of the "leaders." However severe we may think Dr. Gould's criticisms, we believe that he is pretty generally on the right side; and that, however much his writings may be tinctured with the passing superstitions, his ideals are high. The dualistic tone which pervades, and beclouds, his ethics must be excused as we excuse it in our grandfathers. The intellectual and moral redemption of the medical profession is not yet advanced quite far enough to have purged itself of the superstitions which it drank in with its milk. J. P. W.

THE OPERATING ROOM AND THE PATIENT. By RUSSELL S. FOWLER, M.D. *Second Edition Revised and Enlarged.* Front., 284 pp., 8vo. Cloth, $2.00.

It is not strange that this little volume should appear to us in its second edition. It deserved to be born again. It is full of invaluable instruction and ought to be in the hands of every operating-room nurse in the country.

The instruction comprehends everything necessary to the well-being and safety of the patient and the necessities of the surgeon. The illustrations are well done. All the half-tones are clear and good, and the work is a credit to the author and the publisher.

One who knew and loved the father, is tempted to say to the son, in the language of his Latin prose of yore, *"Macte virtute, puer."*

HOSPITAL TRAINING SCHOOL AND THE HEAD NURSE. By CHARLOTTE A. AIKENS. Philadelphia and London, W. B. Saunders Co., 1907. 267 pp., 12mo. Cloth, $1.50.

This little work is intended as a manual for head nurses, but more particularly for the head of the training school, and contains a schedule of training comprising a three year's course. Without discussion the vexed question of the utility and necessity of three years training one cannot help commenting on the inequality of the schedule. For instance, the three years course is divided into a probationary term and a junior, intermediate, and senior term. The schedule for the probationary term requires for its mere enumeration six pages of the book, while the schedule for the three terms afterward requires but three and a half pages. Such a disproportion seems open to mild criticism. The probationary term in most hospitals is rarely longer than three months. This schedule requires of the pupil in the preparatory or probationary term: ten lessons in

principles of nursing; fifteen lessons in cooking and principles of cooking; ten lessons in bedside methods; ten lessons in therapeutics (probationary term!) and materia medica; four lessons in bacteriology (probationary term!); nine lessons in anatomy and physiology; "frequent" lessons in ethics; three lessons in the preparations of solutions; five lessons in household economy. If these girls are to be taught all these things in their probationary term, their livers will certainly be in a condition similar to the Strasbourg geese of *páté de foie gras* fame, certain it is that their assimilative functions will have to work overtime.

The suggestions for examination papers are worthy of mention. The nurse is required to write short notes on the works of Pasteur, Lister, Koch, Eberth; to state what is meant by Koch's circuit; to describe the skin, to give the general structure of the brain, to write short notes on waste and repair, the spinal cord, the nervous system, the liver (this is in one question); prepare a paper not exceeding five hundred words on the complications of wounds; write a paper of about five hundred words on constipation in infants; explain what is meant by neuritis, grand mal, petit mal, catalepsy; what is meant by the terms illusion, delusion, incoherence, acute mania, dementia, melancholia.

The author evidently intends to prepare her nurses to testify in insanity and murder cases.

Space does not serve to express the absurd lengths to which the book lends itself. It is education gone mad.

Surgery. Its Principles and Practice. By various Authors. Edited by William Williams Keen, M.D., LL.D. Vol. III. Philadelphia and London, W. B. Saunders Co., 1908. 1132 pp., 10 col. pl., 4vo. Cloth, $7.00.

The third volume of this encyclopedia of surgery is in no wise inferior to its predecessors. Perhaps the most notable of the chapters is that which has been contributed by Cushing of Baltimore. Two hundred and seventy-six pages of a total of ten hundred and ninety-three pages have been devoted to this chapter. It contains much new matter, and an account of Cushing's work in this field at the Johns Hopkins Hospital.

The concluding sentence of the chapter is noteworthy: "The advance of neurological surgery is greatly impeded by the prevailing impression in regard to its dangers and general futility, an impression due in large measure to the unsuccessful attempts of the untrained and inexpert." Other excellent chapters by masters in their line are those on diseases of the thyroid gland by Kocher, on the surgery of the larynx, trachea, and thorax by Brewer of New York, on the surgery of the breast by Finney of Baltimore. Munro of Boston has three chapters on abdominal surgery. The surgery of the stomach is treated by Mayo Robson, of the liver with its accessories by the Mayos, while Moynihan has a chapter on the surgery of the pancreas, and the concluding chapter of the volume on the surgery of the spleen. Andrews, of Chicago, has an excellent chapter on the surgery of the neck. With such a corps of contributors, it is not strange that the standard of the work is far above the average.

The typography and illustrations are equal to the reputation of the publishers.

The Conquest of Cancer. A Plan of Campaign, Being an Account of the Principles and Practice Hitherto of the Treatment of Malignant Growths by Specific of Cancrotoxic Ferments. By C. W. Saleeby, M.D., F. R. S. New York, Frederick A. Stokes Co. 1907. xxiv, 316 pp., 8vo. Cloth, $1.75 net.

"Hope shines eternal in the human breast." An old writer says "An enthusiastick or prophetick style, by reason of the eagerness of the Fancy doth not always follow the even thread of discourse." This book by Dr. Saleeby is a good example of the above observation. It is a great pity that the medical life of the author did not extend beyond the time of the introduction of tuberculin by Dr. Koch. If it had, he would have remembered the large number of unfortunate sufferers who had their hopes raised and their expectations aroused, only to have their hopes and expectations blasted. In medical history it was a fearful example of "Hope deferred that maketh the heart sick." This lesson, if he ever knew it, seems to have had no effect on Dr. Saleeby.

If Dr. Beard's observations on embryology that have led him to the belief that trypsin is a cure for cancer were presented to us in a collected and plain narrative style they might be altogether heterodox as they are said to be, but they would be nevertheless very interesting speculations. Dr. Saleeby, using the above title for the express purpose of attracting the attention of the laity by wearisome repetitions and digressions, by overloading his pages with unnecessary and uncalled for attacks on surgeons and surgery, has produced a book that will not have the desired object that he had in view. To insinuate (page 120) that mercenary motives prevent operating surgeons from giving a hearty welcome to a non-surgical treatment of malignant tumors is entirely gratuitous.

It was not necessary for the author to tell us that the book was written in haste; this is evident on every page, and accounts for important truths or maxims paraded on one page and neglected or forgotten on another. For instance, "Every smallest and meanest fact is part of the universal whole" (p. 4). Forgetting that, he derides and scoffs at the microscopist for wasting time on the subject of differences in cell formation of the various forms of malignant tumors (Chap. VIII). He groups together the great reformers of all ages from Socrates to Pasteur and Lister and Dr. Beard, to show that the work of the reformers invariably meets with neglect at first, and quotes the incident of Pasteur treating a hopeless case against the advice of his assistants. It was the case of a child with very little chance of recovery, but Pasteur gave the child the chance, and bore *without flinching* the opprobrium which her death brought to him. Forgetting the example mentioned, Dr. Saleeby then goes ahead to use up sixty pages of his book to show how difficult it is to bear opprobrium without flinching. In this last chapter the doctor does not spare "the powers that be," that is the *British Medical Journal*, the *Lancet*, the Imperial Cancer Research Fund, but openly accuses them all of stifling cancer research, for motives that need not be mentioned.

At the present time a number of substances are being tried for the cure of cancer, thyroid, thymus, liver ferments, and so forth, trypsin being one of them. The current medical literature contains reports on the use of trypsin (*Med. Annual*, 1908), but these reports are not invariably favorable. In the same volume on the opposite page is a favorable report on the use of thymus gland, while on another page in the same volume it is reported that a proteolytic ferment taken from the liver has an action on cancer cells and cancer products much more vigorous than trypsin. Later than these is a report in the *British Medical Journal* of January 11, 1908, of two cases treated by trypsin and with favorable results as far as the disappearance of the main tumor is concerned. It is from reports like these that the profession generally will form a final opinion on the subject. When the desired ferment is produced, whether it be a product of the pancreas or of the liver, or a modification of pig's blood, or whatever it is, the medical profession will eagerly welcome it.

In the meantime the pernicious influence of Dr. Saleeby's book will be widespread, for the cancer patient or the cancer patient's meddlesome friend will demand a trial of trypsin treatment whether the patient's physician deems it advisable or otherwise. The very boldness of Dr. Beard's theories impels the mind to attention, if not to assent, but Dr. Beard leaves the further application of the scientific and theoretical solutions of the problem in the hands of those who know far better how to employ them (page 61). On the other hand the audacity of Dr. Saleeby in presenting this work to the laity before it has been tested by clinical experience,

by asserting that Dr. Beard has solved the problem, that there is no hope of prolongation of life or of cure except in the ferments alone, that not less than 99.9 per cent. of all operations are to be condemned and should be abandoned, and by other equally reckless assertions, produces in the mind of the reader a condition that the plain word *dissent* does not entirely cover.

PETER SCOTT.

SURGICAL EMERGENCIES. By PERCY SARGENT, M.A., M.D., B.C., F.R.C.P. London, H. Frowde, 1907. 2 pl., 256 pp., 12vo. Cloth, $2.00.

American surgeons and pediatrists will read with some astonishment and a little amusement the following pronunciamento concerning the merits of intubation in diphtheria. "It is enough to say that the difficulty of intubation, not so much in its actual performance as in persuading the tube to stay in place and the risk of pushing membrane down in front of the tube, have led the majority of surgeons to abandon its employment as a routine measure in diphtheria."

There are not a few other statements in the booklet to which exception might be made. It is dangerous teaching to say that fracture of the patella should always be treated by open operation and suture, in the absence of special contra indication. There is no operation in surgery which should be approached with greater caution, and Gerster in his pioneer work on Antiseptic Surgery written these twenty years, if anything, understates the matter when he said that no man should undertake the operation until his technic was so perfect that he could get primary union nineteen times out of twenty. There really seems to be little need of this work. It takes up matters which are by no means surgical emergencies and discusses them inadequately. What is there which is *emergent* about a fracture of the patella? so with abscesses of the brain and other surgical matters which may indeed require promptness in treatment, but which hardly come under the head of emergencies.

THE OPERATIONS OF GENERAL PRACTICE. By EDRED M. CORNER, M.A., M.C., M.B.B.Sc., F.R.C.S., and H. IRVING PINCHES, M.A., M.B., B.C., M.R.C.S., L.R.C.P. London, H. Frowde, 1907. xii, 296 pp., 8vo. Cloth, $5.50 net.

This work is intended, as the authors state, to supplement the medical education of most graduates in medicine, to whom the opportunity of interneship in a large hospital has been denied. The authors speak in their preface of the many small operations which lie on the borderland between medicine and surgery and then in the body of the work describe the method of performing these operations.

It is somewhat startling, however, to find the radical cure for hernia and operations for tubercular glands of the neck classified among humble borderland operations.

It is true that the quite inadequate descriptions which the authors give of these operations might lead the credulous to the belief that they were "humble" operations. The actual experience would quickly undeceive them.

The operations which the general practitioner may undertake without surgical training are however well described, and the operative technic clearly stated.

The apparatus which is described in the book for the maintenance of drainage after suprapubic cystotomy—not by the way always such an humble operation—will be recognized as similar in principles to that suggested by Dawbarn many years ago, and known in this country by his name. It has gained nothing, however, by its increased complexity and those who have used Dawbarn's simple and efficient apparatus will prefer it.

A TEXT BOOK OF MINOR SURGERY. By EDWARD MILTON FOOTE, A.M., M.D. New York and London, D. Appleton & Co., 1908. xxvi, 752 pp., 8vo. Cloth, $5.00.

This is a work of over seven hundred pages, illustrated by four hundred and seven engravings from original drawings and photographs.

No small part of the value of the work lies in its illustrations. The author's experience in the Vanderbilt Clinic has afforded him an enormous amount of material upon which to draw, and we are not disappointed in the use which has been made of it. The halftone plates are well printed and the publisher has thus done justice to the author. Too often plates of this sort are execrable libels and misrepresent instead of illustrating.

The general practitioner, to whom the book is cordially recommended, will not be disappointed in his expectations. The text keeps pace with the illustrations, and the author has used his material wisely and well.

DIETS IN TUBERCULOSIS. Principles and Economies. By NOEL DEAN BARDSWELL, M.D., M.R.C.P., F.R.S. (Edin.) and JOHN ELLIS CHAPMAN, M.R.C.S., L.R.C.P. London, H. Frowde, 1908. 184 pp., 12vo. Cloth, $2.50 net.

The work described by Bardswell and Chapman covered a period of seven years. Their book is practically a report to the government through the Royal Society, and the work was provided for by a government grant.

The object of the work was to determine the following points:

1. The best principles upon which dietaries for consumptives should be constructed.

2. The nutritive value in terms of proteid, and total caloric value, of the diet which is suitable for the treatment of the average consumptive; in short, a standard diet.

3. The best lines upon which such an efficient dietary can be economically constructed, for actual use.

4. The minimum cost at which a suitable dietary can be bought retail. (Shown to be eightpence a day).

5. The comparative nutritive and economic values of various food-stuffs.

6. The comparative value of proteid, from animal and vegetable sources, in the dietetic treatment of consumption.

There are a number of tables in the book which summarize the author's researches.

A good word is said for American beef.

The book is an eminently praiseworthy contribution to our knowledge of the principles and economics of diets in tuberculosis. A. C. J.

THE TREATMENT OF DISEASE. A Manual of Practical Medicine. By REYNOLD WEBB WILCOX, M.A., M.D., LL.D. *Second Edition, Revised.* Philadelphia, P. Blakiston's Son & Co., 1908. 932 pp., 8vo. Cloth, $6.00.

Exit "Materia Medica," enter "The Treatment of Disease." Said a reviewer recently in the *New York Medical Journal:* "In a work on therapeutics there is little opportunity for originality, and anything very novel is likely to be more or less erratic."

Wilcox's book is really broad enough to be called a Practice, with the sections on treatment much amplified as compared with the conventional Practice. Etiology, pathology, diagnosis, prognosis, and symptoms are discussed before treatment is considered. Practical Medicine might have been a better title for the work than the one selected by the author.

In his introduction, Wilcox mildly scores the present-day tendencies toward specialism in internal medicine and advocates a reversion to the type of physician commonly designated as the "General Practitioner."

In the light of the author's purpose—to meet the practical needs of the physician—the book impresses us as a wholly adequate performance. Its eminently

practical character should render it peculiarly acceptable to the general practitioner. Thus, under Indicanuria, an exceedingly simple test is described, and the more elaborate ones entirely ignored.

We are glad to note that the author has restrained himself admirably in the matter of proprietaries. In view of his frequent contributions to the journals of dignified scientific articles upon rather undignified, quasi-scientific preparations, we were led to expect certain derelictions in this regard. Only one thing pains us, the paragraph on page 505 in which "ovoferrin" is exploited. We must decline to overlook this gratuitous insertion. A. C. J.

Abel's Laboratory Handbook of Bacteriology. Translated from 10th German Edition by M. H. Gordon, M.A., M.D., B.Sc. With Additions by Dr. A. C. Houston, Dr. T. J. Horder and the Translator. London, H. Frowde, 1907. x, 224 pp., 16mo. Cloth, $2.00 net.

In writing the present pocket edition of this little work the author says it has been his wish "to provide those studying bacteriology with a guide to practical laboratory work. It is not meant to take the place of a text-book or of personal instruction, but to serve as a supplement to the above, to give practical hints and to collect in practical form those technical details which so easily slip the memory."

The book begins with a short description of the microscope and how to use it. This is followed by chapters on sterilization and disinfection, the preparation of nutrient media and the various culture and staining methods.

Every step is described and all the methods have been tried out. References are given to the original articles in which the methods appeared. All of the more important pathogenic micro-organisms are taken up, with methods for their isolation, the special media needed, special staining methods, reactions on differential media and bio-chemical tests.

Dr. Horder has revised and amplified the section dealing with methods of obtaining material from the body for bacteriological purposes.

In the section dealing with the methods of examining the blood in relation to immunity, the estimation of alexin, the bactericidal, phagocytic and opsonic power of the serum are all taken up, together with the method of determining the opsonic index. A valuable chapter in the book is the one dealing with the bacteriological examination of water, milk, shellfish, vegetables, sewage, etc. This has been revised and amplified by Dr. Houston. The chapter on dust and air has also been revised and amplified by Dr. Gordon.

The book is bound in oil-cloth and well printed, but those who have used the German edition miss the interleaving which was useful for notes and new methods.

The book can be highly recommended and will be of great assistance to the laboratory worker, the veterinary surgeon, the chemist, and the physician. A. M.

Text Book of Ophthalmology. By Dr. Ernest Fuchs. Authorized Translation from the 11th Revised and Greatly Enlarged German Edition with Numerous Additions. By Alexander Duane, M.D. *Third Edition.* Philadelphia and London, J. B. Lippincott Co., 1908. xiii, 908 pp., 4 col. pl., 1 pl., 8vo. Cloth, $6.00 net.

This work, although modestly called by its author, a text book, closely approaches the sphere of a classic.

Fuchs, always good and rational, has by his revision, brought the book thoroughly up to date, and the translator has shown great good judgment in selecting so worthy a work for his most excellent efforts. His notes and comments (in parenthesis) are all good and often very pertinent and well placed.

As we read chapter after chapter, we are delighted with the subject matter, and also with the well chosen wording and phraseology adopted by Dr. Duane.

The profession certainly are greatly indebted to him for making it possible for those not familiar with the German, to have the opportunity of getting in touch with this work.

Fuchs's chapters on the Cornea and the various Internal Viscera and Tunics, together with his remarks on glaucoma and cataract, are especially good and very thorough. If the book contains any weakness, it is in that part reserved for operations, and yet even here, possibly good judgment is shown by his brevity, when we consider how difficult and frequently impossible it is to describe successfully any operative procedure.

One point which particularly impresses the reviewer as very well taken, is the author's strong prejudice in favor of the use of mercury in iritis, even when not of specific origin.

On the whole, we can but say in justice to both the author and the translator, that they have done well and given to the scientific world as a result of their joint efforts, a work of the highest standing.

The publishers, also, should be congratulated that in these days when so many poor wood pulp paper volumes are thrust upon us, that they have taken pains to send this work out in so excellent a form; good paper well printed, with cuts and plates of the finest quality and workmanship.

Nelson L. North, Brooklyn.

Progressive Medicine. Vol. 9, No. 2. June, 1907. Hernia. Surgery of the Abdomen, Exclusive of Hernia. Gynecology. Diseases of the Blood; Diathetic and Metabolic Diseases; Diseases of the Spleen, Thyroid Gland and Lymphatic System; Ophthalmology. Philadelphia and New York, Lea Bros. & Co., 1907. 381 pp., 8 vo. Paper, $1.50.

This well-known quarterly needs no introduction to the medical public, and such will not be attempted. The articles afford a broad survey of the topics treated, and are written by authorities in their own fields.

In this number, Coley reviews the work done in the study and treatment of hernia, including a discussion as to priority of the so-called "Ferguson method." This method was apparently followed and described by Wölfer and Bull and Coley, several years before Ferguson contributed his article on the subject.

Surgery of the abdomen exclusive of hernia, is treated by Foote. The subject is fairly well covered, but more space might have been devoted to diseases of the pancreas.

Gynecology is reviewed by Clark, nearly one-half of his space being devoted to a discussion of carcinoma of the uterus. He advocates early diagnosis and operation; but after long experience and mature weighing of facts, reaches the conclusion that very extensive operations for removal of neighboring infected lymph glands are unjustifiable. The ultimate result of such extensive operations is not sufficiently favorable to compensate for the greatly increased mortality of operation. Boldt's recommendation to allow post-coeliotomy patients up on the second or third day is considered; and while Clark thinks that this is too early for most cases, he recommends that they be allowed up as soon as they feel able, and much earlier than has been the custom.

Stengel treats of Diseases of the Blood; Diathetic and Metabolic Diseases; Diseases of the Spleen, Thyroid Gland, and Lympthatic System. "To our real knowledge of progressive pernicious anemia, very little has been added during the year." The distinction between it and the so-called secondary anemias is very difficult to determine, if not impossible. Leucemia in its various forms has received much attention, but the etiology remains obscure, and the treatment doubtful. X-rays have benefited some cases, arsenic others. Purpura, Hemophilia, Scurvy, Diabetes, etc., receive appropriate mention.

Jackson devotes his attention to Opthalmology. Among other points of interest he notes that cases of toxic amblyopia due to methyl alcohol are becoming

more common, owing to its increased use in the trades, and inhalation of its fumes. If it must be used, this should only be permitted in well ventilated rooms.

J. EDDY BLAKE.

DISEASES OF THE LARYNX. By HAROLD BARWELL, M.B., F.R.C.S. London, H. Frowde, 1907. xii, 266 pp., 12 pl., 12vo. Cloth, $2.00 net.

The author states in the preface that this treatise was written because "it has long seemed" to him, "that there was need of a small Manual of Diseases of the Larynx, suitable for the use of the general physician and surgeon and of the student." We are not in a position to question the reference to the dirth in Great Britain, of small text books on Laryngology; but we are duly thankful that in this country we are well supplied with several excellent manuals containing valuable information in a concise form. Again it is a most difficult task for any one to write a medical book of limited size that will be suitable for undergraduates and that will also fulfill the requirements of the physician in general practice. The same kind of information is not adapted to both, nor is it wanted by both.

The introduction of this work gives accurate and comprehensive directions for making laryngoscopic examinations, and contains many useful hints gleaned from the author's wide personal experience. The suggestion, however, that the pharynx, if hyperæsthetic, may be sprayed with a 5 or 10 per cent. solution of cocaine, to facilitate laryngoscopy, seems to us rather risky and unwise advice for the guidance of students.

The classification of diseases is unusual and somewhat arbitrary. The first group is considered under the title "Inflammation," a term too generic to be definite or helpful. It is made to include the more common catarrhal affections of the throat, and some diseases that are a rarity even to the specialist, such as Hemorrhagic Laryngitis, Pachydermia Laryngis and Dislocation of the Cricoarytenoid Joint; the reason for their insertion is not obvious. Under the same heading "Inflammation," are Non-diphtheritic Membranous Laryngitis, and Diphtheria. Of the former, we read that it "occurs especially in children between the ages of two and eight years, but a mild form is also found in young adults," and "the prognosis is very grave, worse than that of Laryngeal Diphtheria since the advent of antitoxin; about half the cases in children terminate fatally."

The majority of general practitioners, probably, never see a case of Pachydermia Laryngis, but it is termed by the author, "an important affection," and its description occupies four pages, while but three pages are allotted to Diphtheria, which possesses so much of common interest to the family physician and the specialist.

Syphilis and Tuberculosis are next discussed under the term "Granulomata." We commend the articles on Laryngeal Tuberculosis as the most thorough and instructive in the book. Radical treatment is strongly advocated, when possible. The excision by the punch-forceps, using proper local anæsthesia, does not cause pain too great for the average patient, and the wounds heal quickly, with decided relief from distressing symptoms. "When severe symptoms—dysphagia and obstructive dyspnoea—are present, the only contra-indication to active treatment is such extreme weakness as to render the patient unable to bear the slight shock of operative measures."

The remainder of the book contains articles upon Neoplasms, Stenosis, Operations, Laryngeal Complications of General Diseases and Neuroses. Under the latter subject Glottic Spasm, Laryngismus Stridulus, and Phonic Spasm are treated as distinct pathological conditions. Laryngismus Stridulus is listed also under the heading "Inflammation."

It would seem to us that both students and practitioners of general medicine would appreciate a more simple and logical classification of diseases of the larynx than is presented in this book.

WM. F. DUDLEY.

RIGHTHANDEDNESS AND LEFTHANDEDNESS. With Chapters Treating of the Writing Posture, the Rule of the Road, etc. By GEORGE M. GOULD, M.D. Philadelphia and London, J. B. Lippincott Co., 1908. 210 pp., 12 vo. Price: Cloth, $1.25 net.

Gould's book points two morals: "Let the lefthanded child alone. * * * To will and compel righthandedness in the naturally lefthanded is a crime", and "To produce lefteyedness, when obviable, by reckless operations is, in the surgeon, a scientific blunder."

The author discusses eight theories as to the origin of righthandedness and lefthandedness and declares them all unsound.

Righthandedness, says Gould, originates in righteyedness, lefthandedness in lefteyedness. Righteyedness depends upon the usual dominance of the left half-brain, in which is *usually* the speech center. Those who are lefthanded are leftbrained, so to say.

Righthandedness comes about because the right eye, as a rule, is the more perfect because of its relation to the more perfect half-brain, and is the eye which "fixes" objects. Heredity has, directly, nothing to do with it.

The cerebral centers of speech and writing, says Gould, have become localized in 94 per cent. of the population in the left half-brain through the influence of war and barter.

Righthandedness is necessarily bound up with righteyedness, rightearedness and rightfootedness. To attempt to reverse all this in a child will result in unhappiness, confusion, inexpertness and disease, and is "ludicrously impossible" anyway.

"The ambidexterity crank is deserving of a more severe punishment than any other of our criminally insane."

"There never was an ambidextrous person, but there has been produced much misery by the foolish attempt to create ambidexterity."

It is true that the six per cent. of lefthanded people are handicapped, but the attempt to make them righthanded or ambidextrous will only handicap them the more. As it is, they are either excluded or handicapped in many occupations. Many of the 6,000,000 lefthanded people in our country are mental and physical cripples, says Gould, because of the injudicious antipathy of parents and teachers.

The fact that 20 per cent. of the children in our schools (27 per cent. in Europe) are scoliotic Gould considers "as terrifying as the greatest fact in pathology, as bad, for instance, as the prevalence of tuberculosis."

School hygienists and orthopedists should be especially interested in the chapter on school hygiene, school desks, malposture, and spinal curvature.

The school child should be rescued "from the bad postures and ill-health caused by the diabolic head-tilting, right-shoulder-elevating, eye-ruining, body-bending, pelvis-cramping, spine twisting, scoliosis-provoking postures which have come down to our times." Unnatural posture produces unnatural ocular function. This is a crying reform of the day.

Gould claims that 20,000,000 of the people of the United States are scoliotic. The deforming and crippling writing position which causes the deformity is due to the bending of the body and head to the left in order that the right eye (the dominant one) may see the pen point—which bending could be obviated.

A. C. J.

PULMONARY TUBERCULOSIS and its Complications, with Special Reference to Diagnosis and Treatment, for General Practitioners and Students. By SHERMAN G. BONNEY, A.M., M.D. Philadelphia and London, W. B. Saunders Co., 1908. vi, 778 pp., 8vo. Price: Cloth, $7.00 net.

Bonney's Tuberculosis is a fine contribution to the literature designed for the use of general practitioners rather than skilled specialists. It embodies chiefly the results of a personal experience which has evidently been very large and varied.

The book carries 189 original illustrations, including 20 in colors and 60 X-ray photographs.

It is gratifying to read the statistics showing how the death rate is diminishing nearly everywhere. In Paris between 1884 and 1900 it increased somewhat. In Berlin the infantile death rate has increased, although the total mortality has been reduced.

Whether tuberculosis is actually diminishing in prevlence is another question. Bonney quotes the results of the recent tuberculin test upon apparently healthy Austrian soldiers, revealing a positive reaction in 60 per cent., certainly a suggestive fact.

It is interesting to know that positive reaction to the Calmette test has been obtained in eight out of twelve typhoid patients.

"The optimism, which so often has been stated to characterize the attitude of the consumptive even in the last hours, is usually founded upon ignorance of the impending danger. This results either through misrepresentation by the physician and family, or on account of an utter inability of the patient to comprehend statements that have been made." It seems to us that this is not the whole explanation. The optimism, together with certain other curious mental traits of the consumptive, is certainly due in large part to the influence of toxinic by-products.

Protest is offered against the inculcation, in the popular mind, of delusions concerning the non-utililty of all drugs for the pulmonary invalid.

The results of one and one-half years' experience with the bacterial vaccines are given. They are favorable.

"In the beginning an effort was made to take the indices more frequently than every ten days, but this practice was discontinued." It was found to be futile in actual practice. "In view of the large number of patients undergoing vaccine treatment, frequent observation of the indices was impossible." Besides, a disparity was noted between the clinical and opsonic findings. That is to say, many patients displaying conspicuous improvement as a result of the tuberculin injections were found to exhibit trifling variations in the opsonic index, while others whose index curve was found to undergo a satisfactory elevation failed to respond favorably to the medication. This discrepancy was considered sufficient to vitiate any practical deductions based upon the observation of the index. Therefore its study was discontinued and inquiry pursued and safe dosage determined along the lines of clinical observation.

In estimating results Bonney found it necessary to discount somewhat the psychic factor.

Hemorrhages followed the institution of treatment rather promptly in three cases. Other unpleasant symptoms were occasionally noted. There was never any loss in nutrition.

Excellent results were obtained in testicular tuberculosis.

Secondary infections were treated by autogenetic vaccines, and the results in some cases were "uniquely satisfactory." Out of thirteen *desperate* cases ten exhibited very substantial improvement. In eight of these cases there has been no retrogression during a period of one year. The early effects following injections were apparently unfortunate, but these were quite transient. Interesting details of many less severe cases are given. No patient with high initial tuberculo-opsonic index, even though much in excess of normal, failed to respond favorably. Many advanced cases presented normal indices.

Bonney concludes that the administration of bacilli emulsion is of undoubted efficacy in some cases of long-standing afebrile tuberculosis, sometimes presenting possibilities of benefit far beyond the limits of former therapeutic efforts. A. C. J.

Modern Medicine: Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D. Assisted by Thomas McCrae, M.D. Vol. IV. Diseases of the Circulatory System, Diseases of the Blood, Diseases of the Spleen, Thymus and Lymph-Glands. Philadelphia and New York, Lea & Febiger, 1908. 865 pp., 14 pl., 8vo. Price: Cloth, $6.00 net.

This fourth volume of Osler's system is entitled, I might say as a matter of course, to the general commendation which the previous volumes have received. The major part of it is devoted to disorders of the heart and circulation. Four of the chapters are written by Osler himself, including one on arteriosclerosis in the author's most brilliant style. Among the other distinguished contributors are Babcock, Hoover and Cabot. In the matter of treatment, which is most important to the average physician, the book is full, though not to repletion. Particularly wise and timely are Osler's remarks on the value and *limitations* of the Nauheim method. Less just, however, seem the statements made about strophanthus. While it is conceded that strophanthus takes first place among the substitutes for digitalis, the statement is added that, "as a rule, it is rarely found efficacious when digitalis fails." Such no doubt will be the experience of those who follow the distinguished author's recommendation to use strophanthus tincture in ten minim doses every four hours. That dosage, in the present reviewer's experience, is much too large. It is probable that the universal recognition of strophanthus as an efficient substitute for digitalis and a most valuable heart stimulant in many conditions where digitalis is contraindicated, has been delayed by the general practice of giving it in too large doses. E. E. C.

Glimpses of Medical Europe. By Ralph L. Thompson, M.D. Philadelphia and London, J. B. Lippincott Co., 1908. 236 pp., 8vo. Price: Cloth, $2.00 net.

"Glimpses of Europe" is written in a pleasantly gossipy style. It is made up partly of articles which first appeared in the St. Louis *Medical Review*. Much that is medically interesting is told of the teaching centers of Europe—London, Paris, Berlin, Vienna, Copenhagen, Stockholm, Upsala, St. Petersburg, Budapest and Liverpool.

Interesting also must have been the models described on page 152, "—pretty—with purple velvet [*sic*] eyes —big drooping—brimmed hats from which fluttered attractively long lengths of fluffy veiling, resting frequently on masses of skilfully coiffed hair of wonderful color."

We understand that purple velvet eyes have been seen even in New York. Eyes of ordinary blue are said to take on the purple velvet shade after the observer has imbibed freely of Oolong and other brands.

We discuss this matter merely because of its ophthalmologic interest.

If we were going to Europe we should like to have Dr. Thompson as companion and guide. We would surely learn everything worth knowing about European medicine at first hand and we might acquire purple vision in Paris—if nothing worse. A. C. J.

Pain: Its Causation and Diagnostic Significance in Internal Diseases. By Dr. Rudolph Schmidt. Translated and edited by Karl M. Vogel, M.D. and Hans Zinsser, A.M., M.D. Philadelphia and London, J. B. Lippincott Co., 1908. 326 pp., 8vo. Price: $3.00 net.

Schmidt's book is a systematic analysis of pain. Its causation and diagnostic significance in internal diseases are thoroughly discussed. Schmidt's masterly analysis of a difficult, subjective symptom, psychologically, sensorially and pathologically complex, is founded upon the correlation of the more exact factors of anatomic structure and pathologic change with clinical observation. Interpretation of pain in terms of the patient's temperament and individuality is the aim of the author's teaching. How the functional elements which so frequently cloud the clinical picture are to be discounted is critically considered.

There exists to-day a slight tendency to unduly sub-

ordinate subjective symptoms, chiefly because of relative unreliability, to objective estimations. Blood pathology, radiology and the rest of the resources of modern medical research in its impersonal study of diagnostic problems have perhaps taken us so far away from the sensorial and psychological spheres of suffering humans that we neglect to return often enough to the critical study of subjective phenomena. What is the good of being able to classify calculi in the hand chemically if you are not familiar with the subjective phenomena to which they give rise when in course of ureteral transit?

Rapid clinical "orientation" in the individual case and successful treatment—that the book may serve as a guide to these is the author's wish. A. C. J.

Medical Society of the State of New York.

THIRD DISTRICT BRANCH.

ANNUAL MEETING, TROY, OCTOBER 27, 1908.

Tuesday Morning. Clinics

Samaritan Hospital:
9 to 12.30, Medical and Neurological Clinic.
9 to 12.30, Surgical Clinic.

Troy Hospital:
9 to 12.30, Medical Clinc.
9 to 12.30, Surgical Clinc.

Marshall Sanitarium:
10 to 12.30, Psychiatric Clinic.

Delegates will meet at the Samaritan Hospital at 11.30 A. M. Lunch at 1 P. M.

AFTERNOON SESSION, 2 P. M.

Provisional Program.

1. President's Address, Dr. Hermon G. Gordinier, Troy.
2. "Acute Toxic Insanity Due to Drugs," Dr. Mary Gage-Day, Kingston.
3. "The Diagnosis of Incipient Pulmonary Tuberculosis," Dr. Arthur T. Laird, Albany.
4. "Poliomyelitis Anterior Acuta," with exhibition of case, Dr. La Salle Archambault, Albany.
5. "State Ownership of Municipal Water Supplies," Dr. Clark G. Rossman, Hudson.
6. "The Clinical Aspect of the Enlarged Prostate, with a Statistical Review of 67 Cases," Dr. J. N. Vander Veer, Albany.
7. "Some Unusual Cases of Venous Thrombosis," Dr. Henry Warner Johnson, Hudson.
8. "A Rather Unusual Case of Empyema," Dr. Robert Selden, Catskill.
9. "The Diagnostic Value of the Quantitative Estimation of Urea and Ammonia in the Urine," Dr. J. Holmes Jackson, Albany.
10. "The Diagnosis and Treatment of Rachitis," Dr. H. L. K. Shaw, Albany.
11. "Ophthalmia Neonatorum," Dr. John C. Wheeler, Chatham.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, SEPTEMBER 15, 1908.

1. "Present Practice in the Purification of Sewage," by Edwin J. Fort, Chief Engineer of Sewers, Brooklyn.
2. "Water Contamination by Sewage," by Daniel Lewis, M.D., of Manhattan.

SECTION ON PEDRIATICS.

Scientific Program.

1. Report of Case, Congenital Heart, F. B. Van Wart, M.D.
2. Scientific Paper, "The Blood in Infancy and Childhood," A. D. Smith, M.D.

RICHMOND COUNTY MEDICAL SOCIETY.

REGULAR MEETING, STATEN ISLAND ACADEMY, WEDNESDAY, SEPTEMBER 9, 1908.

A paper was read on "Further Progress in the Conception and Management of Syphilis," by Dr. Boleslaw Lapowski.

A collation was served.

LEWIS COUNTY MEDICAL SOCIETY.

REGULAR MEETING, LOWVILLE, SEPTEMBER 15, 1908.

A paper on "Appendicitis" was read by Dr. G. D. Gregor, Watertown.

The meeting was followed by a banquet at the Kellogg House.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, SEPTEMBER 23, 1908.

Scientific Program.

1. "The Didactics of Organic Stricture," Dr. J. B. Garlick.
2. "Gonorrhea in the Male," Dr. F. F. Burtis.

DEATHS.

I stood afar off, watching the conflict of humanity, till wise old Life came along and tossed me into the arena, saying, "There! take that, if you would know."

I pondered long the book of suffering, till Time stood before me saying, "There is a quicker way", and he thrust his flaming brand against my breast.—STRODE.

DANIEL J. CHITTENDEN, M.D., formerly of Cameron Mills, N. Y.; died at his home in Union, N. Y., September 4, aged 75.

HENRY SHELDON EDSON, M.D., died at his home, Cortland, N. Y., September 19th, after a four weeks' illness from pneumonia.

LORENZO HALE, M.D., at one time president of the Medical Society of the County of Albany, for several years editor-in-chief of the *Albany Medical Annals;* died at his home in Albany, August 31st, from paralysis, after an illness of six weeks, aged 64. A special memorial meeting of the Medical Society of the County of Albany was held on September 2d at the Albany Medical College.

ISAAC L. MILLSPAUGH, M.D., a member of the Old Richmond County Board of Health; acting assistant surgeon during the Civil War; physician of the New York City Farm Colony for more than twenty-five years; died at his home in Richmond, August 27th, aged 81.

CHARLES E. PARISH, M.D., coroner of Otsego County for two terms; for ten years a member of the Board of Town Supervisors, and for several terms chairman of the board; died at his home in Maryland, August 15th, from nephritis, after an illness of five months, aged 53.

EDGAR L. PHILLIPS, M.D., surgeon of an Illinois volunteer regiment during the Civil War; for many years a practitioner of Galesburg, Ill.; died at his home in Goshen, N. Y., September 1st, after a prolonged illness, aged 81.

EDWARD LEROY SMITH, M.D., formerly president of the Binghamton Academy of Medicine; surgeon to the Binghamton fire department; coroner of Boone County; consulting surgeon to the King's Daughters' and Lestershire hospitals; died at his home in Binghamton, August 19th, after an illness of a year, following an automobile accident, aged 44.

WILLIAM HENRY SNYDER, M.D., of Brooklyn; died in the Methodist Episcopal Hospital, Brooklyn, July 30th, five days after an operation for appendicitis, aged 25.

NEW YORK STATE JOURNAL OF MEDICINE

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Original Articles.

THE SENILE HEART AND BLOOD VESSELS.*

By JOHN L. HEFFRON, M.D.

SYRACUSE, N. Y.

METCHNIKOFF, in the preface to his recent work, "The Prolongation of Life," says: "If the ideas which have come out of my work bring about some modification in the onset of old age, the advantage can be gained only by those who are still young, and who will be at the pains to follow the new knowledge." But youth has no interest in old age. In youth the present is all absorbing and is either so satisfying as to suggest no future need, or so cruel as to deaden interest in the possibility of long years to come. Those who have passed through the period of youth and have learned valuable lessons by hard experience may shout their warnings to the youths of their time until they are hoarse and all to little effect. Metchnikoff himself acknowledges that it was "by noticing in his own case the phenomena of precocious old age" that he was led to "turn to the study of the causes of it." To those who have passed through the period of storm and stress and are still conscious of power there is a personal interest in the phenomena of advancing age. For the physician it is necessary to know what effect long life, with its varying conditions, produces in the various component tissues of man that he may care intelligently for the aged who look to him for advice.

The study of the changes that take place in the organs of circulation with advancing years has always been recognized as of the greatest importance, and in recent years an unusual amount of intelligent work has been given to the subject by many of our most brilliant scientists. The last word has not been said and it will require much investigation before the effect of simply living a normal life of long duration can be separated from that of the many adventitious factors which have engaged our study.

That degenerative changes in the arteries are commonly observed in men past fifty is a matter of universal observation. It can never be lost sight of in our examination of patients in this period of life, as it is often the fundamental fact upon which a multitude of disease phenomena rest.

The possible causes of such a condition should be studied. The investigations into the influence of heredity upon the physical make-up of man have demonstrated to us that the degree of resistance of the tissues is determined at birth and is his endowment from a long line of ancestors. This degree of natural resistance may be somewhat increased or greatly diminished by the individual. This is so true of the arterial system that the old adage of the French that "a man is as old as his arteries" has become common amongst all people. Probably we seldom see, even in a very old man, such arteries as it is conceivable nature intended should permeate man's body and which could exist except for the many unfavorable conditions which have always determined the fate of the human race. If one has been born of the right sort of ancestors and has started life with a set of arterial tubes of the very best make, it would be possible for a medical statistician to tell him how much of a chance he has of retaining them until that ideal ending called "natural death" should close his career.

From the moment of birth we are exposed to influences that write their records on the walls of our arteries. The very fact that the coats of the arteries have practically no rest from their labors and that physical exercise increases their work is the prime factor that under the best of circumstances will eventually cause degeneration.

The acute infectious diseases of childhood, scarlet fever, measles, diphtheria, influenza, and pneumonia, frequently leave behind them foci of arterial degeneration. Thayer reports that in forty per cent. of persons between ten and fifty who had had typhoid fever the radial arteries were palpable, while in a series of the same number who had not had typhoid (he does not state that they had not had other infectious diseases) the percentage was 17.5. In tuberculosis of more than a year's duration it is common to find evidences of arterial degeneration. Laborious occupations are common causes of arteriosclerosis. The most marked cases which have come under my observation have been in those who have had heavy work to do for many years. The nervous strain under which the American business man of to-day does his work is an active factor in producing arteriosclerosis. The influence of poisons generated within the body is conceded to be productive of this con-

*Read before the Fifth District Branch of the Medical Society of New York, October 15, 1908.

dition. In this connection it must be said that the almost universal habit of over-eating with its entailment of high arterial pressure, over elimination and incomplete metabolism is next to the infectious diseases in importance as a causative factor in arterial degeneration. The degeneration of the ductless glands, particularly of the thyroid and the suprarenal bodies is recognized as one of the causes of atheroma. The latest report of Adler on experimental arteriosclerosis questions this conclusion. While numerous experimenters have reported the production of atheroma in the aortas of rabbits by the intravenous injection of adrenalin, he repeats the work and, with others, finds that similar results are shown after the use of very many substances, several of which were vasodilators, and goes on to show that in rabbits not subjects of such experiments atheroma of the aorta is found in practically the same proportion of cases. Furthermore he demonstrates that no such effect can be produced by the same experimental work performed on other laboratory animals. Metchnikoff reports many instances in which the ablation of the thyroid gland has produced no ascertainable effect on the blood-vessels. This experimental work may therefore be considered not confirmatory.

Syphilis produces in the arteries a change which can generally be recognized as specific, and, while it results in a condition of the arteries which is the same so far as the weakening of its walls is concerned, the pathological condition is not identical to that found in the non-specific arteriosclerosis. The effect of poisons ingested, particularly of alcohol and lead, has always been considered of chief importance in the production of arteriosclerosis. Such an effect from alcohol is vigorously denied by many experimenters. Possibly we do not yet know the exact facts in this connection. However, he would be brave to-day who would say that the use of spirituous beverages in large amounts is not one of the causes of precocious old age in its effect on the structure of arteries and of the organs of elimination and on the brain. There are many diseases which are always associated with high arterial tension and resulting thickening in the arterial coats. In nephritis, diabetes, and gout these changes are so apparent as hardly to need more than mention. Any condition which produces high arterial tension which is persistent will eventually be followed by changes in the arterial walls. To resist the increased pressure the walls of blood vessels must be thickened, and while the process may be considered to be conservative, still nature's unaided patchwork is not usually skillful and weak places are developed and damage is done. Metchnikoff's theory of the changes in old age is interesting. He assigns it as due to the destruction of the higher cells by phagocytes. The osteoclasts are phagocytes and are active in the solution of the lime salts in the bones, which, entering the circulation, are deposited in the walls of arteries and in other tissues of those of advancing years. The stimulus which excites the phagocytes to this activity, hostile to the best interest of man, he thinks is the product of bacteria, and he has pursued the enemy and located him in the large intestine. It is a fact that the skeleton becomes lighter and that lime salts are deposited in other tissues, showing a redistribution of the bone salts. We may expect that this theory will be proved or be laid away in the lumber room at an early date.

The changes which are exhibited in the arteries as a result of the wear of years plus the many agencies which the average man rarely escapes are characterized by, first, an increase in the thickness of the walls due to thickening of the intima and more or less hypertrophy of the other coats, and, later, by degeneration of the changed tissues by a process of necrosis or of fatty degeneration and calcification commonly supervenes. While the change is a general one, it frequently varies in degree in different organs. It is not uncommon to find an extreme degree of the process in cerebral vessels while those of the trunk may be nearly normal. The changes which take place in the minute blood-vessels and in the capillaries are still under discussion. It seems reasonable to suppose that early changes should be exhibited in the capillaries, the circulation through which is of such supreme importance, but that is not yet established. It is easy to understand how the first part of the aorta is so frequently the seat of atheroma. The great force which it must sustain as the blood is pumped through it and the dilatation to which it is subjected in the back flow, keep this vessel under constant strain and the wear is greatest here. The cusps of the aortic valve are really parts of the aorta, and these early lose the delicacy of their structure and the precision with which they work and for the same reasons.

The effects of this changed condition of blood-vessels are various and often the cause of the greatest suffering of the aged. The heart undergoes hypertrophy to overcome the increased resistance of the blood-vessels. The myocardium frequently is the seat of degenerative processes which weaken it and results in a dilatation and interference with the circulation. In the stage of hypertrophy added strain from work, or from over-eating, or from violent emotions, is sufficient to snap a weakened vessel, and hemorrhages, most frequently of a cerebral blood-vessel, take place. The sclerosis of the coronary arteries occasions the most severe pain which is experienced. Sclerosis of the coronaries alone is seldom found except in victims of syphilis. This observation will aid in determining a course of treatment. The respiratory system suffers from the changed condition and edema of the lungs and dyspnea are amongst the common results of exercise in these subjects. The chronic bronchial catarrh of the aged is made easily pos-

sible by the changed condition of the circulation. The kidneys are almost never sound and may give considerable evidence of impairment. A report from Guy's Hospital indicates that sound kidneys are never seen at autopsy in men over fifty.

Thrombosis may form in any of the vessels the coats of which are roughened and if the myocardium is degenerated and valves are sclerosed emboli may be carried into distant vessels. The results of such a process are not infrequently the cause of the most agonizing pain. This will soon produce a diminution of power of the parts below the obstruction. If the thrombosis is of slow development the onset of symptoms of paralysis and of pain and of other changed sensations will appear gradually and increase until the symptoms are at their height. The aged are seldom free from some painful sensations somewhere in their bodies. Muscles may ache, joints creak, hollow organs gripe, arteries cramp and convulsive disorders come on, all due to defects in the circulation.

While so many of the multitude of symptoms presented by the aged can be accurately traced to the changed condition of the circulation, still it is an error often made to ignore the possibility of any other cause. We have learned that it is often fatal to the patient to neglect a careful examination and an accurate diagnosis in each individual case in the midst of an epidemic. Because arteriosclerosis is behind so many of the ills of the aged, one should not neglect to examine the organs in which some decided pathological process, not at all due to the condition of the blood-vessels, might be developing.

In the examination of the blood-vessels we depend upon the eye and the sense of touch. The finger taught to palpate accurately will rarely fail to estimate correctly the condition of a blood-vessel. To be able to separate by touch the artery from surrounding tissues is not to diagnose arteriosclerosis. To feel the rounded vessel below a single finger which cuts off the circulation is not enough to establish the case. The collateral circulation must be remembered. When we palpate an empty artery we must know that it is empty by compression at both proximal and distal ends. The Rivo-Rocci instrument for measurement of the pulse tension is a valuable aid to the finger. If one practice palpation and compare his results with those registered by the mercury in the tube of this instrument, he can soon learn to palpate accurately and to locate the source of the error which makes the result of his palpation different from that of the instrument.

The heart of the aged is valid so long as it can do a good day's work without embarrassment to itself or to the other organs. It is never the exquisitely beautiful machine that the normal heart of a boy at twenty is. The overwork has increased its bulk and it may be too impetuous in its manner. The strain becomes too much, and it is enfeebled and responds laggingly and irregularly to the command for work. The delicacy of the valves is lost, the tissues are thickened, lime salts are deposited about the basis of the valves and sometimes in the valves themselves, and they are no longer fitted to close the auriculo-ventricular openings completely. The weakened heart becomes unable to expend the extra power to overcome the mechanical difficulty, and dyspnea, pulmonary edema, distension of the liver, and dropsy with hydrothorax gradually develop. We must estimate the condition of the heart by the sort of work it does. If the circulation is adequately accomplished, it makes very little difference how much fuss the heart makes about doing it. It may make a noise loud enough to be heard without effort and be so irregular that no law of irregularity can be laid down, but lacking symptoms of imperfect circulation it is to be let alone to do its work in its own way. On my grandfather's farm a great many men were chopping wood. One man never failed to emit a groan or an audible expiratory sound with each blow. But he chopped wood and more than kept up his end. It's the greatest mistake to think that a heart needs treatment because it presents a murmur or is irregular. The validity of the circulation is to be first investigated, and if it is right it makes little difference what signs the heart may give upon examination.

In discussing the treatment of the senile heart and arteries one need not occupy a great deal of time, and yet I know of no field in which the good judgment of the physician is put to greater tests or his skill more sorely taxed. Life is sweeter the more you have had of it as a rule. It is the adolescents who prize the gift of life lightly. No old man would tell his sweetheart that he would die for her, but he would be very likely to swear he would live for her. And while he lived he would be entitled to live in as much comfort as was possible.

The thing which has made precocious old age in this country is the intensity of the tasks which have been set for us. Intestinal putrifaction may have aided, but buttermilk will not take the place of rest for the weary. The buttermilk habit is a good habit to inculcate in the young, that they may not suffer from bacterial poisons, but it won't do to offer it to the old as a curative remedy. Rest, rest of body and of mind, is the first therapeutic resource, but it must not be inculcated as an absolute necessity, though modified rest is a necessity. Hope must not be extinguished and your aged patient will be found more easily amenable to suggestion than the young. It must be understood that when a heart muscle is weak and tired it must have rest in order to recuperate. Then give your patient that problem, illustrating how many beats he may save his heart in twenty-four hours by physiological rest. The body in bed and the mind rebelling and keeping up high tension by

its excitability is a bad combination. The patient must know the meaning of the word repose and practice it and he must realize that power for good will come of it. When cases are not so extreme, and in cases where the heart is doing good work against the difficulties of a beginning arteriosclerosis, it is not desirable to advise complete rest. Get the patient to modify his work, to lighten the burden, to curb his ambition, if he have any left, and teach him specifically how to do it. Encourage him to exercise in ways that will dilate the peripheral vessels and so diminish arterial pressure. Have him take up golf, gardening, walking, croquet, bicycle riding on the level, all in moderation, and let him learn the beneficence of out-door work if he has never known it. When voluntary exercise is impossible massage and Swedish movements are invaluable. In fact, nothing contributes more to the well-being of the aged than massage given by a trained hand. Teach him the truths about diet. The second most important therapeutic measure, if not the first, is the reform of the table. Give him Chittenden's "The Nutrition of Man" and Thompson's "Food and its Relation to Age and Activity" to read, and encourage him from day to day to diminish his overgenerous diet. Meat soups and extracts and teas and broths ought especially to be forbidden. A little meat once a day won't harm, but a bowl of meat extract with the waste products of some other animal introduces just what the old man has difficulty in eliminating. Certain fruits are beneficial. If Van Noorden is correct, the only fruits that do not contain a benzoic ester that recombines into hippurates are apples, pears and grapes. These fruits are usually very acceptable and are certainly a valuable part of the dietary. Alcohol and all alcoholic drinks should be entirely omitted. In men who have been accustomed for a long time to use wine or beer, perhaps it is better to diminish gradually, but the sooner it is gotten rid of the better. Coffee and tea cannot be taken strong or in large quantities without increasing blood pressure and producing wakefulness. Coffee for breakfast, not strong, perhaps is allowable, and maybe the old man can take tea at midday, but later he is better without it. The same is true of tobacco. A smoke in the morning or after a mid-day dinner will not be a bad concession, but tobacco in the latter part of the day or in the evening for the aged is apt to make the heart pump with unnecessary force, to become irregular and so to prevent and disturb sleep. The patient must not take too much fluid. The water idea is being overdone. Some old people are taking much more water than they should, while many are drinking too little. Besides the fluid usually taken at meals, not more than four glasses more should be drunk, and one of these should be on rising and another on retiring. Moderation in exercise and in diet are the essentials. The aged afflicted with arteriosclerosis should never be chilled. His body clothes should be of wool or of silk. Inside these he may wear a thin meshed cotton garment if he chooses. He must never take a cold bath. He should take a hot bath every night at bed time. He should sleep in pure air and it is not desirable that it be too cool. How to get this desideratum in our climate is a difficult problem. If one can have the fresh out-door air come in over hot water radiators and can provide for the escape of used-up air by ventilators, including the use of the scuttle, he has the best the present system can offer. The aged usually do not sleep so soundly nor so long as in youth. There is not the same physiological necessity for repair, but he should be encouraged to retire early and to remain in bed until a late breakfast hour anyway, and to take such other periods of complete or modified rest as his condition warrants.

The drug treatment of this condition is often of very great importance. For the underlying pathological condition but one drug has stood the test of time, and that is iodid of potassium. It may be given in thirty to forty-five grains a day, preferably in milk between meals and at bed time. But this remedy should not be begun until a certain degree of equilibrium has been established. In the beginning of failure of the heart it is necessary to diminish the work it is called upon to do. For this purpose a brisk saline cathartic will do more than unload the bowels. If given in a concentrated solution until watery stools are obtained it will eliminate so much fluid that the volume of the blood will be lessened and thereby the amount of work for the heart will be diminished. At the same time we can use remedies which will affect the vasodilators and so diminish the resistance in the smaller vessels. For this purpose the nitrites are invaluable. If the one per cent. solution of nitroglycerin be used, it must be remembered that its effect is evanescent and to maintain its effect the dose of one or two drops must be repeated at intervals frequent enough to accomplish the purpose for which it is given. The nitrite of soda in one or more grains at a dose has the same effect and maintains its action longer. Usually there is an accompanying acidosis and an alkali is indicated. The nitrite of soda may be given with the soda salt or the potassium salt, which will be selected according to the condition of other organs. In cases of great myocardial weakness it is often necessary to administer a remedy to stimulate to activity that part of the heart which is capable of work. Strychnin is most generally useful and with it may be combined strophanthus or spartein. There are cases in which the use of some preparation of digitalis is invaluable. If the digestion is at fault, and it usually is, digalin will serve a better purpose than the cruder preparation of that drug. At the same time some vasodilator should be administered unless there is

low pulse tension, as there is in the last stages of arteriosclerosis from any cause.

For the pains that make existence miserable at times local applications of dry heat are often effective. Warm poultices are sometimes grateful, though not so quickly remedial as more intense dry heat. The alkaloids of opium are unexcelled to relieve pain in the aged and are safe in proper doses. In the aged there is not the same objection to the use of morphin as holds with younger people, but if codein will serve it should be preferred. Perhaps there is no condition which requires better judgment on the part of the physician than that of the circulatory disturbances of the aged. It is of infinitely more importance to see that the products of metabolism are properly excreted and that the ingested food has a proper relation to the needs of the body in quantity and to the impaired condition of the digestive organs in quality and in mode of preparation than it is to multiply pharmaceutical remedies.

It is not for us to judge if it be moral to prolong a feeble old life. Many an aged person whose sufferings have been relieved by his physician will bless him for the added lease of life and for the surcease from pain. The many who manifest the phenomena of precocious old age can be restored to a certain degree of usefulness. With all, the physician should insist upon the importance of frequent inventories of their physical condition that threatened evils may be avoided and the patient be permitted to enjoy a serene if not a green old age.

PERITHELIOMA OF THE CHOROID AND CILIARY BODY.*

By JEROME B. THOMAS, A.B., M.D.

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MALIGNANT disease of the globe is rare. The majority of such cases reported have been melano-sarcoma originating in the choroid.

Of 137,545 cases of eye diseases reported by Professor Fuchs, 91 cases (.066 per cent.) were sarcoma of the uveal or vascular tunic of the globe.

Fuchs also collected the reports of 259 cases of sarcoma of the uveal tract, of which 221 were located in the choroid; 22 in the ciliary body, and 16 in the iris. Of these cases of sarcoma 88 per cent. were melanotic and 22 per cent. non-pigmented.

In 147 sarcomata of the choroid Fuchs classified 65 as spindle-celled, 40 round-celled, 28 mixed, 8 fibro sarcoma, 3 myxo sarcoma, 3 chondro sarcoma. The location of the tumor was in the anterior portion of the globe in 14 cases, equatorial in 12, posterior in 74, unknown in 121.

Carcinoma of the choroid is extremely rare, and is always a secondary growth, as there is no epithelial tissue in the normal choroid. About 50 cases in all have been reported; 33 of these were collected by Parsons and Marshall in 1903, in which the primary growth in 24 was in the breast, 3 in the stomach, and 3 in the lung. These growths, according to Parsons are always flat, never forming a circumscribed tumor. The extreme rarity of metastatic carcinoma of the globe, is said to depend on the anatomical fact that the ophthalmic artery branches from the internal carotid at right angles.

In the case which I am about to report the tumor apparently originated in the choroid near its anterior border, and at the time of the removal of the eye had begun to press upon and infiltrate the ciliary muscle. Indeed, in some portions of the specimen the ciliary body and choroid were equally infiltrated, and as Dr. Oatman suggests in his pathological report, it is possible that the sarcoma may have originated in the ciliary body, a much rarer condition according to the statistics of Fuchs. Dr. Oatman has classified the tumor as an angiosarcoma, probably derived from the perithelium of the choroidal or ciliary blood vessels.

For purposes of clinical observation and classification, the development of these growths is usually considered under four stages.

1. A localized growth without detachment of the retina. During this stage the intra-ocular tension may be normal or lessened.

2. Stage of increased tension, or so-called secondary glaucoma. This condition is induced by interference with the flow of lymph from the interior of the eye. During this stage there is usually partial or complete detachment of the retina.

3. Extra-ocular extension of the growth, which is apt to occur early, owing to the nearness of the anterior perforating vessels, and to the prevalent direction of the intra-ocular lymph stream.

4. Stage of general metastasis with involvement of other organs.

CASE HISTORY.

Mrs. C. F., 34 years old, married, three healthy children. Family history negative.

She came to me August 30, 1907, at the dispensary in the Williamsburg Hospital, complaining that for the past week she had noticed loss of vision in the temporal field of the right eye. She had suffered no pain. The vision of the right eye was restricted to the recognition of large objects in the nasal and lower fields of vision with absolute blindness in the temporal and upper fields. Intra-ocular tension was slightly diminished. The pupils were equal in size and normal in reaction. There was no sign of inflammation of the globe or its tunics.

On examining the interior, after dilating the pupils with cocain, there could be seen on the nasal side and just behind the iris, bulging into the anterior segment of the globe, a rather smooth, brownish red, non-fluctuating mass. On its surface only one dark vessel could be seen. At a later examination the tumor was found to

*Read in part before the Brooklyn Pathological Society, April 9, 1908.

be slightly nodular in its lower portion, and the retina appeared to be detached along the lower portion of the fundus of the eye. In the lower part of the fundus there was a fringe of dark material, probably organized exudate, that waved slightly with the motion of the eye.

The vision of the left eye was 20/20; accepts + 0.75 sph.

At a second examination two or three days later on transillumination of the right globe with a Wuerdemann lamp, the right side of pupil appeared almost black when the light was applied over the nasal side of the globe. When applied over temporal side of the globe the pupil appeared a bright red.

In view of these findings a diagnosis of intra-ocular tumor of the globe was made, and immediate enucleation advised.

The patient chose not to have the operation performed at once as advised.

Two months later, on November 1, 1907, she returned complaining that she had experienced some pain in the right eye for the past three days, aggravated by attempts to read. The tension was distinctly above normal, and the globe was congested and tender. The vision in the right eye was limited to appreciation of light, no details of form being made out. The appearance of the tumor was unchanged, but the detachment of the retina was found to be much more extensive, involving the entire retina, excepting some areas in the upper and outer fields.

FIG. 1.—PERITHELIOMA OF CHOROID AND CILIARY BODY. THE OPEN SPACE IN CENTRE OF TUMOR INDICATES AN AREA OF NECROSIS. THE LENS IS PUSHED FORWARD. (PHOTOGRAPH BY DR. ARCHIBALD MURRAY.)

The importance of an immediate operation was impressed upon the patient, and on November 4th I enucleated the eye under ether at the Williamsburg Hospital. The recovery was rapid and uneventful.

Having in mind the possibility that the ocular tumor might be secondary to some other tumor in another organ, a careful search was made for signs or symptoms that might afford a clue.

On April 7, 1908, Dr. C. R. Hyde made an examination of the patient's uterus at my request, and reported a normal condition of that organ, excepting a moderate tear of the cervix. Both breasts were normal, and there were no large or tender axillary glands. Palpation over the stomach and liver was negative. The urine was negative.

At the present date, June 1, 1908, the patient apparently is in perfect health, robust and well nourished. Her appetite is keen, and her digestion good.

DIFFERENTIAL DIAGNOSIS.

Tension.—The intra-ocular tension affords evidence of some importance in differentiating tumors of the interior of the globe from simple serous detachment of the retina. VonGraefe noted that the tension of an eye with simple serous detachment of the retina was usually diminished, while that accompanying detachment caused by an intra-ocular tumor was at first normal (never subnormal) and later increased. According to my experience this differential point is of little value where the tension of the suspected eye is normal or subnormal. In my case I suspected a lowered tension at my examination of August 30th, and bearing in mind VonGraefe's observation I gave the patient a hopeful prognosis as to saving the globe, a prognosis which had to be reversed after transillumination had demonstrated the true nature of the disease.

In Dr. J. C. Lester's case of Sarcoma of the Choroid, which through his courtesy I was enabled to examine several times before enucleation of the globe, the intra-ocular tension was distinctly lowered, a fact which was noted by several of the examiners.

However, in obscure cases of retinal detachment accompanied by high tension it should be remembered that such tension is very rare in simple detachment, and argues in favor of an intra-ocular tumor behind the detached retina. If my case had not been seen until after November 1st, by which time the tension had risen and the retina had become extensively detached, the state of the tension would have afforded valuable aid in reaching a correct diagnosis and prognosis. In other words low tension accompanying retinal detachment affords no evidence as to the cause, but high tension in the same condition without a history of trauma affords strong evidence of intra-ocular tumor.

Increased tension seems to depend on an increased transudation of fluid from the congested choroid or ciliary body, or a change in the character of the fluid, and does not depend upon the encroachment of the tumor into the space occupied by the vitreous. It should be noted, however, that the location of the tumor in the filtration angle may induce high tension, the so-called secondary glaucoma, by pressure on this angle and consequent mechanical interference with the lymph stream.

Age.—Sarcoma and carcinoma of the choroid occur most frequently between the ages of forty and sixty, and occur very rarely in children. An intra-ocular tumor occurring in a child may be considered glioma of the retina, as a general rule.

Appearance of Tumor.—Sarcoma generally develops from the external layers of the choroid, and its growth pushes inward toward the vitreous space carrying the retina with it. In the early stages we may recognize the vessels of the tumor, and its brownish color through the

transparent retina which immediately covers it. Later, this means of diagnosis is blotted out by a complete detachment of the retina, or by clouding of the vitreous due to inflammatory products.

The vessels of a retina detached by simple exudate of serum have a peculiarly dark, almost black appearance, often wavy in conformity with the surface of the retina. The retina fluctuates when the patient's eye is moved suddenly.

Transillumination.—If the tumor is located in the anterior portion of the globe transillumination gives very great aid in reaching a diagnosis and enables one to insist confidently upon immediate removal. In case of doubt a blind eye should be removed, because the chance of recovery from such extensive detachment is too slight to weigh against the possibility of leaving a malignant growth to continue its development within the eyeball, for it must be remembered that local extension and metastasis to distant organs may take place in the early development of intra-ocular tumors by way of the vessels and lymphatics of the globe.

Prognosis.—Prognosis depends upon the stage of growth of the tumor, and upon its histogenesis. Obviously a serious prognosis must be made if the tumor is found to be carcinoma, as we must assume the existence of a primary growth in some other organ. If the growth proves to be sarcoma we may hope by an early enucleation to have removed the primary growth before metastasis has had a chance to take place.

The patient must be warned that the growth is malignant, and sure to prove fatal unless the eye is removed early, and friends of the patient should be warned of the possible dissemination of metastases from the tumor previous to the removal of the globe.

Parsons reports 17 cases of enucleation of the eye for malignant tumor in the first stage, observed for one year or more. Of these 11 remained in good health; there were two local recurrences, with one death; and four cases of metastasis in which two were in the liver, one in the stomach and skin and one in the other eye.

Pathology.—The chief interest attaching to this case is the very rare type of the neoplasm. Dr. Oatman has reached the conclusion that it is an angiosarcoma derived from the perithelium of the blood vessels. This type of sarcoma is barely mentioned in the general literature of ophthalmology. A few cases are referred to in Parson's monumental work on the Pathology of the Eye. Fuchs in the last edition of his Text Book, states that endothelioma and perithelioma have been known to occur as primary tumors of the choroid in a few cases.

I am indebted to Dr. Edward L. Oatman, Surgeon and Pathologist to the Manhattan Eye, Ear and Throat Hospital, for his careful study of the specimen, and his report on its pathology, which follows:

REPORT OF PATHOLOGICAL EXAMINATION.

The antero-nasal quadrant of the eyeball is occupied by a grayish-white tumor, the shape of which is typical of intra-ocular sarcoma of the choroid, in that it possesses a globular head, short neck and discoid base. The head has an average diameter of about 10 mm. The base occupies a circular area extending from the anterior border of the ciliary body backwards to the equator of the eye. The constriction which I have designated as the neck, is well outlined even in the substance of the ciliary body. The growth is closely connected with the sclera, the choroid and ciliary body being supplanted by tumor elements throughout the area of attachment. There is no evidence of extra-ocular extension or secondary deposits within the eye. The anterior chamber

FIG. 2.—PERITHELIOMA OF CHOROID AND CILIARY BODY. WALLS OF BLOOD-VESSELS FORMED OF COLUMNAR CELLS WHICH SURROUND THE LUMEN IN A RADIATE MANNER. (PHOTOGRAPH BY DR. ARCHIBALD MURRAY.)

is completely obliterated by forward displacement of the lens and iris, thereby closing the angle of filtration and inducing secondary glaucoma. The retina is totally detached and intimately adherent to the surface of the growth, although it is but slightly invaded by tumor cells. The subretinal space, which includes nearly all the scleral cavity not occupied by the neoplasm, is filled with a highly albuminous coagulum. The exact histological position of this tumor is not readily determined. Apparently, it developed from the choroid, although the ciliary body cannot be ignored as a possible source of origin. It possesses a well-organized, angiomatous structure, consisting almost entirely of closely packed blood vessels, the majority of which are of small size. A peculiar feature is the existence of large areas in which blood vessels of capillary size run together in straight, parallel courses. The vessels are made up of a thin endothelial membrane, ensheathed in tumor cells, so that the anatomical formation is a series of cellular tubes conveying blood. This structure constitutes an angiosarcoma. The growth, however, differs from any ocular sarcoma which I have hertofore observed, both in the uniformity of its structure and character of the cells from which it is formed. The cells are of an epitheloid type. They are columnar or oval in shape, possessing rounded, often spindle-shaped nuclei, with abundant protoplasm. They grow in a radiate manner around the blood channels in immediate contact with the endothelial membrane; thus, vessels cut in their long axis present a

foliate appearance, while in those cut transversely, cellular rosettes are seen which bear a superficial resemblance to those found in glioma retinæ. A moderate amount of granular pigment, both intra and extra cellular, is scattered throughout the growth. In some sections where cell proliferation is especially active, fusion of the cellular tubes has produced an appearance more nearly resembling ordinary sarcoma. The tumor is undoubtedly an angiosarcoma but of a most unusual type. The predominant cell probably is derived from the perithelium of the blood vessels. The growth, therefore, may be denominated a perithelioma as distinguished from the ordinary round-celled angiosarcoma or tumors of endothelial origin. Kaufman (*Spec. Path. Anat.*, 3, p. 671, 1904), discussing the various angiosarcomata, gives the following description of perithelioma: "In other cases the cells of the vascular mantels are cylindrical like epithelial cells. They radiate in an exquisite manner from the capillary blood vessels. Where neighboring mantels coalesce with one another or cell proliferation is extensive, an impression of diffuse sarcoma is given and the angiomatous character lost." This perfectly describes the microscopic appearance of the tumor we have been examining. The diagnosis is perithelioma of the choroid and ciliary body.

I wish to express my obligations to Dr. Archibald Murray for his photographs of the tumor, and to Dr. Clarence R. Hyde for his gynecological examination of the patient.

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MIXED INFECTION IN PULMONARY TUBERCULOSIS.

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THE question whether mixed infection plays an important part in the production of the varied symptoms of chronic pulmonary tuberculosis has been a subject of discussion ever since the discovery of the tubercle bacillus. It is a matter of very considerable importance on account of its direct bearing on treatment. If other organisms than the tubercle bacillus have a large share in producing the essential features of the disease every effort should be made to prevent, or, if that is impossible, to lessen their activity.

HISTORICAL.

Koch[1] came early to the conclusion that other microorganisms shared in the destructive work of the tubercle bacillus. His pupils and various other authorities[2] have agreed with him in ascribing the more serious features of phthisis, wholly or in part, to mixed infection. Certain of them[3] go so far as to claim that there is no such thing as pure tuberculous infection of the lungs and that the disease called pulmonary tuberculosis is always the result of mixed infection, even in its earliest stages. Others think that the secondary infection occurs later and the tuberculous person then becomes a consumptive. Those who do not attach much significance[4] to mixed infection believe, either that it is very rare or that it has no marked influence on the course of the disease. According to their view the tubercle bacillus is in every case the principal factor. "Er gibt den Grundton an." [5]

There are thus very marked differences of opinion regarding a question which it would seem should be readily settled by pathological and clinical studies. The difficulties in the way of its solution will be readily appreciated when we attempt to discuss the condition systematically, taking up in turn its etiology, pathology, symptoms, diagnosis and treatment.

DEFINITIONS.

The term mixed infection was first used by Brieger and Ehrlich[6] to denote a condition brought about in a patient by concurrent infection with the typhoid bacillus and the bacillus of malignant edema. It is a rather comprehensive term and used in its broadest sense includes both secondary and intercurrent infection. It does not specify which of the organisms concerned was first on the ground. In secondary infection the action of one species follows and complicates that of another. Intercurrent infections are secondary infections, transient in character, such as diphtheria or croupous pneumonia occurring in the course of phthisis. They have as a rule nothing to do with the question of chronic mixed infection.[7] The mere simultaneous presence of several varieties of bacteria in the lung or other organ does not constitute a mixed infection. Certain of them may be acting as simple saprophytes, having no pathogenic properties. In a true mixed infection two or more microbes share in producing the symptom-complex.[8]

ETIOLOGY.*

Various organisms have been assigned a share in the production of the clinical picture of consumption. Among them are the streptococcus,[9] various staphylococci,[10] the micrococcus tetragenous,[11] the pneumococcus,[12] the micrococcus semilunaris,[13] the influenza bacillus,[14] the pseudodiphtheria bacillus,[15] the bacillus pyocyaneus[16] and the colon bacillus.[17] The pyogenic cocci have however been more generally suspected than other bacteria. In the *British Medical Journal* for July 28, 1900, the following appeared in an editorial under the title, "The Role of Streptococci in Phthisis": "It is a remarkable fact that . . . the bulk of the disturbing and dangerous features of phthisis pulmonalis are not due to the tubercle bacillus, but to streptococci and other pyogenic organisms. The fever, the excavation and the expectoration, the waxy degeneration of the viscera and in great part the diarrhea are all to a greater or less extent due to streptococcus infection." At the same time reputable observers were denying that any bacteria but the tubercle bacillus played an important part in the disease.[18]

PATHOLOGY.

Local Changes.—Various morbid changes occurring in the lung during the course of phthisis have been credited to mixed infection, among them bronchitis, the production of areas of pneu-

* For predisposing causes see Prophylaxis.

monic consolidation and the formation of cavities.

Bronchitis.—Various forms of bronchitis, such varieties as acute and chronic, localized or diffuse, capillary or affecting the larger bronchi, dry or with mucuous, sero-fibrinous, or purulent secretion and the chronic form with bronchiectasis may occur in phthisis.[19] Certain of them undoubtedly may be produced by various microorganisms, but there is also no doubt that the tubercle bacillus alone is capable of producing many varieties of bronchitis,[19] either by its actual presence in the bronchi or by the production of toxins. Otherwise it would be very difficult to explain the symptoms of bronchitis which may appear during a tuberculin reaction.[19] Moreover, in certain cases there may be extensive bronchitis without any suggestion of mixed infection in the sputum.[19] Occasionally signs of localized bronchitis appear at one examination, not having been found before and are not found at subsequent examinations. Such occurrences are supposed by those who believe in mixed infection[20] to be inconsistent with the slow action of the tubercle bacillus and its tendency to hold ground once gained. On the other hand it is reasonable to suppose that they may at times be due to the irregular production of the toxins of the tubercle bacillus. Areas of bronchitis about a tuberculous focus at the apex in early cases manifesting themselves by the production of rales and generally interpreted as indicating tuberculous infiltration have also been attributed to mixed infection.[21] Examination of the sputum during life throws no light on the microbic origin of the bronchitis as it is impossible to separate the sputum formed in the bronchial tubes from that derived from cavities or other tuberculous foci. Post mortem bacteriological examinations of the bronchi can not be considered of value in this connection, for after death secretions flow from the upper parts of the respiratory tract into the bronchi.[22] According to some authorities the bronchi of healthy animals are free from germs,[23] while others assert that a great variety may be present even in health.[24]

Pneumonia.—The various exudative processes which occur in the lungs of consumptive patients possess no pathological features, which are characteristic of the action of any microorganisms beside the tubercle bacillus. They may be serous, fibrinous, cellular or desquamative (gelatinous pneumonia) or mixed forms may occur, sometimes with and sometimes without caseation.[25] There is evidence to show that they may at times be due to the action of secondary organisms,[26] while on the other hand they may be caused by the tubercle bacillus alone.[26] In certain of these lesions an association of microbes has been shown postmortem, while in others presenting identical microscopic and histologic changes only tubercle bacilli have been found. Tubercle bacilli may be the only bacteria found in lesions originally due to the action of other microorganisms.[26] On the other hand the finding of other varieties in the lesions after death does not necessarily indicate that they had any share in producing the pneumonic areas, as their occurrence in these situations may be due to agonal or post mortem invasion.[25]

It has been claimed that the condition known as acute caseous pneumonia, which clinically resembles croupous pneumonia except that there is no crisis and usually there is a fatal termination, is a manifestation of mixed infection.[27] On the other hand it has been shown that it may be produced by the tubercle bacillus alone without the auxiliary action of other bacteria.[28] It is said to be rare in certain climates as in Davos, Switzerland. Those who think it due to mixed infection have credited this fact[29] to the purity of the air, its freedom from secondary organisms and the beneficial effect exerted by it upon mixed infections already present.

The consumptive is not immune from attacks of pneumococcus pneumonia or pneumonia due to the influenza bacillus or the staphylococcus. These are, however, incidental complications and such intercurrent diseases do not necessarily have any very direct bearing on the question of chronic mixed infection. Indeed it is not proven that they affect him more seriously than the ordinary individual.[30]

Cavities.—The formation of cavities in tuberculous lungs has long been considered the work of mixed infection. It has even been thought that it never occurs as the result of pure tuberculous disease. Cavities occur rarely in experimental tuberculosis of the lungs. Prudden[31] showed that they could be produced as the result of mixed infection and it was for a time a general opinion that they could not be produced without it. More recently Marmorek[32] has caused them by the use of tubercle bacilli alone in connection with the injection of massive doses of tuberculous toxins. He believes that the action of the toxins is an essential factor.

SYMPTOMS AND COURSE.

The principal symptom which has been attributed to mixed infection is fever. Some authors believe that all fever in tuberculosis[33] is due to mixed infection, but the majority hold it responsible for the hectic type only, characterized mainly by great differences between the maximum and minimum readings, usually reaching its acme in the afternoon or evening and showing decided remissions in the mornings. Such a temperature occurring under other circumstances is very often, if not usually, a manifestation of sepsis. The frequency with which septic infection is assumed to be present in advanced phthisis affords a strong contrast to the rarity with which cocci are found in the blood and that metastatic abscesses, endocarditis and other recognized manifestations of sepsis occur.[34] So rarely are secondary organisms found in the blood of

phthisical patients, except just before death, that it has been necessary to assume that the symptoms credited to mixed infection are due to a toxemia rather than a septicemia.[35] But as one author remarks, the necrotic walls of a cavity furnish hardly ideal conditions for the absorption of toxins.[36] In a series of cases in which sputum studies were made both during febrile and afebrile periods the secondary organisms were found no more frequently at one period than another.[37] Moreover the hectic type of fever has been observed in cases in which thorough bacteriological tests of the sputum and of the tissues after death showed the presence of tubercle bacilli only.[38] On the other hand patients with pronounced cavities and who have secondary organisms in their sputum often have no constitutional symptoms whatever, are completely free from fever, look well and feel well.[39]

Other symptoms attributed to mixed infection are night sweats, rapid emaciation, excessive weakness, violent cough, profuse expectoration,[40] in fact all the symptoms of the advanced stages of consumption. One writer brings forward as argument, in favor of mixed infection, the fact that tuberculosis elsewhere in the body than in the lungs, especially in locations where secondary infection does not readily occur, is rarely attended with severe constitutional symptoms. In such cases when secondary infection does occur through the exposure of the focus to the air, marked general symptoms appear.[41] A few writers[42] have held that secondary infection in pulmonary tuberculosis not only has no deleterious effects, but may even be of benefit to the patient. It is also known that uncomplicated miliary tuberculosis can produce all of the so-called symptoms of mixed infection.[43]

DIAGNOSIS.

The diagnosis of mixed infection has usually been made upon the occurrence of the symptoms just mentioned together with the presence in the sputum of secondary organisms.

Examination of the Sputum.—The diagnosis of mixed infection should never be made from the appearance of an ordinary specimen of unwashed sputum. Unwashed sputum may contain any of the forty or more varieties of bacteria ordinarily found in the mouth including streptococci and other pathogenic varieties. From such a large variety it would seem a difficult matter to pick out the offending organisms even with the aid of the opsonic index, yet diagnoses of mixed infection are frequently made from unwashed sputum and vaccines have been prepared from it according to Wright's method. No one form of sputum is characteristic in its macroscopic appearance of a morbid process in the lung. Heavy purulent masses may be obtained from the throat or nose. Caseous bits may come from the tonsils. The sputum expectorated by many consumptives is not derived from the lungs at all, but is due to catarrhal processes in the upper air passages. Such specimens can give us no information regarding mixed infection. Microscopic examination will sometimes help us in deciding the source of a specimen, especially if it contains very few squamous epithelial cells, many pus cells, tubercle bacilli and but few secondary organisms. In such a case it may be assumed that the specimen comes from the lungs, though it will be impossible to say that the secondary organisms present were not derived from the throat or mouth. For a number of years the more careful workers[44] have given the specimens preliminary washing in salt solution before examining them for secondary organisms, the purpose being to remove in this way the extraneous layers added to the sputum kernel or central mass on its way to the mouth. At least six changes of sterile normal salt solution are generally employed. The specimen should be washed as soon as possible after it is obtained.[45] If allowed to stand in a warm room before the washing, bacteria from the outer layers readily grow into the center.

It is said that this may occur also in the bronchi if a specimen is not expectorated soon after it is formed and that this fact renders the method uncertain.[45] The mouth should be thoroughly cleansed with water before an attempt is made to secure a specimen. Washed sputum of consumptives has been found by various observers to contain streptococci or the various other pathogenic bacteria enumerated under etiology. By many authorities[46] their presence there is considered a reliable indication that mixed infection is complicating the clinical picture. Some insist on more than one examination.[46a] Others who have no difficulty in obtaining the organisms by this method think that their presence even in sputum from the tuberculous focus is not significant.[47] Many of the organisms cultivated from washed sputum have been found to have little or no virulence for animals.[47] The inference is perhaps not wholly justified that they are not therefore virulent for tuberculous human beings. Practically all would admit that when the patient reached a moribund state they might cause a terminal infection. This would not, however, be chronic mixed infection.*

The determination of the opsonic index of the comparatively few organizims found in sputum washed in the manner referred to might be expected to give satisfactory results. It has, however, rarely been attempted and at present is not a measure available for many physicians. Wright has certainly not strongly recommended it as of value for this purpose. Kjer-Peterson has lately brought some very serious criticisms upon the present technic of determining opsonic indices in general which discourage the expectation of much real light on the problem from this source.

Sorgo and others believe[49] that the ordinary

* The penumococcus has been held responsible for the occurrence of epidemic and other hemorrhages in phthisis, but the recent work done in the Phipps Institute with hemorrhagic sputum does not give much evidence in support of this theory.

methods of washing sputum are entirely inadequate and that in order to secure organisms from the lesion it is necessary repeatedly and violently to wash the sputum in many changes of salt solution until it is broken into fine bits from a majority of which the tubercle bacillus and the secondary organisms must both be cultivated, a procedure which must necessarily be very long and which requires considerable bacteriological skill. In his studies by this method he has found indications of mixed infection to be more rare, than other observers have thought. He believes[50] that often there is no true central sputum kernel which becomes surrounded with concentric layers of material derived from the upper air passages, but that the portions from the lungs and other parts of the respiratory tract may be disposed in irregularly placed planes.

A test for the presence of streptococci infection has been proposed,[51] which is somewhat analogous to the tuberculin test. As a result of the injection of a certain form of antistreptococcic serum constitutional symptoms are said to be observed which the originator of the test considers pathognomonic of the condition. It has, however, not been generally accepted as of value.

The testing of the blood for the glycogen reaction and the use of the Millon test[52] for pus which have been considered of some value in determining the presence of septic infection have not proved valuable diagnostic measures in studying cases of phthisis. The same may be said of the test for the Diazo-reaction in the urine.

We have then no absolutely reliable method of determining the presence of mixed infection in any given case.

PROPHYLAXIS AND TREATMENT.

Since the evidence is conflicting and although it has not been proven that mixed infection plays a large part in the production of the symptoms of consumption the converse proposition is also unproved, every effort should be made to increase the patient's strength and vital resistance to all bacterial infection. Catarrhal affections of the upper air passages should not be neglected,[53] vitiated air contaminated with pathogenic organisms should be avoided, in fact, the hygienic-dietetic treatment of tuberculosis offers the best protection against mixed infection.[54] Association with individuals suffering from colds, sore throats and other affections due to pyogenic and other bacteria should be avoided and when such cases occur in a sanitarium it is best to isolate them from other patients.

The value of streptolytic and antistreptococci serums is unproven. Their use has even been considered dangerous by some authors.[54] They certainly should not be employed unless the streptococcus is demonstrated in washed specimens of the sputum. The same is true of vaccines prepared according to Wright's method. In certain cases they may perhaps be useful, but at present it is not practicable to control the dosage by the opsonic index and one must rely on the course of clinical symptoms in determining whether they are of value.

In conclusion the diagnosis of mixed infection is at present a difficult matter and should not be made from the ordinary microscopic examination of a specimen of sputum.

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INSECTS AND DISEASE.*

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IT is a gruesome commonplace of existence that any given form of life can be maintained only by subsisting upon some other life. The mammalia, beginning with man, kill and prey upon each other and on the lower forms down to the end of the sentient scale. On the other hand bacteriology reveals a microscopic world in which the organisms can thrive only by parasitism upon and often by destruction of the higher forms of life. And these microscopic parasites have in turn other parasites still more minute which feed upon them. Again there are other creatures which make it their business to bring these microorganisms into congenial contact with their hosts. Of such, for instance, are animalculæ which enter the human intestinal canal, burrow into its mucous tissues, and thus make a portal of entry for bacteria. It seems that bacteria do not, as a rule, penetrate the uninjured mucous membrane; but with this aid which the animalculæ offer they may find ingress to the various tissues and organs and produce their characteristic lesions. It has been found that typhoid and cholera cases may come about in this way. The whip-worm (Trichuris) was a century ago looked upon as a cause of typhoid; its abundant presence was noted in epidemics of that disease; we know now it but played the part—and the very important part—of an intermediary. Metchnikoff has suggested that appendicitis might originate by the penetration of bacteria through the tissues which have been made permeable by intestinal parasites. The intermediaries with which we are here concerned are insects; and they play their part in various ways. The germs may stick to their bodies; or the germs may be eaten by them and deposited upon human food and drink with their excreta; or the insects may eject germs from their mouths; or the insects may die after eating the germs and the bodies of the insects may fall into food; or they may dry up, crumble, be disseminated as dust, and be either inhaled or ingested by human beings; or the insects may inject into the host disease-permeated blood which they have previously sucked from an infected animal.

First with regard to the common house fly: The tubercle bacillus is unquestionably distributed by flies. No one can doubt this who has seen the photograph which depicts a Petrie plate containing a nutrient medium upon which was deposited a fly that had previously walked in and had got the sputum of a consumptive entangled in its feet. A glass cover confined the fly. The plate was at first perfectly clear; soon colonies, visible to the naked eye and made up of uncountable bacilli, developed upon the track made by this fly.

A word seems here in place concerning any possible phthisiophobia that might arise from this fact. There is no disease from which human beings suffer regarding which a just sense of proportion is so essential. The fly certainly is a factor in the propagation of tuberculosis, but only one of a number, nor is it one of the chiefest. We have flies with us only a part of the year, whereas tuberculosis is with the race throughout the year and is contracted in various ways in one perpetual round.

It is certain that flies help greatly to swell the infant death rate. The infant mortality is greatest in fly time. There are few more congenial culture media for bacteria than milk, especially amidst the uncleanliness, which obtains in

* Read before the Medical Association of Greater New York, May 18, 1908.

the houses of many very poor people. This fluid easily becomes contaminated with the excreta of flies and with the noxious matter clinging to their feet. Tuberculosis is thus in a very appreciable manner contracted by children, as also dysenteries and diarrheas. This is especially so since we are now convinced that all kinds of diarrheas, except the comparatively few cases which are induced by mechanical causes, are due to specific germs. The work which has been accomplished by the authorities, with the co-operation of medical and other beneficent societies, has had the result that contamination of milk by flies, before it reaches the consumer, is probably rare now-a-days; the infection which results from milk through the agency of flies becomes possible mostly after delivery to the consumer.

Typhoid fever is certainly disseminated by flies, although there are of course other sources of infection. Flies pollute food and drink by means of the excreta which they convey from dung-heaps, manure pits, open closets, and of the refuse which they convey from rotting vegetable matter. They breed almost exclusively in excrement. They certainly disseminate cholera; and cases of tetanus seem to have been originated through their agency.

I have in connection with this subject been greatly interested in the work done by Daniel D. Jackson, S.B., in behalf of the Merchants' Association of New York, as presented in their report to Governor Hughes *on the pollution of New York Harbor as a menace to health by the dissemination of intestinal diseases through the agency of the common house fly.* In considering the ways in which flies act as agents in the propagation of disease, one should first take into account atmospheric impurities. Dr. Jackson has found, for instance, in one specimen of city dust, plaster, iron rust, stone-dust, cement from building operations, dirt from excavations or from badly constructed tents, ashes, house-sweepings, and dried garbage blown from barrels and cans, chimney-soot and cinder from industrial plants, excrement of horses, dogs and other animals, dried sputum of the tuberculous and of those having bronchitis, naso-pharyngeal catarrh or pneumonia in its first stages.

How pathogenic a dirty atmosphere may be is impressed upon any one who has seen the series of plates which Dr. Woodbury had exposed when he was the Metropolitan Street Cleaning Commissioner. Of two such plates one would represent atmospheric conditions in densely crowded neighborhoods, where the sanitary conditions were comparatively poor. And such a plate would presently, after exposure, teem with bacteria, moulds, fungi and every kind of impurity deleterious to human health. Its companion plate, exposed in a cleanly and salubrious district under precisely similar conditions, would be almost wholly free of impurities.

It is surely no trifling matter when all such impurities are taken up by flies and other insects and are deposited upon food stuffs which are exposed upon the thoroughfares and in the homes. There is nothing like a specific instance to illustrate a situation; Dr. Jackson supplies this when he states that he captured along the New York river front a fly which was carrying in its mouth and on its legs 100,000 fecal bacteria. "He had been behind the large packing boxes down by the wharf and was on his way to the nearest milk-pitcher."

We have long looked upon the house fly as a sort of necessary nuisance, as a sort of scavenger which people must put up with who will persist in uncleanly habits; it is only up to recently, however, that we have come to look upon it as a dangerous pest. Dr. Jackson computes that in New York City it is the occasion of some 50,000 cases of sickness, of some 650 deaths from typhoid and 7,000 deaths from other intestinal diseases. We look upon typhoid as an autumnal fever. Many an urbanite has returned from his vacation stricken with this disease, and the cause has frequently been assigned to tainted wells. Wells are certainly from time to time at fault, but not so generally as is often assumed. If we count back two months from the fall rise in typhoid deaths to the time when the disease is contracted, it will correspond exactly to the curve of prevalence of flies and to the curve of rise in deaths from diarrheal diseases of both children and adults. It will also correspond to the temperature curve; it is, therefore, erroneous to attribute these diseases to hot weather alone. Climatic conditions may predispose by reducing the vitality, but they are not the essential cause; temperature does not produce the specific germ—the causal agent—which invariably accompanies the disease. The activity of the house fly, states Jackson, is in proportion to the temperature, and the time when this insect is most active and most numerous corresponds exactly with the time of contraction of diarrhea and of typhoid fever.

Infantile disorders and the dysenteries prevail throughout civilization in hot weather; these diseases are of germ origin. The immunity from diarrhea of breast-fed babies and the frequency of its occurrence among artificially fed infants point conclusively to germ transmission in food and drink. Several epidemics of a malignant type of dysentery have radiated from a single point and have disappeared completely when proper disinfection of closets was enforced. Flies generally go but a few rods from their breeding places except in warm and sultry weather, when they extend their travels by day and flock indoors at night. Food and filth attract them equally.

Typhoid fever is disseminated whenever the bacilli in the excreta of typhoid patients are not properly destroyed by disinfection or burning. They may be carried from open or box privies by means of underground drainage into wells, streams, small lakes and reservoirs; the flies

carry the germs from such excreta to food and drink, by which means the disease is propagated. Typhoid carriers may for months and years harbor the germs, for the most part in the gall-bladder, and may by means of their evacuations spread the disease.

In order to avoid typhoid, waters should not be contaminated; in cities sanitary plumbing is essential and filters may be used. Milk should be pasteurized where one cannot be assured of its source. In rural districts large metal vessels should be used; the excreta should be covered with earth, and the vessel should be emptied daily in a place where it is certain the drainage would not be dangerous. Manure is to be put into tight pits or vaults without wire screens (which would be corroded by disinfectants); there should be an outer door from which the manure can be shoveled away. A barrel of chlorid of lime should be at hand, which should be sprinkled upon each deposit of manure. Thus the breeding of flies is prevented.*

Trachoma is transmissible by flies; as also anthrax by the horse-fly. The ordinary fly may ingest the eggs of tapeworms and of other intestinal parasites and defecate these ova in viable condition. Chantemesse declares Asiatic cholera to be conveyed by flies.

They are becoming interested in flies in London; the Public Health Committee of the County Council has received many complaints which led to an investigation and report by Dr. Hamer, who selected in different parts of London twelve centers, at each of which businesses were conducted which might be assumed to be favorable to the breeding of flies. Included in these centers were refuse depots and dust wharves, a manure depot, stables, cow houses, offensive trade premises and a jam factory. From June through October of last year observations were made in ten or more living rooms at varying distances from each center, from which it was manifest that accumulations of manure and, in less degree, of house dust and other refuse, promoted the fly nuisance, which was noticeable not only in the immediate neighborhood, but at a distance of two thousand yards or more.

Howard relates that the following method of destroying the eggs and the larvæ of the house-fly is being tried in France: residuum oil is used in privies and cess-pools. Two liters per superficial meter of the pit is mixed with water, stirred with a wooden stick and then thrown into the receptacle. This covering of oil should kill all the larvæ, prevent the entrance of flies into the pit and, at the same time, the hatching of eggs. A protective covering is thus made for the excrement, and this is said to hasten the development of anaerobic bacteria as in a true septic pit, leading in this way to the rapid liquefaction of solid matters and rendering them much more unfit for the development of other bacteria. For manure it is recommended to mix this residuum oil with earth, lime and with phosphates and spread it at different times, in the spring by preference, upon the manure of farms and stables. To destroy flies in houses, Delamarre of Paris advises that a solution of formol in water, one part to nine, be put on plates; twenty-four hours later not only the plates, but a little space around them will be covered with flies and mosquitoes which have been attracted by the mixture and its emanations. The solution should be changed every day. Of course, the best prophylaxis against flies is such cleanliness in and about houses that there will be nothing to invite these scavengers.

As to mosquito fever, which term we are now invited to use in preference to malaria: anopheles breeds in still water, in moist sand or moss, in pools by the side of open streams, in permanent accumulations of water of any sort—irrigating ditches, stagnant waters, where there is green scum, in beds of old canals, old horse troughs and the like. It conveys from the blood of a malaria patient the plasmodium, which develops in the erythrocyte; subdividing, it bursts through the cell and enters the serum as spores. When the blood of a malaria sufferer is sucked into the stomach of anopheles, the parasite undergoes sexual development and gives birth to numerous spindle-shaped "blasts," which enter the mosquito's salivary glands and are ejected with the poison into the body of the next person bitten; and if this latter unfortunate has been non-malarial, he thus contracts the disease. Prophylaxis lies in destroying all breeding places within the radius of a mile (anopheles do not usually fly to great distances). We drain or fill in with earth, or cover the surface of water with a thin film of kerosene oil, or introduce numerous sticklebacks, or gold or sunfish, which eat the larvæ of the mosquito. Houses are screened; the mosquitoes which have entered the house are destroyed; pyrethrum powder is burned upon a tin dish. Especially are mosquitoes kept from biting those who are sick with or have suffered from malaria. Anopheles bites mostly after sundown; therefore, we caution people against sitting exposed outdoors at night. In our latitudes two kinds of mosquitoes prevail: anopheles and culex. The latter does not transmit malaria. There are appreciable differences between these mosquitoes: the culex has clear wings; its palpi are short; when resting on a wall it appears humpbacked; the head and beak are not in the same plane with the body and wings, but project at an angle toward the surface of the wall. Anopheles has wings more or less spotted; its palpi (which extend along the side of the beak) are long, nearly as long as the beak; when at rest, its head and beak are on practically the same plane with its body; the insect seems to be standing on its head.

The body louse, it would seem, has possibilities of disease propagation beyond the pruritus and

* L. O. Howard, House Flies, U. S. Dept. of Agriculture. Bureau of Animal Industry.

the local lesions which it occasions. Nakao-Abe* has reported an examination of lice which had been about typhoid cases, and about those in attendance upon such cases. He immersed these insects for some minutes in a 1:1000 solution of mercuric chlorid, washed them again in sterile water and finally ground them in an aseptic mortar. The material thus triturated was inoculated into animals and upon culture media. By this means the bacillus was found in the lice of three out of four typhoid cases.

J. P. Mackie† relates the features of an epidemic of relapsing fever in which the pediculus corporis seemed a causative factor. The epidemic arose in a mixed settlement of boys and girls living under similar conditions, but inhabiting different buildings. A very high percentage of the boys fell victims to the disease in the course of a few weeks; a much smaller percentage of the girls fell ill and at infrequent intervals extending over three months. The boys differed from the girls in being infested with body lice from which the girls were almost wholly free. A well marked percentage of the lice taken from the infested wards (in which the boys lived) contained living and multiplying spirilla. The stomach of the louse was the chief seat of multiplication; and this was carried on notwithstanding active digestion, and after the disappearance of all other cellular elements. Other organs became secondarily infected. The secretions expressed from the mouths of the infected lice contained many living spirilla, which existed also in the upper digestive tract. The ovary was frequently infected, but spirilla were not found in deposited ova. With the increase of the epidemic among the girls body lice became more in evidence. With the subsidence of the epidemic among the boys the percentage of infected lice fell.

Relapsing fever we find to be generally associated with poverty-stricken, half-starved and overcrowded communities, where lice are apt to be in evidence; in mixed communities the disease seems to single out principally the poor and the unclean. In Russia, it is said, there is a great deal of this disease.

The bed bug has from time immemorial been obnoxious enough on his own account. Undoubtedly cases of smallpox epidemics are disseminated by them in cheap lodging houses, and perhaps more frequently than by any other means. And were it not for the frequent vaccinations which are made by Health Departments, epidemics of this disease would certainly be much more frequent than they are now. Tubercle bacilli have been found in the blood of the bed bug. Dr. Gerault, of the Department of Agriculture, at Washington, has found that this insect (the cimex, or clinocoris) may live for many weeks without food. During the winter it becomes comatose and may live thus beyond three months; it has been known to exist thus eight months. And the species may in this way continue its existence under adverse circumstances from season to season, in lumber camps, summer houses, empty apartments and the like. The bed bug seems to have other host relations besides those with the human race. Mice and rats, for instance, both living and dead, are attacked by them; of this more presently.

Weber has investigated certain small insects, the procidæ, which are to be found in great profusion in barns and outhouses where animals are kept. These are chewing insects, fond of farinaceous food; they live about troughs, granaries, feed-chests and mangers. There is a wingless form of them which is known popularly as the "death watch" and which has often been mistaken for lice. A tuberculous cow will deposit sputum swarming with bacilli mixed with meal over the woodwork of her stall. These insects consume this feed and fill their stomachs with saliva, sputum and meal. Weber held a single sheet of a newspaper under the bag in a room and with a few taps caught two thousand specimens. He found that some of these harbored tubercle bacilli. He injected the ingested material into the peritoneal cavity of guinea pigs and developed tuberculous disease in the latter.

It is not at all unlikely that cancer is an infectious disease. Tynes* describes what certainly seems to be an epidemic of cancer extending through a number of years in and about Fishersville, Va., the region in which he has been practicing. The work of Gaylord and Clowes in the Cancer Laboratory of the New York State Department of Health would seem to demonstrate the communicability of cancer. It is relevant, therefore, to note the paper by Webb in the *London Lancet* of March 21, 1908, entitled: "Do Fleas Spread Cancer?" He describes a case, from which he concludes:

A woman, aged fifty-eight, in good health, visited toward the end of November, 1907, a poor woman suffering from advanced rectal cancer. The visitor was severely flea-bitten on the right breast. On December 2d, Webb was shown the breast, which was inflamed and resembled that of a woman the third day after delivery, except that the nipple was somewhat retracted. The condition was diagnosed as interstitial mastitis, and after a week's treatment external signs of inflammation were gone and the breast was nearly its normal size, but in a week or so it had enlarged again. There was little pain and the size fluctuated; later blood was discharged from the nipple. On February 1st obstruction of ducts by papilloma and congestion were diagnosed. On February 17th the entire breast and an enlarged gland were removed. On microscopic examination the growth showed in part simple papilloma, but in others it had the malignant characters of a duct carcinoma. While it

* *Muenchener Med. Wochensch.*, Sept. 24, 1907.
† *Brit. Med Jour.*, Dec. 14, 1907.

* *Journal of the American Medical Association*, March 21, 1908.

may have been only a coincidence. Webb emphasizes the following points: (1) The patient was bitten by fleas from the bed of a cancer patient; (2) there followed an inflammation (though not necessarily *propter hoc*); (3) after about a fortnight a definite growth developed, ending in duct carcinoma.

The flea is a very essential factor in the transmission of the bubonic plague from the rat to man: in all probability it must be considered most of all in the propagation of the disease in its epidemic form. It sucks the bacillus pestis from the blood of the victim; but unlike other disease-transmitting insects its defecations upon the skin convey the infections. Thus those who bathe well are so much less likely to be stricken. No measures of prophylaxis which ignore the flea will be successful. Man seems to play an important part in plague propagation; the destruction and removal of rats is of course imperative; but effective prevention of the plague must eliminate the flea, which is the chief carrying agent. When the rats die the fleas desert their bodies for other rats or for human beings; besides conveying the infection from rats they no doubt transmit it from man to man, from the stricken to the healthy, without any intermediation on the part of the rat.

A gentleman of a cheerfully Darwinian turn of mind has observed that any one species of creature would, if the destructive and restrictive forces of nature were held in abeyance, and if its members were all to die natural deaths, overcome the whole earth in a discouragingly brief period of time. The rat, for example breeds three or four times a year. The female begins when from four to five months old. The average litter is ten; oftentimes it is fourteen or more. Upon a decidedly conservative estimate a single pair, breeding without check or life losses, three litters of ten each in a year, would in three years have progeny exceeding twenty millions; the eleventh generation would begin the fourth year numbering over one hundred million. And as to the propagation of the fleas which live upon the rat—where is the mathematician whose psychism is of sufficient scope to undertake so infinite a computation?

Spotted or Rocky Mountain fever occurs during the spring months in Montana and neighboring states.* Dr. Wilson and Dr. Chowning have found the specific cause to be a protozoon organism (a pyroplasma) which is transmitted from cattle to man through the agency of the tick, an insect which is responsible for Texas or cattle fever. Other diseases which are contracted through the intermediation of insects are: the sleeping sickness by the tzetze fly, elephantiasis and filariasis by the mosquito; the bubonic plague in the East by means of lice, and typhus and leprosy and other diseases prevalent among vermin-infested people, by means of fleas. I do not touch upon stegomyia, since the part it plays in the production of yellow fever is familiar.

* Rickett's Infection, Immunity and Serum Therapy.

I have in writing this paper been painfully conscious that it would hardly come in the same category with a description of a pink tea; I feel rather apologetic regarding some of its gruesome details. Nevertheless, the subject is obviously becoming very important—and in many other aspects beside the purely medical one. It would seem a far cry indeed from flies and fleas and mosquitoes to national catastrophes and empires and civilizations; yet the relation is logical and very close. Consider what devastation the bubonic plague has wrought in the world's history; how on the other hand such men as Ross and Haffkin are to-day driving it from India. Consider how malaria has for many centuries malignly influenced Grecian and Roman civilization; how Koch and his associates are now making regions in Africa, which have hitherto been deadly, perfectly safe and habitable by the white man; how the Panama Canal, which will certainly be built, could never have been cut were not Gorgas and his colleagues making and keeping the canal zone as salubrious and as free of infection as any American community.

But these things, as Kipling would say, are another story, which by reason of the time I have already taken, I may not here begin.

441 Park Avenue, New York.

Dr. Woods Hutchinson, New York, says that the parts played by the natural growth tendencies of the child and education have been much like those of the infant foods and the milk in which they are administered: The milk does the work, the food gets the credit. So it is with the playground and the schoolroom. The superiority of the playground over the schoolroom in the physical development of the child he thought needed little proof. The effect of the playground on the mental development of the child, it was thought, would not be so readily conceded; but remembering that his engine of thought, his brain, has at five years of age reached four-fifths, and at seven years reached seven-eighths of its total bulk before formal education has been applied at all, it was readily seen how little the latter was absolutely necessary. Children kept out of school for half the day make better progress in their studies, to say nothing of the improved physical and mental condition. That the child would never learn the classics in the school of play was regarded as one of its chief advantages, for these the author said represent a relic of barbarism, of caste education, of culture separating its possessor from the rest of his kind, the aim of which was selfish in self-culture and personal exaltation. The aim of modern scientific education was said to be not culture, but service, effectiveness for helpfulness to others.

The playground was claimed to be equally effective on the moral side by checking and controlling the child's impulses and interests through contact with those of his fellows. The best morality in the world to-day, it is said, is to be acquired on the playground. This would not include the Christian graces, which again, was considered an advantage of the method. Charity, faith, hope, forbearance, humility, long suffering, Dr. Hutchinson regards as the virtues of the slave, or of the woman of antiquity who has neither the power nor the courage to seek to remedy present conditions. To-day is needed the morality of the men, yes, of the master. Charity in men he claims is not a virtue, but a vice, demoralizing to the man who gives it, degrading to him who accepts. Justice and fearlessness rather than charity were said to be demanded by the new code.—*Jour. Am. Med. Assoc., Vol. 48, No. 25.*

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Editorials

THE DANGER OF SIGNING PETITIONS.

WITH the coming of the new year, the Legislature of this and many other states will convene for the purpose of enacting new legislation and modifying or repealing the laws already on the statute books.

Where the Legislature meets annually it naturally follows that an enormous number of bills are introduced, and a brief reference to the *State Journal* for March, April, May and June, of 1908, will show how many affected the profession or the public from the standpoint of the physician. Others related to sanitary matters, to pure foods and drugs, to the abuse of habit-forming drugs, as cocaine, morphine, etc. Some of these measures are worthy and should become laws; others are either poorly digested or crude efforts to cure real or imaginary ills by legislation.

Some proposed bills are purely local in character, and while they might help a particular individual or locality, if applied to the entire state, would be uncalled for or even harmful. Some of the proposed measures conflict with laws already in existence, and would cause much confusion if passed. Many are clearly unconstitutional, while others are unnecessary or vicious.

To watch these measures properly and safeguard the public and the profession, the State Society maintains a Committee on Legislation. The by-law on the subject is as follows:

Sec. 3. The Committee on Legislation shall consist of three members, including the Chairman. It shall keep in touch with professional and public opinion. Under the direction of the House of Delegates, it shall represent the Society in procuring the enforcement of the Medical Laws of the State in the interest of public health and of scientific medicine, and in procuring the enactment of such medical laws as will best secure and promote the welfare of the whole people.

The County Societies also maintain such committees, and if, as is shown by the by-laws of New York County, they act in conjunction with the state organization, how much more important is it that the individual should so act and not act on his individual responsibility. New York County by-laws on the subject are:

Chapter X. Article 1. The Committee on Legislation shall keep itself informed regarding all bills of a medical character pending in the Legislature and shall report upon the same to the Comitia Minora. Under direction of the Comitia Minora, it shall employ all honorable means in its power to defeat such bills as are deemed detrimental to the State, the people, the medical profession, or the Society, and it shall actively use its influence to secure the passage of such other bills as may be deemed desirable and are supported by the State Society.

Article 2. It shall make an annual report to the Comitia Minora at its meeting immediately preceding the Annual Meeting of the Society, and shall report at such other times as the Comitia Minora may direct.

Article 3. Both the Committee on Legislation and the Comitia Minora shall work in harmony with the Committee on Legislation of the State Society, and in questions of Legislation shall be subordinate to it.

Article 4. Six members shall constitute a quorum.

These committees employ many means to present arguments to the legislators for or against proposed legislation, among them being the signing and forwarding to the Legislature of properly worded petitions. This method, however, is also employed by those who desire to promote public sentiment for or against proposed legislative measures, and very frequently medical men are asked to sign such petitions. A request to sign may be made by a friend, and for that reason the signature may be given without any real, careful thought being accorded to the proposed measure; or the petition may be presented by a plausible and tactful agent, who may explain all the benefits and omit all the disadvantages of the bill if it should become a law.

Doctors are busy men. Most legislation is more or less complicated, and a simple, harmless-appearing measure might prove most serious if enacted into law and strictly interpreted by the courts. The effects may be far-reaching; the results produced most unexpected, and unless great care is exercised many will find to their sorrow that their approval has been secured for measures which, when they have had time to study them carefully, meet with their hearty disapproval or condemnation. Perhaps they

may ask to have their signatures removed from the petition; perhaps they may prefer to be misrepresented rather than go further in the matter: but how much wiser it would be for the doctor, when asked to approve or disapprove of impending or proposed legislation, to refuse to sign such petitions, and await the action of the State Society, of which he is a member, and through which he can speak by action of its House of Delegates or Committee on Legislation.

THE HISTORY OF MEDICINE.

THAT doctor is best qualified to practice his profession in whom, other things being equal, is found a knowledge of the history of his art. There is no better inspiration for good work than a study of the lives of the pioneers of medicine who labored on to success and whose names live in the annals of our art. There is no better help for avoiding the pitfalls of error than an appreciation of the struggle of scientific medicine against the obstacles of mysticism, spiritualism, superstition, charlatanism, and credulity. The physician who is not familiar with the history of medicine labors under a decided disadvantage. How much we hear and how much we read that would not have been uttered but for a deficiency in this knowledge! The medical man who is learned in medical history knows the origin of many modern pseudo-medical sects, and he knows their fate, and is best qualified to discover the good in them.

Our own country is so young that we have not yet awakened to an appreciation of the importance of medical history. Still we are old enough to have made some history of our own with which every medical man should be familiar. In Europe much attention is given to this subject. It is taught in the universities and a large amount of literature has accumulated. In the United States there are but few medical schools which give their students even an inkling that medicine has a history. Much honor is due to the pioneer institutions with high enough ideals to give lectures or instruction in this field.

Especially noteworthy are the medical historical societies. In such organizations we may be sure to find men who represent the best medical culture of their communities. One of the publications in which American medical literature may take pride is the *Medical Library and Historical Journal*, the pioneer periodical in this field. Another of the advances which mark the epoch in medical culture is the action taken by the University of London three years ago requiring an examination in the history of medicine as essential for the degree of Doctor of Medicine. These are all signs of the times pointing to the cultural growth of medical knowledge.

"The foundation stones of the whole modern structure of human wisdom have all been laid by the architects of yesterday. Thrice wise is he who knows the quarries and builders of bygone ages and is able to differentiate the stones which have been rejected from those which have been utilized."

THE CAUSE OF INTUSSUSCEPTION.

WE have no adequately substantiated conclusions upon the cause of intussusception. There are two theories, the theory of spasm and the theory of paralysis. It is, however, most reasonable to assume that each of these may enter to a greater or lesser degree into the production of this condition. What is necessary is that one part of the bowel should develop a larger diameter than an immediately adjacent part which slips into it. This, it is clear, may be due to dilatation of one part permitting the normal segment above to slip into it; or it may be due to contraction of one part, permitting the contracted segment to slip into the normal gut; or both contraction and dilatation may take place side by side.

Whether the development of these inequalities in the caliber of the bowel need be so great as to merit the title paralytic and spasmodic we do not know. It is conceivable that sufficient difference in two immediately adjacent parts might be due to the natural peristaltic impulses, which are constantly producing variations in the size of the bowel. W. L. Wallace offers the ingenious hypothesis that a portion of the bowel is damaged by some interference with its blood supply, and bulges and may perforate, and that the intussusception is the result of Nature's effort to reinforce the weak piece by splinting it between healthy layers of intestinal wall, and that, instead of being the cause of the trouble the invagination supports the weakened intestine, after which Nature sometimes reduces the intussusception.* If the damage is great, adhesions form and the damaged bowel becomes furnished with a new blood supply, or adhesions may form above and the diseased segment slough away.

The hypothesis that inequalities in the contractions and relaxations of the muscular fibers of the bowel cause intussusception is borne out by the fact that this condition is often found as a post-mortem manifestation. Here it is undoubtedly due to this vermicular action.

* *Jour. Am. Med. Assoc.*, April 11, 1908.

Items

REVISION OF THE PHARMACOPEIA.—The Committee on the Pharmacopeia of the American Medical Association has sent out the following statement to the medical organizations entitled to representation in the United States Pharmacopeial Convention of 1910:

You will receive within a few months a notice from the President of the United States Pharmacopeial Convention inviting you to send delegates to the next convention. The Pharmacopeia will be revised under the direction of this convention.

On the recommendation of the Board of Trustees, the undersigned have been appointed by the House of Delegates of the American Medical Association a Committee on the United States Pharmacopeia. We are writing you now to urge that you give this matter of the revision of the Pharmacopeia your early and careful consideration.

It is scarcely necessary to point out how vital is the concern of the medical profession in the Pharmacopeia. This interest has been greatly increased by the passage of the national Pure Food and Drugs Act, which makes the Pharmacopeia the legal standard for the United States and provides severe penalties for the adulteration, misbranding or sophistication of any article sold under the official name. This is the most perfect guarantee of the quality of drugs it is possible to have. Entirely aside from questions of adulteration, it is desirable to have definite standards of quality and strength.

The physician is interested in having every drug of importance which he uses made official so that it may enjoy this protection. He should also be interested in having all useless drugs and mixtures excluded, so that the volume may fully represent the scientific knowledge of the day, and thus be educational in character. The question of nomenclature, especially as it applies to new synthetic remedies, is also of much practical importance. It is desirable to have names convenient for prescription writing, but they should not be such as are protected by copyright (if the article is "free"), nor should they be so suggestive therapeutically as to encourage general self-medication. Technical chemical and pharmaceutical details may well be left to specialists in these subjects.

The Constitution of the United States Pharmacopeial Convention makes ample provision for the representation of the medical profession; thus, your organization is entitled to send three delegates who will have votes on all subjects connected with the policy of the revision. That the attitude of the profession toward this matter has been one approaching indifference, during recent years, is evidenced by the fact that of the several hundred medical societies and schools in this country, but fifty-seven appointed delegates in 1900, and of the delegates appointed only ninety-five attended the convention. Now, however, that physicians are realizing what the Pharmacopeia means to them in their efforts to obtain pure, non-secret drugs there is a tendency to find fault with the present edition for various admissions and omissions. If the next edition of the Pharmacopeia does not more fully meet the needs of American physicians the responsibility will rest on them alone. The chairman of the present Committee of Revision, Professor Remington, has pleaded for years for the active cooperation of the medical profession.

Will you not lay the need for prompt action regarding the coming revision of the Pharmacopeia before your organization so that there may be a full discussion? We believe that you will find it advisable to appoint a special committee to bring specific problems up for discussion. Such questions as the following need prompt consideration and should be seriously studied by every physician:

What undoubtedly useful drugs do you prescribe which are not contained in the United States Pharmacopeia? Why should they not be contained in the next revision? This would involve the question whether certain patented products should or should not be included.

What drugs are believed to have so little merit, or to have been so far replaced by more modern ones, that they could be omitted from the Pharmacopeia?

Are there not mixtures of drugs, which, if desirable at all, belong more properly in the National Formulary?

Are the "average doses" satisfactory—safe on the one hand, efficient on the other?

A careful study of the pharmacopeias of foreign countries, of "New and Non-Official Remedies," and of other publications dealing with new remedies, may suggest drugs which should be included in the Pharmacopeia. Efforts should also be made to obtain the help of ophthalmologists, dermatologists and other specialists so that the Pharmacopeia may be truly representative of the entire medical profession.

The undersigned committee will be glad to receive suggestions on these and other subjects and will arrange and submit any suggestions or specific questions that you may have to offer, to the other medical organizations entitled to representation in the Pharmacopeial Convention and to other representative bodies of medical men. It is hoped that this preliminary interchange of views may lead before the convention assembles to a clarification and crystallization of opinion that will be most helpful.

REID HUNT, *Chairman*,
EDWARD E. HYDE,
GEORGE DOCK,
ROBERT A. HATCHER,
WILLIAM S. THAYER,
S. SOLIS COHEN.

Address correspondence to the Chairman, 25th and E Streets, N. W., Washington, D. C.

DR. EZRA SPENCER MCCLELLAN, the Nestor of the medical profession of Saranac Lake, and a much respected and beloved practitioner, celebrated with his wife the fiftieth anniversary of their marriage on November 7, 1908.

NEW TUBERCULOSIS HOSPITAL.—Plans have been filed by the Trustees of Bellevue and Allied Hospitals for a large hospital for patients suffering from tuberculosis, to be built on Blackwell's Island as an annex to the Metropolitan Hospital. It will have a roof garden 291 feet long, with a large solarium at either end. The cost is to be $250,000.

NEW HOSPITAL.—Plans have been filed for the main hospital buildings and isolation annex of the Rockefeller Institute for Medical Research, to be erected at a cost of $400,000. The main building is to be a seven-story structure, and the isolation ward will be a two-story building connected with the main building by bridges of steel and iron. This hospital in connection with the Rockefeller Institute represents the high water mark in medical progress in this country.

FACILITIES FOR ALCOHOLICS AND INSANE.—Bellevue and the Allied Hospitals call attention to the need of provisions for the treatment of drunkards. It is believed that this treatment should be out-of-doors. It is hoped that the bill which is to be introduced into the next legislature providing for a farm labor colony will become a law. It is most expensive to the city and wasteful to permit men to ruin themselves with drink if it can be avoided.

New Books

A SECOND STUDY OF THE STATISTCS OF PULMONARY TUBERCULOSIS: MARITAL INFECTION. (Draper's Company Research Memoirs, III.) By the late ERNEST G. POPE. *Edited and Revised* by KARL PEARSON. London, Dulau & Co., 1908. 36 pp. 4to. Paper, 3s.

A belief in tuberculosis infection between man and wife has been accepted by many on the grounds of their clinical experience, yet this experience, until the studies of Pope, has never been definitely recorded and analyzed and such belief has not been founded upon scientific demonstration.

It is a fact that, up to the present, no logical proof of marital infection in tuberculosis has been given. Yet we are less cocksure about some other things that are well established.

Pope attacks the problem with the aid of modern statistical methods applied to the available biologic data.

Assume 1,000 married couples and that one person in every ten dies of tuberculosis. Amongst the 1,000 husbands we should expect to find 100 dying from this cause and 900 from other causes. Among the wives of the 100 tuberculous men we should expect to find one in every ten; that is, 10 die from tuberculosis and 90 from other causes. Among the wives of the 900 non-tuberculous men we should have 90 tuberculous and 810 non-tuberculous deaths. Summing up we should expect our 1,000 couples to die as follows:

Husband tuberculous, wife tuberculous..... 10
Husband tuberculous, wife non-tuberculous..... 90
Husband non-tuberculous, wife tuberculous..... 90
Husband non-tuberculous, wife non-tuberculous....810

Taking into account natural variations from these exact numbers, Pope makes the above the basis of his methods. Where the differences are greater than can be accounted for by random sampling, the conclusion is drawn that the marital relationship is the cause of the disturbance.

His conclusions, checked by Karl Pearson, are as follows:

It would seem probable (1) that there is some sensible but slight infection between married couples, (2) that this is largely obscured or fore-stalled by the fact of infection from outside sources, (3) that the liability to the infection depends on the presence of the necessary diathesis, (4) that assortative mating probably accounts for at least two-thirds and infective action for not more than one-third of the whole correlation observed in these cases.

Certain factors enter which make the above conclusions only tentative and prevent dogmatism. Moreover, data bearing upon the age of husband and wife at marriage, the age at onset and death in both, the age of parents at birth of child and the age at onset and death of child are lacking. It is only by such complete records that the action of infection, assortative mating and inheritance can be accurately apportioned.

It is pointed out that the special mental and physical traits of the tuberculous may present elements of sexual attraction determining selection, and that *the tuberculous tend to mate*, just as stocks which are insane, epileptic, markedly eccentric or alcoholic in a degree tending to mania tend to mate.

Further conclusions, therefore, are that "For real light on the problem of assortative mating of the tuberculous, we must wait till we have definite knowledge in each case of the family history of both husband and wife. If we find (1) that the marriage of two ultimately tuberculous persons took place before either was suspected of the disease, and (2) that there is in such cases a larger percentage of family histories of tuberculosis than in the case of non-married tuberculous individuals, we should have definite evidence of the assortative mating which seems probable. If on the other hand the percentage were smaller we should have definite evidence for the infection theory."

Pearson and Lawrason Brown are to be thanked, the first for his revision of the late Mr. Pope's illuminating study of a subtle and unsettled problem requiring delicate handling, but which the unthinking have settled offhand and dogmatically—Brown for his wise utilization and disposition of the deceased statistician's brilliant work, which to be fully appreciated must be read in the memoir to which this review does but scant justice.

A. C. J.

DISEASES OF THE HEART AND AORTA. By THOMAS E. SATTERTHWAITE, M.D., New York, E. R. Pelton. 304 pp., 8vo. Price: Cloth, $3.00, net.

This book is mostly made up of papers previously published in medical journals, and deals only with the more important topics related to diseases of the heart. It is enriched with 103 case reports from the author's large experience. It contains a particularly full and detailed account of the use of graduated exercises and modified Nauheim baths in the treatment of heart diseases. But the prominence which these methods of treatment receive, and the comparatively slight and vague accounts given of other therapeutic measures, as well as some of the direct statements of the author convey the impression that he somewhat overestimates the extent of the range of usefulness of these valuable remedial methods. While their usefulness in myocardial diseases is generally conceded, and in functional disorders also, on account of their suggestive as well as hygienic effect, all do not agree with the author in conceding their superior value in the treatment of valvular disease after compensation has been ruptured.

Concerning the use of heart stimulant drugs the author is disappointingly vague in his statements. Digitalis he recommends when such special symptoms as urinary suppression arise, and he prefers, rightly, the tincture to the infusion, as more likely to contain the active principles of the drug; and his experience with digitoxin—that it is unreliable—coincides with mine. Strophanthus, he says, is not much of a diuretic, and is apt to produce diarrhea and nervous irritability, and should not be given long at a time. In my experience strophanthus has proved an efficient diuretic, and it has caused gastrointestinal or nervous disturbance in probably less than one per cent. of the cases in which I have used it, and in those cases I ascribed the effect to an idiosyncrasy. I cannot agree with the author in considering three minims of the tincture a small dose suitable to begin with; according to my experience it is a large dose, and should seldom be exceeded if good results are to be obtained. In suitable doses I have found it to be well borne for long periods. It is not impossible that the unsatisfactory results which have been reported from the use of this drug, are due to the fact that too large doses were given. The author repeats the ancient myth about the preparations of strophanthus being generally unreliable. Spartein he justly characterizes as unreliable, but adds that he has "found it a fairly good diuretic and heart stimulant for cardiac dropsy, in doses of one-twentieth to one-tenth of a grain." In those doses it could have hardly more than a suggestive effect, according to my experience.

Although differing from the author in a few minor points of treatment, it is a pleasure to commend this book. The author speaks wisely, and also interestingly, out of an exceptionally full clinical and pathological experience, and the book, despite the limitations of its scope, is one of the best on its subject for the use of the general practitioner that I have seen.

EDWARD E. CORNWALL.

Medical Society of the State of New York.

CORRECTION IN THE DIRECTORY.

The name and address of the first Dr. Specht, in the list of physicians in New York City in the "Medical Directory of New York, New Jersey and Connecticut," page 199, should read: Specht, Edmund E., 1277 Washington Avenue.

NOTICE CONCERNING THE DIRECTORY.

Any member who has not received his 1908 "Directory" will kindly notify *at once* the Medical Society of the State of New York, 17 West 43d Street, New York, N. Y.

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS.

The following proposed amendment to the Constitution and By-Laws was submitted at the Annual Meeting held in Albany, January 28, 1908 (see February issue of NEW YORK STATE JOURNAL OF MEDICINE, page 86):

Amend the Constitution, Article III, by adding a new section, 2, to read as follows:

"All officers shall assume office at the close of the annual meeting of the Society."

Section 2, Article III, of the present Constitution, will then become Section 3.

Amend the By-Laws, Chapter IV, Section 2, by striking out the following:

The Council shall provide for and superintend all publications and their distribution and shall have authority to appoint an editor and such assistants as it may deem necessary.

The report shall also specify the character and cost of all publications of the Society during the year, and the amount of all property belonging to the Society under its control.

Amend the By-Laws, Chapter IV, Section 1, by striking out Section 1, and substituting therefor the following:

SECTION 1. The Council shall meet at the close of the annual session of the Society, to organize and outline the work for the ensuing year.

It shall meet once during the months of May and December of each year, the time and place to be selected by the President, and it shall meet at such other times as occasion may arise, upon the request in writing of five members of the Council, or upon the call of the President.

And by adding:

SECTION 2. Seven members shall constitute a quorum.

SECTION 2 then becomes Section 3, and Section 3 then becomes Section 4.

Amend the By-Laws by adding to Chapter VII, Section 1, after the words "A Committee on Arrangements" the words "A Committee on Publication," and a section to read as follows:

SECTION 6. The Committee on Publications shall consist of five members: The Secretary and Treasurer of the Society, and three other members. The members of the Committee, except the Secretary and Treasurer, shall be elected to serve three years each, and at the first election held after the adoption of this By-Law, one member shall be elected for three years, one member for two years, and one member for one year, and thereafter each year a member shall be elected to serve for three years.

At the first meeting held after the adjournment of the annual meeting of the Society, the Committee shall select one of its members to act as chairman and he shall serve for one year, or until his successor is elected. The chairman of the committee shall be entitled to a seat in the Council.

The Committee shall provide for and superintend all publications and their distribution, and shall have authority to appoint an editor and such assistants as it may deem necessary, and to fix their salaries.

All moneys of the Society received by the Committee from any source shall be promptly paid to the Treasurer.

It shall hold regular meetings and keep minutes of the same, and make an annual report to the House of Delegates, specifying the character and the cost of all publications of the Society during the year, and the amount of all property of the Society under its control.

LEGAL NOTES.

MALPRACTICE.

The following details are of interest to the profession from two standpoints. First, because the Higher Court has reversed the findings of the Lower Court, in which a verdict—the first and only one rendered against a member of the Medical Society of the State of New York since the amalgamation—is set aside. In addition it leaves the State's Attorney, and Malpractice Defense, with a clean record. Every case so far tried has either been abandoned or the verdict has been in favor of the defendant. In no case has the State's Attorney agreed to a compromise. The points of law are also of interest, and should be carefully studied for future reference.

COURT OF APPEALS.

Decided October 6, 1908.

D. DUDLEY CAPRON, respondent, v. J. WALLACE DOUGLASS, appellant.

On the trial of an action brought by patient against physician for malpractice, if the plaintiff, either by his own testimony or that of others given with his knowledge and consent, discloses his physical condition and the details of the operation complained of, he is no longer in a position to object to evidence on that subject by the defendant, but has waived the privilege afforded by the statute. (Code of Civ. Pro., sec. 834.)

Appeal from a judgment of the Appellate Division, Fourth Department, affirming a judgment entered upon a verdict.

James Taylor Lewis for appellant; Smith M. Lindsley for respondent.

HAIGHT, J.—This action was brought to recover damages against the defendant, a physician and surgeon, upon the ground that he was chargeable with malpractice in treating a fracture of the tibia and fibula of the plaintiff's leg.

Upon the trial evidence was submitted by the plaintiff and his witnesses tending to show that after the plaintiff received the fracture of the bones of his leg the defendant was called as a surgeon to attend the same, and that he was negligent in reducing the fracture and in his subsequent care of the patient. After a lapse of several weeks it was discovered that there had been no union of the fractured bones, and the plaintiff was then removed to a hospital in the City of Utica, where an operation was performed by Doctor Glass of that city, aided by Doctor Fred Douglass, one of the hospital's staff of surgeons, after which there was a union of the fractured bones and a recovery had by the plaintiff, but with the usefulness of the leg somewhat impaired. The contention of the defendant was to the effect that he had properly reduced the fracture, plac-

ing the broken bones in apposition, but that he was disappointed in their failure to unite, and that the cause of such failure was one that could not be determined by an external examination of the limb and was only discovered after the plaintiff had been removed to the hospital and an incision made at the place of the fracture, when it was discovered that some of the muscles of the leg had intervened between the broken ends of the bones, preventing their coming together and forming a union. This condition of the fractured bones was discovered by Doctor Glass at the hospital, who performed the operation, and was testified to by him as a witness for the defendant without objection by the plaintiff. The defendant then called as a witness Doctor Fred J. Douglass, who assisted Doctor Glass in the operation, but his evidence was excluded upon the objection of the plaintiff's counsel under section 834 of the Code, and an exception was taken to such exclusion.

The trial court charged the jury: "If you find that the leg was properly set, the bones placed in apposition at the time of the first operation by the defendant, and you find that muscular fibres prevented union of the tibia, and that the loose fragment found at the place of fracture of the fibula prevented union of that bone, and that such condition could not have been discovered except by the operation at the hospital requiring extraordinary skill, and find the defendant was not guilty of negligence in failing to discover the condition of non-union prior to the time when he did discover it, then there is no liability and the verdict must be for the defendant." In this connection the jury was further charged, at the request of the defendant: "That if the jury finds from the evidence that the fractured ends of the tibia were separated by tendon, muscle or tissue, and for that reason could not have been made to unite without incision and without the removal of the interposed substance, the plaintiff cannot recover for loss or damage resulting from delayed or non-union of such fragments by reason of the presence of such foreign substance, upon the undisputed facts in this case." The jury found a verdict for the plaintiff. It will therefore be observed that under the charge of the court the chief question of fact involved was as to whether there were muscular fibres which intervened between the broken ends of the tibia which prevented its union, and as to whether such a condition could have been discovered except by the operation which was made at the hospital requiring extraordinary skill. It is thus apparent that upon this issue the sustaining of the testimony of Dr. Glass was of importance to the defendant, and had he been permitted to avail himself of the testimony of Dr. Douglass, who assisted Dr. Glass in the operation, the result might have been different. We, consequently, cannot approve of the ruling made upon the ground that the evidence was merely cumulative, for it being offered upon the trial of the case to sustain the defendant's defense he had the right to have it considered by the jury.

The serious question presented upon this review calls for a construction of sections 834 and 836 of the Code of Civil Procedure. Section 834 is, so far as material, as follows: "A person duly authorized to practice physic or surgery, * * * shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity." Section 836, among other things, provides that the provisions of the section apply to a surgeon, "unless the provisions thereof are expressly waived upon the trial or examination by the person confessing, the patient or the client. * * * The waivers herein provided for must be made in open court, on the trial of the action or proceeding, and a paper executed by a party prior to the trial providing for such waiver shall be insufficient as such a waiver. But the attorneys for the respective parties may, prior to the trial, stipulate for such waiver, and the same shall be sufficient therefor." There can be no question with reference to the discovery made by Doctor Glass and Doctor Douglass in their operation upon the plaintiff at the hospital coming within the express language of the provisions of section 834 of the Code, and the testimony, therefore, under ordinary circumstances would be privileged. But the question here presented is as to whether such privilege has been waived by the plaintiff upon the trial. He and his counsel sat by and permitted the testimony of Doctor Glass to be given without interposing any objection thereto, thereby waiving the privilege which the plaintiff might have availed himself of had he seen fit. He has thus permitted the condition of his broken limb to be given to the public in an open trial, thereby forever preventing it and its condition from being a secret between himself and his physician. The intent of the Legislature in enacting the statute making such information privileged was, doubtless, to inspire confidence between the patient and his physician, so that the former could fully disclose to the latter all the particulars of his ailment without fear that he may be exposed to civil or criminal prosecution, or shame and disgrace, by the disclosure thus made, and thus enable the latter to prescribe for and advise the former most advantageously. As was said by Ruger, Ch.J., in McKinney v. Grand St., P. P. & F. R.R. (204 N. Y., 352): "After its publication no further injury can be inflicted upon the rights and interests which the statute was intended to protect, and there is no further reason for its enforcement. The nature of the information is of such a character that when it is once divulged in legal proceedings it cannot be again hidden or concealed. It is then open to the consideration of the entire public, and the privilege of forbidding its repetition is not conferred by the statute. The consent having been once given and acted upon cannot be recalled, and the patient can never be restored to the condition which the statute, from motives of public policy, has sought to protect."

In the case of Morris v. N. Y., Ont. & W. R'y (148 N. Y., 88) it was held that when a party who has been attended by two physicians in their professional capacity at the same examination or consultation, both holding professional relations to him, calls one of them as a witness in his own behalf in an action in which the party's condition as it appeared at such consultation is the important question, to prove what took place, or what the witness then learned, he thereby waives the privilege conferred by the section of the Code in question and loses his right to object to the testimony of the other physician if called by the opposite party to testify as to the same transaction. And in the case of People v. Bloom, which we have considered and determined in connection with this case at this present term, we have held that where the waiver of the privilege is by admitting the testimony of the physicians without objection in a civil action, he cannot thereafter invoke the privilege by objecting to their testimony in a criminal action against him in which he is charged with having committed perjury upon the former trial. It would thus seem that under the authorities alluded to the plaintiff, by admitting the evidence of Doctor Glass to be given with reference to the discovery made at the operation, thereby also is deemed to have waived the privilege as to Doctor Douglass, who was there assisting Doctor Glass in the operation. But we prefer to place our decision in this case upon broader grounds.

This action, as we have seen, was for malpractice. The plaintiff, both in his complaint and in his testimony, has fully disclosed all of the details of his affliction as it existed both at his home and at the hospital. He has given in much detail how the fractures occurred, how they were treated, his pain and suffering, and, so far as he was able to comprehend when not under the influence of anæsthetics, the particulars of the operation at the hospital. He, himself, has therefore given to the public the full details of his case, thereby disclosing the secrets which the statute was designed to protect, thus removing it from the operation of the statute. In other words, he has waived in open court upon the trial by his own testimony all information which he might have had kept secret by disclosing it himself. The character

of the action necessarily calls for a disclosure of his condition and the treatment that was adopted by the defendant and those assisting him. To hold that the plaintiff may waive the privilege as to himself and his own physicians and then invoke it as to the defendant and his physicians would have the effect of converting the statute into both a sword and a shield. It would permit him to prosecute with the sword and then shield himself from the defense by the exclusion of the defendant's testimony. It would enable the plaintiff to testify to whatever he pleased with reference to his condition and the treatment adopted by the defendant without fear of contradiction. The plaintiff could thus establish his cause of action, and the defendant would be deprived of the power to interpose his defense by reason of the closing of the mouth of his witnesses by the provisions of the Code referred to. Such a construction of its provisions, we think, was never contemplated by the Legislature. It would lead to unreasonable and unjust results. Instead thereof a construction of the provisions of the Code, to the effect that when the privilege of the plaintiff has been once waived by him in court, either by his own testimony or by that of others given with his knowledge and consent, and his physical condition has been given to the public, the door is then thrown open for his opponent to give the facts as he understands them. This, to our minds, affords a more just and equitable rule, and is the one that was evidently contemplated by the Legislature (Edington v. Aetna Life Ins. Co., 77 N. Y., 564; Clifford v. Denver & R. G. R.R., 188 N. Y., 349; Rauch v. Deutscher Verein, 29 App. Div., 483; Wigmore on Evidence, sec. 2389; Becknell v. Hosier, 10 Ind. App., 5; Nave v. Baird, 12 Ind., 318; Hennessy v. Kelly, 64 N. Y. Supp., 562, 566).

The judgment should be reversed and a new trial ordered, with costs to abide the event.

CULLEN, Ch. J.; GRAY, WERNER, WILLARD BARTLETT, HISCOCK and CHASE, JJ., concur.

Judgment reversed, &c.

DISTRICT BRANCH SOCIETIES.

FOURTH DISTRICT BRANCH.

ANNUAL MEETING, AMSTERDAM, N. Y.,
OCTOBER 13, 1908.

The meeting was called to order by the President, Charles Stover, M.D., at 9.30 A. M.

The meeting of the House of Delegates was called to order at 1.30 P. M. The minutes of the last meeting were read and approved. Officers for ensuing year were elected as follows:

President, W. C. Thompson, M.D., Plattsburgh; Vice-President, W. J. Peddie, M.D., Fultonville; Secretary, F. J. Resseguie, M.D., Saratoga Springs; Treasurer, G. H. Oliver, M.D., Malone.

Plattsburgh was selected as the next place of meeting, the date to be determined by the Executive Committee. It was unanimously decided to extend an invitation to the Northern New York Medical Association to meet with the Fourth District Branch at the next annual meeting.

The following resolution was adopted:

"That it is the unanimous opinion of the House of Delegates of the Fourth District Branch that we are entirely satisfied with the present boundary lines of the Association."

Scientific Program.

Address by the President of the Medical Society of the State of New York, Arthur G. Root, M.D., Albany.

Annual address by the President of the Fourth District Branch, Charles Stover, M.D., Amsterdam.

Address by the President of the Medical Society of the County of Montgomery, Douglas Ayres, M.D., Fort Plain.

"The Treatment of the Summer Diarrheas of Children," L. Dwight Williams, M.D., Sandy Hill.

"A Few of the General Factors in the Etiology of Gastric Disorders and Some of the Principles of Dietetics in the Treatment of the Same," W. B. Melick, M.D., Fort Edward.

"Neurasthenia and Psychasthenia," N. A. Pashayan, M.D., Schenectady.

"The Significance of Hemorrhage at Menopause," D. C. Moriarta, M.D., Saratoga Springs.

"How Dangerous is the Consumptive?" David C. Twitchell, M.D., Saranac Lake.

"Tuberculosis and Pregnancy," Charles B. Trembly, M.D., Saranac Lake.

"Some Points in the Early Diagnosis of Tuberculosis," Albert H. Garvin, M.D., Ray Brook.

"A Case of Gunshot Wound of Spinal Cord, with Recovery," George Lenz, M.D., Gloversville.

"Some Observations on the Treatment of Fractures," Dudley L. Kathan, M.D., Schenectady.

"Diseases and Conditions Which May Be Mistaken for Appendicitis," Wm. C. Wood, M.D., Gloversville.

"The Treatment of Peritonitis," Chas. G. McMullen, M.D., Schenectady.

There were ninety-five present. The meeting was adjourned at 5.45 P. M.

SIXTH DISTRICT BRANCH.

ANNUAL MEETING, BINGHAMTON, N. Y.,
OCTOBER 6, 1908.

The meeting was called to order by the President, W. A. Moore.

A resolution, introduced by request of F. Park Lewis, of Buffalo, advocating means for the prevention of blindness due to ophthalmia, was carried, and all the members signed cards, as requested by the State Board of Health.

During the noon recess the delegates met, there were present: Drs. R. G. Loop, Elmira, Chemung County; A. T. Kerr, Ithaca, Tompkins County; S. A. Mereness, Milford, Otsego County; F. S. Jennings, Cortland, Cortland County; W. L. Ayer, Owego, Tioga County.

The proposed amendments to the By-Laws were not well received, and by motion were laid on the table.

The following officers were elected: President, S. A. Mereness, Milford; Vice-President, F. DeW. Reese, Cortland; Secretary and Treasurer, Herbert W. Fudge, Elmira.

The next Annual Meeting will be held in Oneonta; date to be fixed by the Executive Committee.

The scientific program was as follows:

President's Address, W. A. Moore, M.D., Binghamton.

"Observations Regarding the Finger Tone," George O. Williams, M.D., Greene.

"The Indications and Results of Prostatectomy," M. M. Lucid, M.D., Cortland.

"Humidity as a Factor of Danger in the Use of Chloroform," Arthur W. Booth, M.D., Elmira.

"Clinical Manifestations of Uremia," Henry C. Buswell, M.D., Buffalo.

"On the Desirability of Making Some Courses of Study in Our Medical Schools Elective," S. A. Mereness, M.D., Oneonta.

"Results of Surgical Treatment of Goitre; Report of Seventy-five Operations," M. B. Tinker, M.D., Ithaca.

"Operative and Non-Operative Fibroid Tumors of the Uterus," Frank DeW. Reese, M.D., Cortland.

"Physical Development of Children," F. W. Sears, M.D., Binghamton.

"Infectious Phlyctenular Kerato-Conjunctivitis," J. S. Kirkendall, M.D., Ithaca.

EIGHTH DISTRICT BRANCH.

THIRD ANNUAL MEETING, BATAVIA, N. Y.,
SEPTEMBER 22 and 23, 1908.

The Third Annual Meeting of the Eighth District Branch was held at Batavia, September 22d and 23d.

The Proposed Amendments to the By-Laws were passed, and the following officers were elected for the ensuing year:

President, E. E. Snow, M.D., Batavia; First Vice-President, Edward Munson, M.D., Medina; Second Vice-President, Thomas H. McKee, M.D., Buffalo; Secretary, L. M. Francis, M.D., Buffalo; Treasurer, Charles A. Wall, M.D., Buffalo.

The time and place of the next meeting were left in the hands of the Executive Committee.

A committee was appointed to see that the recommendations of the committee from the American Medical Association were carried out in regard to a campaign of Education in Ophthalmia Neonatorum.

The Scientific Program was as follows:

President's Address, E. E. Snow, Batavia.

"The Blood in Acute Infections," J. S. Wright, Perry.

"Appendicitis, Clinical Picture versus Operative Findings," T. H. McKee, Buffalo.

"Diagnosis, Prognosis and Treatment of Pleuritic Effusions," De Lancey Rochester, Buffalo.

"Fracture of the Skull," H. C. Rooth, Buffalo.

"Scalp Injuries," C. A. Wall, Buffalo.

"The Significance of Acetonuria in Diseases of Children," Nelson G. Russell, Buffalo.

"Ectopic Gestation," J. E. Morris, Olean.

"Genito-Urinary Neuroses," James A. Gardner, Buffalo.

"The Prognosis of Spinal Cord Tumors," W. C. Krauss, Buffalo.

"The Psyco-therapeutic Methods," J. W. Putnam, Buffalo.

"The Mineral Nutrients: Air, Water and the Salts," H. R. Hopkins, Buffalo.

"The Citizen Doctor," Edward Munson, Medina.

"Twenty Cases of Chylo-gastrica," A. E. Woehnert, Buffalo.

County Societies

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

SEMI-ANNUAL MEETING, ALBANY MEDICAL COLLEGE, ALBANY, WEDNESDAY, OCTOBER 14, 1908.

The meeting was opened by the President, W. G. Macdonald, M.D., who expressed his appreciation of the honor of election as President.

The appointment of the following committees was announced by the President:

Committee on Public Health—Drs. J. D. Craig, L. B. Rulison, H. E. Lomax.

Committee on Legislation—Drs. G. G. Lempe, J. A. Cox, E. J. Bedell.

Committee on Milk Inspection—Drs. J. P. Boyd, H. L. K. Shaw, S. B. Wolbach.

George P. Pitkin, M.D., of Albany, was elected to membership.

An address was given by the Vice-President, Herbert Pease, M.D., on "The International Tuberculosis Congress."

Drs. Willis G. Macdonald and Joseph D. Craig were elected delegates to the State Society, and Dr. Arthur J. Bedell delegate to the Third District Branch.

A letter from the Genesee County Society was read, relating to matters to be brought up at the State Society meeting.

The next meeting will be "popular" in character, held in conjunction with the local Committee of the State Charities Society. The tuberculosis problem will be discussed.

COLUMBIA COUNTY MEDICAL SOCIETY

HELD ITS ANNUAL MEETING IN HUDSON, AT THE HOTEL LINCOLN, OCTOBER 6, 1908, 11 A. M.

Program.

Address by the President, S. V. Whitbeck.

"The Importance of an Early Diagnosis of New Growth Within the Pelvis," Mary Gage-Day. Secretary, Ulster County Medical Society.

"Cervical Rib, with Report of a Case Successfully Operated on," William Kirk, Secretary, Medical Society of Troy and Vicinity.

There was present a good attendance.

The election of officers was as follows:

President, F. C. Maxon, Jr., of Chatham; Vice-President, Louis Van Hoesen, of Hudson; Secretary and Treasurer, T. Floyd Woodworth, of Kinderhook; Censors, Drs. Mesick, Pomeroy, Garnsey, King and C. G. Rossman; Delegate to the State Society for two years, C. G. Rossman, of Hudson; alternate, J. W. King, of Stottsville; Dr. Garnsey, of Kinderhook, delegate to Third District Branch; alternate, G. P. K. Pomeroy.

J. T. Wheeler, of Chatham, called attention to method of State Department of Health instituted to prevent ophthalmia neonatorum.

THE MEDICAL SOCIETY OF THE COUNTY OF GENESEE.

ANNUAL MEETING, BATAVIA, N. Y., OCTOBER 7, 1908.

Election of officers:

President, A. F. Miller, Batavia; Vice-President, M. P. Messinger, Oakfield; Secretary and Treasurer, E. F. Will, Batavia; Delegate to State Society, W. D. Johnson, Batavia.

Program.

"Some Considerations in Dietetics," Dr. H. R. Hopkins, Buffalo.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, October 20, 1908.

Program.

1. "Notes on the Diagnosis and Treatment of Angina Pectoris," Glentworth Reeve Butler, M.D., of Brooklyn.

Discussion opened by John A. McCorkle, M.D., Henry A. Fairbairn, M.D., Leon Louria, M.D.

2. "Surgery of the Pericardium and Heart," H. Beeckman Delatour, M.D., of Brooklyn.

Discussion opened by Algernon T. Bristow, M.D., William B. Brinsmade, M.D., Warren S. Simmons, M.D.

SECTION ON GENERAL MEDICINE.

REGULAR MEETING, OCTOBER 12, 1908.

Program.

"Medical Education in Russia," Dr. Leon Louria.

Discussion by Dr. E. H. Bartley.

PEDIATRIC SECTION.

JOINT MEETING WITH THE BROOKLYN SOCIETY FOR NEUROLOGY, OCTOBER 29, 1908.

Program.

"Experiences with the Flexner Serum in Epidemic Cerebro-Spinal Meningitis," by Chas. H. Dunn, M.D., of Boston, Mass.

Discussion opened by Dr. Simon Flexner, of Manhattan.

MADISON COUNTY MEDICAL SOCIETY.

REGULAR MEETING, ONEIDA, N. Y., OCTOBER 6, 1908.

Program.

BUSINESS SESSION.

Officers elected for 1909:

President, C. H. Perry, M.D., Oneida; Vice-President, R. H. Ash, M.D., Canastota; Secretary, George W. Miles, M.D., Oneida; Treasurer, S. J. Wilson, M.D., Oneida; Delegate to the Annual Meeting of the Medical Society of the State of New York, George W. Miles, M.D.

The following resolution was passed:

"Resolved, That the delegate to the Medical Society of the State of New York from Madison County be instructed to use his best efforts for action looking towards the abandonment of the publication of a 'Directory of New York, New Jersey and Connecticut,' and the publication in its place of a Directory of New York State Physicians only."

The next annual meeting of the Society was appointed to be held at Canastota in May next.

Scientific Session.

1. "The Conduct of the First and Second Stages of Labor," H. G. Germer, M.D., Canastota.
2. "Appendicitis Without Special Abdominal Symptoms," George C. Reid, M.D., Rome.

The leading feature of the meeting was a discussion of the milk question, led by R. L. Crockett, of Oneida, which followed an exhaustive review of the matter of "Milk Inspection," by Mr. James Lees, of Syracuse, Milk Inspector of that city.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Regular Meeting, New York Academy of Medicine, 17 West 43d Street, New York City, Monday Evening, October 26, 1908.

At the Executive Session the following Resolution was passed:

"Whereas, Resolutions have been received from the Medical Society of the County of Genesee, urging the Medical Society of the State of New York to discontinue the publication of the 'Medical Directory of New York, New Jersey and Connecticut,' and

"Whereas, The publication of a list of legally authorized physicians of this State is of great value to the public, and the profession, and the continuance of the 'Directory' of the utmost importance; therefore,

"Be it Resolved, That the Medical Society of the County of New York requests its delegates to vote in favor of the continued publication of the 'Directory'; and be it further

"Resolved, That the Secretary be requested to send a copy of these Resolutions to all other County Medical Societies of this State, asking them to take similar action."

The Scientific Session was as follows:

Symposium on Opsonic Therapy.

1. "Opsonins, Opsonic Index and Immunity," Eugene L. Opie, M.D., New York.
2. "The Treatment of Erysipelas by Bacterial Vaccine," George W. Ross, M.D., Toronto, Canada.
3. "The Therapeutic Value of the Opsonic Index in Pulmonary Tuberculosis," Gerald Bartram Webb, M.D., Colorado Springs.
4. "The Production and Estimation of Phagocytic Immunity," J. C. Meakins, M.D., New York.
5. "The Use of Vaccines in Gonococcus and Streptococcus Infections," Nathaniel Bowditch Potter, M.D., New York.

Discussion by Norman E. Ditman, M.D., C. G. Coakley, M.D., William H. Park, M.D.

ONONDAGA MEDICAL SOCIETY.

Quarterly Meeting, October 13, 1908, at Syracuse, N. Y.

Program.

1. "The Moral Treatment of Nervous Disorders," Samuel McComb, D.D., Boston, Mass.
2. "The Ethics of Psychotherapy, Relative to the Physician, the Clergy and the People," Edward B. Angell, M.D., Rochester, N. Y.
3. "Psychotherapy as an Applied Therapeutic Agent," James W. Putnam, M.D., Buffalo, N. Y.

Discussion opened by Hersey G. Locke, M.D., Syracuse, N. Y.

ONTARIO MEDICAL SOCIETY.

Annual Meeting, Y. M. C. A. Building, Canandaigua, N. Y., October, 13, 1908.

Program.

1. President's Address, C. P. W. Merritt, M.D., Clifton Springs.
2. "Tests for Albumen," H. I. Davenport, M.D., Canandaigua.
3. "Enzymes and Hormones," F. C. Bush, M.D., Buffalo.

MEDICAL SOCIETY OF THE COUNTY OF ORLEANS.

Annual Meeting, Cummings' Country Club, Knowlesville, N. Y., October 6, 1908.

The following officers were elected for the ensuing year:

President, Charles E. Fairman, M.D., Lyndonville; Vice-President, George Post, M.D., Holley; Secretary and Treasurer, John Dugan, M.D., Albion; Censors, J. H. Taylor, M.D., Holley; J. E. Sutton, M.D., Albion; J. F. Eckerson, M.D., Shelby; Delegate to the State Society, Charles E. Fairman, M.D., Lyndonville; Alternate, Edward Munson, M.D., Medina; Delegate to the Eighth District Branch, George F. Rogan, M.D., Medina; Alternate, F. W. Scott, M.D., Medina.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

Regular Monthly Meeting (In conjunction with the Medical Society of Troy), Samaritan Hospital, Troy, N. Y., October 6, 1908.

Scientific Program.

1. "Clinical Demonstration of Cases of Pernicious Anemia, and One Case of Chronic Cyanosis, with Enlarged Spleen, and Polycythemia, and a Case of Spastic Spinal Paralysis," H. C. Gordinier, M.D.
2. "Case of Broken Catheter Retained in the Bladder, Removed by Suprapubic Cystotomy."

"Removal of Both Testicles on Account of Tubercular Infection," J. P. Marsh, M.D.

3. "Case of Congenital Baldness in Girl of Nine Years."

"Ataxia in Man of Forty, Cured by Inter-muscular Injection of Strychnin and Internal Administration of Potassi Iodid."

"Pathological Specimen of Brain in Case of Cerebral Hemorrhage in Lateral Ventricle of a Child of Twelve Years," E. R. Stillman, M.D.

4. "Pathological Specimen of Perforative Appendices Due to Fecal Concretion, with Discussion of Various Treatments. Surgical, Ochsner, and Postural for Drainage," J. B. Harvie, M.D.

RICHMOND COUNTY MEDICAL SOCIETY.

Regular Meeting, Staten Island Academy, October 14, 1908.

Program.

"Diagnosis of Early Gastric Carcinoma," Anthony Bassler, M.D., Manhattan.

Discussion by Drs. E. C. Baldwin and H. W. Patterson.

After the meeting a collation was served.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting, Knights of Columbus Hall, Schenectady, N. Y., October 21, 1908.

Scientific Program.

1. "Typhoid Fever in Children," Frank Vander Bogert, M.D.

2. "Typhoid Fever: Its Causes and Prevention," Charles C. Duryea, M.D.
3. "The Treatment of Typhoid Fever," F. J. MacDonald, M.D., Albert Grussner, M.D.

MEDICAL SOCIETY OF THE COUNTY OF SARATOGA.

MECHANICVILLE, N. Y., SEPTEMBER 29, 1908.

Scientific Program.

Address of the President, E. A. Palmer, M.D., Saratoga Springs.

"Therapeutic Value of Saratoga Mineral Waters," D. C. Moriarta, M.D., Saratoga Springs.

Symposium.

"Mucous and Membranous Colitis."

"Etiology and Pathology," A. M. Burt, M.D., Ballston Lake.

"Symptoms and Diagnosis," T. E. Bullard, M.D., Schuylerville.

"Treatment," J. T. Sweetman, Jr., M.D., Ballston Spa.

Discussion.

G. S. Towne, M.D., Saratoga Springs; F. J. Resseguie, M.D., Saratoga Springs; J. F. Humphrey, M.D., Saratoga Springs.

A business session for the election of officers was held, and the following were elected for 1909:

President, W. C. Crombie, M.D., Mechanicville; Vice-President, J. R. McElroy, M.D., Jonesville; Treasurer, T. E. Bullard, M.D., Schuylerville; Secretary, J. T. Sweetman, Jr., M.D., Ballston Spa; Censors, A. W. Johnson, M.D., Mechanicville; J. H. Tobin, M.D., Schuylerville; John Cotton, M.D., Burnt Hills; Committee on Public Health, J. F. Humphrey, M.D., Saratoga Springs; F. F. Gow, M.D., Schuylerville; H. J. Allen, M.D., Corinth; Committee on Legislation, G. F. Comstock, M.D., Saratoga Springs; F. J. Sherman, M.D., Ballston Spa; F. A. Palmer, M.D., Mechanicville; Delegate to the Medical Society of the State of New York, F. F. Gow, M.D., Schuylerville; Alternate, F. J. Resseguie, M.D., Saratoga Springs; Delegate to the Fourth District Branch, J. F. Humphrey, M.D., Saratoga Springs; Alternate, F. J. Sherman, M.D., Ballston Spa.

Action was taken favorable to the continuance of the Annual Directory.

MEDICAL SOCIETY OF THE COUNTY OF STEUBEN.

SEMI-ANNUAL MEETING, HORNELL LIBRARY BUILDING, HORNELL, N. Y., OCTOBER 13, 1908.

Scientific Program.

1. Vice-President's Address: "How to Examine the Inflamed Eye, with Remarks on the Differential Diagnosis of Diseases of the Conjunctiva," Frank H. Koyle, M.D., Hornell.
2. "Aid to Diagnosis by Ureteral Catheterization," Simon L. Elsner, M.D., Rochester.
3. "Typhoid Fever," Francis M. Swain, M.D., Corning.
4. "Intestinal Obstruction," Marshall Clinton, M.D., Buffalo.
5. "Local Applications: Their Use and Abuse," J. G. Kelley, M.D., Hornell.
6. "Acquired Deformities," C. A. Greenleaf, M.D., Hornell.
7. "Relation Between the Physician and the Board of Health," J. N. Shumway, M.D., Painted Post.
8. "Report of a Case," J. L. Miller, M.D., Corning.
9. "Shall We Bury the Appendix Stump? A New and Simple Method of Doing So," H. P. Jack, M.D., Canisteo.
10. "Report of a Case of Acute Anterior Poliomyelitis," Herman A. Ainsworth, M.D., Addison.

Dinner was served at the Sherwood Hotel at 12.30.

TOMPKINS COUNTY MEDICAL SOCIETY.

REGULAR MEETING, ITHACA HOTEL, ITHACA, N. Y., OCTOBER 13, 1908.

Scientific Program.

1. "The Relation of the Spinal Nerve Roots to the Spinous Processes," M. M. Baldwin, M.D.
2. "Infectious Phlyctenular Kerato-Conjunctivitis," J. S. Kirkendall, M.D.
3. "Local Type of Typhoid," H. I. Andrews, M.D.
4. "Short Report on the Tuberculosis Congress," V. A. Moore, M.D.

MEDICAL SOCIETY OF THE COUNTY OF WASHINGTON.

SEMI-ANNUAL MEETING, SALEM, N. Y., OCTOBER 6, 1908.

The meeting was called to order at 11.30 A. M. The following members were present:

Drs. C. W. Sumner, W. A. Tenney, D. C. McKenzie, R. C. Davies, J. Millington, S. I. Banker.

Drs. Z. V. D. Orton, Olin J. Fryer, S. A. Reed and R. H. Lee were among the invited guests.

The minutes of the last meeting were read and approved.

Drs. S. A. Reed, R. H. Lee and K. R. Coffin were elected to membership.

At the meeting of the Comitia Minora, the President appointed Dr. W. A. Tenney a member of the Board of Censors.

The following program for 1909 was adopted:

Symposium on Tuberculosis.

1. "Recent Investigations in Tuberculosis and Report of Washington Meeting," S. Pashley, M.D., Hartford.
2. "Pathology," G. D. Wilde, M.D., Fort Edward.
3. "Physical Diagnosis," W. A. Tenney, M.D., Granville.
4. "Climatology," K. D. Blackfan, Cambridge.
5. "Complications," W. B. Melick, Fort Edward.
6. "Dietetic Treatment," L. D. Washburn, Sandy Hill.
7. "Drug Treatment," Kenn R. Coffin, M.D., Fort Ann.
8. "Hygiene and Prophylaxis," R. A. Heenan, M.D., Sandy Hill.
9. "Local Manifestations," D. C. McKenzie, M.D., Granville.

The regular meeting was called to order at 2 P. M. The following reports of cases were given:

"Tumor of Brain," S. A. Reed, M.D.

"Cerebral Hemorrhage," R. H. Lee, M.D.

"Puerperal Septicemia," R. C. Davies, M.D.

The delegate to the State Society was instructed to act with the delegate from Greene County regarding the publishing of the annual volume of the "Medical Directory of New York, New Jersey and Connecticut."

DEATHS.

ALEXANDER W. BECK, M.D., of New York City, died of nephritis, October 14, aged 56 years.

ROBERT W. GREEN, M.D., a veteran of the Civil War, and a public spirited citizen as well as a physician, died at his home in Genesee, N. Y., October 5, from heart disease, aged 64 years.

JAMES S. KING, M.D., surgeon to the New York Naval Reserve, and one of the founders of Bushwick Hospital, Brooklyn, died at his home in that city, October 9, aged 51 years.

BEVERLY OLIVER KINNEAR, M.D., of Clifton Springs, N. Y., died September 29, aged 60 years.

ELTON S. RICH, M.D., died suddenly at his office in Kennedy, N. Y., October 7, from heart disease, aged 54 years.

NEW YORK STATE JOURNAL OF MEDICINE

VOL. 8. DECEMBER, 1908. NO. 12

Original Articles.

ADDRESS OF THE PRESIDENT OF THE FIRST DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(Second Annual Meeting, Poughkeepsie, October 21st.)

By S. W. S. TOMS, M.D.

NYACK, N. Y.

Gentlemen, Delegates and Members of The First District Branch of the Medical Society of the State of New York:

IF I were to conform to the usual custom in acknowledging the honor conferred upon me on this occasion in presiding over this distinguished gathering of physicians assembled from the six counties that comprise the First District Branch, I should be appropriating a distinction not meritoriously bestowed. "Some acquire greatness, others have greatness thrust upon them."

I was neither elected, selected or appointed to preside at this meeting as your president. I was *commanded* to do so by the Secretary of the State Society in a letter received from him last March, as the gentleman who by election and promotion should have filled the office had defaulted in the ranks; and because of this "It was up to me"—in the memorable words of our courteous secretary. If this imposes upon you any suffering I assure you it is because of the by-laws by not providing a second vice-president, upon whom I might shift any effect of your misfortune. I am here to fill a vacuum.

In my official visits to the District County Medical Societies I have gained some impressions of society meetings and organization, which seem to me an appropriate subject to present on this occasion. The papers and discussions on medical subjects, which it was my privilege to hear, were of a high order of merit, and marked evidence of harmony and good organization—the fruits of a united profession in this State—were everywhere conspicuous.

There is a notable disposition by some societies for an organized effort in protecting the public by suppressing quackery. New York County has been the pioneer and the best exemplar in this commendable warfare on the charlatans of all kinds.

INFRINGEMENTS OF MEDICAL ACT.

Crandall, in his report of seven years of official connection as a member of the Comitia Minora of the Medical Society of the County of New York, at its one hundred and second annual meeting, details in the most comprehensive manner the very successful work of that society. He very truly says: "Enforcement of medical practice laws and the protection of the public against illegal and criminal practitioners are among the duties which the County Society owes to the profession and to the public." . . . "The State and County Societies in New York were organized pursuant to the important law of April 4, 1806, and the duty of regulating medical practice was placed on them by the State at their inception." Kings County, I learn, has done admirable legal work in prosecuting quacks.

At a meeting which I attended at White Plains, September 15th last, a report was presented of what had been accomplished by a letter written by the counsel for the State Society, co-operating with the Medical Society of the County of Westchester, in suppressing a notorious illegal practitioner. The evidence had been secured by the Medical Society with proof sufficient to have convicted him, at a trifling expense, had he not left the city very promptly; and cases from Yonkers, New Rochelle and other places in the County have been likewise dealt with with gratifying results.

The presidents of the County Societies have appointed committees to secure data from all sections where illegal and itinerant practitioners are violating the medcal act and imposing on the public. The State Society is desirous of securing sufficient reliable information from such authentic sources as a basis for future legislation.

DIFFICULTIES OF PROSECUTIONS.

The difficulty which confronts a medical society in prosecuting local impostors is very obvious. The district attorneys and magistrates owe their appointment to the suffrages of the locality and are frequently disposed to regard complaints as persecutions; and it is for this very good reason the State Society through its legal counsel can be a more effectual agent in suits to suppress this form of imposition on the public.

When a medical society undertakes to act for the public good it deservedly commands respect and co-operation from public sentiment and esteem.

A medical society should not exist for the sole intellectual and social self-interest of its members alone. There is a sphere of usefulness in impressing its influence on the public mind in various educational ways.

DUTIES TO THE PUBLIC.

The title of the presidential address of the American Medical Association delivered at the fifty-ninth session, "A New Duty of the Medical Profession: The Education of the Public in Scientific Medicine," and more recently that of another address by Dr. M. Allen Starr at the opening of the Medical Department of Columbia University, "The Duties of the Medical Profession to the Public," present convincingly such obligations.

Dr. Burrell, in his address outlines the objects of a medical Society as follows:

"First—That individually its members may be better able to care for the sick.

"Second—That they may collectively be better fitted to prevent disease.

"Third—That they may know men and their ways and by social intercourse may live broader lives."

Besides the necessity for good organization, harmony and individual enthusiasm for scientific progress, a zeal for work is a prime factor. It is necessary that well-defined plans should be conceived and assigned to appropriate committees in order to achieve that success which, at the expiration of each year, the president of each county society may, with pride, recount in his valedictory.

ADVANTAGES OF MEMBERSHIP IN MEDICAL SOCIETIES.

The individual member in a county society becomes a unit in the State and National bodies, and upon him is conferred all the privileges these great medical associations possess.

He is elevated into the house of peers of the profession. There is something wrong with the man who to-day is not an equal with his brothers in this respect.

The principles of these great and honored organizations are to uplift every member they include. Every county officer would do well to read the article by Osler, quoted by Dr. J. Riddle Goffe in his address delivered October 17, 1905, on "Organization the Watchword of Creation":

"In too many towns and smaller communities miserable factions prevail and bickerings and jealousies mar the dignity and usefulness of the profession. So far as my observation goes the fault lies with the older men. The young fellow, if handled aright and made to feel that he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship.

"The society comes in here as professional cement. The meetings in a friendly, social way, lead to a free and open discussion of differences in a spirit that refuses to recognize differences of opinion on non-essentials of life as a cause of personal animosity or ill-feeling. An attitude of mind habitually friendly, more particularly to the young man, even though you feel him to be the David to whom your kingdom may fall—a little of the old-fashioned courtesy which makes a man shrink from wounding the feelings of a brother practitioner—in honor preferring one another; with such a spirit abroad in the society and among its older men there is no room for envy, hatred, malice or any uncharitableness. It is the confounded tales of patients that so often set us by the ears, but if a man makes it a rule never, under any circumstances, to believe a story told by a patient to the detriment of a fellow practitioner, even if he knows it to be true, though the measure he metes may not be measured to him again, he will have the satisfaction of knowing that he has closed the ears of his soul to ninety-nine lies; and to have missed the hundredth truth will not hurt him. Most of the quarrels of doctors are about non-essentials, miserable trifles and annoyances—the pin-pricks of practice, which would sometimes try the patience of Job. But the good fellowship and friendly intercourse of the medical society should reduce these to minimums."

The shortcomings in the medical profession are by no means confined to the "many towns and smaller communities" of Dr. Osler's picture. The good feelings between doctors occasionally is marred by inconsiderate remarks at public clinics—sometimes in the presence or hearing of the patients. It is not an uncommon thing for a doctor's patient to surreptitiously hie himself off to a clinic for various personal reasons—often with ulterior motives. They go without a card or letter of the attending doctor, and rarely intimate their intentions. They relate their case in prejudiced misstatement or evasions, often to the attending physician's detriment, and gloat over any criticism they may chance to hear concerning their former treatment or diagnosis.

They frequently have been influenced by busybody friends, and as the service they receive is free they grossly abuse the privilege of charitable institutions. When these cases present themselves in this way no exceptions would be entertained if they were postponed to another clinic day, in the mean time the attending physician communicated with to ascertain all available facts concerning their case.

By such a course there could never exist any reason for hard feelings between the physicians in attendance and the clinician, on the contrary they would be enduring friends, avoiding an everlasting boycott of each other and mutually exchanging professional references in the future, at the same time disarming a patient wavering in his confidence in his doctor, who before wished to hear something that would possibly seriously injure his practice.

Medical societies should discourage the for-

mation of medical cliques. It is not uncommon for a few men to band together for the purpose of controlling the society or dominating the management of a local institution for ulterior or selfish motives. "Close communions" are well estimated in their purpose by the public sooner or later. It brings well-merited reflection to those comprising them, but the incidental effects upon the institution or society with which they are officially associated are unfortunately such as to alienate the public support. These unprofessional methods smack loudly of the trust spirit of commercialism wherever they exist.

A languishing medical society should energetically investigate the causes for its conditions. A live thriving society is a most profitable and s imulating source of energy, of social and professional uplift to its members, but needs new leaven occasionally. A careful and searching diagnosis for its ills should be instituted and the cause removed. "Expectant treatment" is not appropriate in bringing back a healthful state. The means adopted should be combined vigorous, internal and external treatment as the illness may be in its terminal stages. The strict following of well conceived details carefully outlined by the consultants as the best course to follow in achieving the most promising results should be consistently adhered to with good nursing, the proper social nourishment—plenty of fresh air—not over-heated—and vigorous stimulation by energetic spirits.

A county medical society aspiring to the objects quoted from the address of the president of the American Medical Association must heed the voices of the times.

MEDICAL SOCIETIES AND PUBLIC QUESTIONS.

It should take the initiative in each community in matters that present themselves regarding public health and the problems of sanitation. We have our canal zones and our New Orleans cesspools at our doors.

While the echoes of the recent International Congress on Tuberculosis sound the knells of 200,000 deaths annually from a preventable disease, what is being accomplished to lessen this scourge of the White Plague outside of a few large cities?

The infant mortality (Graham) under five years of age per thousand according to the last census of the United States is as follows: Michigan, 121.3; Connecticut, 156.8; New York, 159.8; Massachusetts, 177.8; District of Columbia, 274.5. Are these mortality figures not sufficiently appalling to stir us to activity in preventing "the slaughter of the innocents"?

RELATION OF UNSANITARY MILK TO INFANT MORTALITY.

The principal cause for this high death rate is so well understood and can be so efficiently prevented that it becomes almost criminal for a community to allow conditions to exist which contribute to such a state of affairs. The poisons given these defenseless human beings in their food cannot be laid to criminal intent but to the ignorance of their own mothers.

What does an average mother know about the cause of cholera infantum? The term itself fails to convey any meaning to her mind. It is a heritage of the past. Medical ignorance is deep-rooted in the minds of most people, and they tenaciously cling to old ideas and superstitions. Most mothers even to-day believe that it is essential for a baby to have loose bowels at dentition time or in the "second summer." If many medical terms were revised and called by their proper names much useful information would be imparted to the public. Cholera infantum would be supplanted by *Acute Milk Poisoning*. This appeals to the mind and comprehension of the most ignorant. What mother would continue to give a known poison to her offspring already made ill by a suspected food, that she knows becomes so, because of the conditions under which it is procured, marketed and kept?

This brings me to the subject already referred to, "A New Duty of the Medical Profession: The Education of the Public in Scientific Medicine."

Medical societies have a duty to perform along these lines; their members should be sources of information concerning those things which pertain to the welfare of the public in relation to the every-day conditions that menace their health.

Every mother who is feeding her baby artificially on cow's milk, or other food of which it is a part, should be told the danger of doing so while the child is suffering from a putrid diarrhea.

A mother never suspects for one moment that the diarrhea from which the child is sick is caused by the germs in the very food that has heretofore perfectly nourished her baby. She has no conception that these germs which originally polluted the milk were some of the flora of the cow's intestinal contents and got into the milk from particles of excreta adhering to the animal's body. She does not realize that such milk, originally pure, if allowed to remain for twenty-four hours in a warm room will contain more germs than sewage (Chapin).

It is our duty to instruct mothers and the public generally, as opportunities occur, with these facts, and also to advise them to patronize the dairyman who can show a clean bill of health, the man whose milk is certified that it has been produced under sanitary conditions and maintained at a temperature precluding the dangers from bacterial life.

All this is possible by changed methods of the farmer, the dairyman and the dealer. The slight advance in cost consequent on the necessary care of the milk is so slight as compared to the benefits, that such a consideration should not be taken seriously into account.

SCHOOL HYGIENE AND MEDICAL INSPECTION.

Another sanitary problem confronting the public welfare is that of school hygiene. In a recent address by Dr. Thomas Darlington, Health Commissioner of New York City at the eleventh Annual Conference of the Eastern Public Educational Associations—on the "Medical Inspection of School Children in New York City," some very startling facts were adduced. "During the school year just ended 17 per cent. of the school children were excluded from attendance for varying periods of time for contagious diseases —and out of 141,908 children examined 108,329, or 76 per cent. were found to be suffering from non-contagious physical defects.

"Taking into account the time lost from school through illness, as well as acknowledging the inability of a physically defective child properly to assimilate his educational advantages, it is reasonable to assume that a large majority of these children failed of promotion because of their physical condition.

"In New York City alone (referring to the economic aspects of the question), I believe, the greater part of the $6,000,000 spent for *one year's* education of children who failed to profit by it, could have been saved by the investment of one-twentieth of that sum in proper systematic physical examination of the children."

I quote again from the suggestive address of Dr. Burrell in this connection: "When it is recognized and brought home to the public that contagious diseases in children are to a degree unnecessary, that by proper sanitation and medical school inspection they may be in a large measure prevented, then people will demand that their little ones in public schools shall be protected against disease which often leaves them invalided and crippled for life. A child among the better classes to-day, until it begins to go to school, is usually free from contagious diseases, but the moment it enters a school it is subjected to dangers from infection which it rarely escapes."

The examination of school children in districts outside of the larger cities has not as yet been taken up in the State. Children residing in small towns or in the country are possessed of these same physical defects as city children—perhaps not in so large a ratio. They have many exposures to contagious diseases in the school houses, which are generally most unhygienic, poorly cleaned and rarely ever disinfected. It is generally conceded that contagious diseases of childhood could be absolutely controlled were it not for the school house. These children should be as well cared for as those in cities. If any of you will go to the crowded tenement districts of New York City and compare the school children of to-day with those of an older generation, you will be struck by the healthful and symmetrical faces of the former in marked contrast to the deformed and sickly physiognomies of the latter as you meet them on the streets. You will also appreciate what this medical work among the neglected school children is accomplishing. If these measures are adding to the efficiency of school life, how much more is it going to count in fitting these same citizens for the broader fields of usefulness in the after activities of business careers where the voice, the hearing, and the eyesight are called into excessive use daily by the exigencies of our modern civilization.

The saving of life from pulmonary, throat, ear and eye diseases, and conservation of nervous systems, consequent upon neglect of these important organs in early life, is beyond computing at this time.

PUBLICITY OF VENEREAL DISEASES.

A word about venereal diseases. Gonorrhœa, next to measles, is stated to be the most prevalent malady of civilized countries. It is estimated that from 75 to 90 per cent. of all males have been infected. It is the cause of 50 to 65 per cent. of all capital operations in public hospitals on women; and the one factor of sterility, due to the genital infection of female infants.

It is the most difficult of all infectious contagious diseases to control in infants and foundling hospitals, asylums and day nurseries, most of whose inmates become infected; and furnishes 30 per cent. of blindness in children and over 10 per cent. of all adults in asylums.

The County Medical Society should take more interest in the questions which are constantly presented to municipal boards of health.

There is the milk problem already referred to, our potable water supply, ice supply, pure foods and drinks, as well as the control of contagious diseases.

MUNICIPAL BOARDS OF HEALTH.

The municipal health boards as now constituted are a reproach to our intelligences. They belong to the past, are antedated in all their methods, and inefficient in all things they undertake to perform. They are usually composed of political appointees put there for kindergarten purposes for other political offices later on. The men filling the boards are rarely ever suited by experiences or fitness to judge of sanitary questions. As an example: A health board, in a neighboring municipality to where I reside refused to concur in recommendations made by a County Milk Commission for regulating the principal milk supply in the county in spite of the well known fact that one milk producer alone had nine out of his eighteen cows destroyed by the State Agricultural Department because of the presence of tuberculosis. The excuse advanced, by a supervisor of the county and a member of this health board, was that the regulations would impose a hardship on a poor man with one cow who was using it as a means of support in bringing up a family.

This selfsame board of health is referred to

in the monthly bulletin of the New York State Department of Health for August on page 211, as follows: "One board of water commissioners entered complaint against the board of health of a neighboring community which had given permits for drains of a row of houses into a gutter which flows directly into a tributary of the stream from which the water supply is drawn. And the same board included among its list of twenty-five violations, the maintenance of a cesspool near a tributary by the supervisors of the County Jail."

NEGLECT OF PUBLIC SANITATION.

Local county health boards do nothing in sanitary matters except on complaint, founded on facts that can be sworn to if necessary, and made in writing only. This must be investigated by the local health officer. In his inspection he is often informed that the party making the complaint has probably some personal grievance and is taking this means to satisfy resentment.

The health officer may be the family physician of the alleged persecuted party. His report may be biased. The action of the board depending upon the report before them defers action or compromises with one side or the other, according to their personal or political affiliations.

INEFFICIENCY OF PUBLIC HEALTH LAWS.

As the Public Health Law is now constituted its defects and requirements preclude the better class of medical men accepting appointment as health officers in many important localities.

Since I have been engaged in the preparation of this address the September number of the monthly Bulletin of the New York State Department of Health appears, with an editorial comment, part of which I wish to incorporate: "Some change in the cumbersome and obsolete method of procedure in local jurisdictions is much needed. An intelligent and capable health officer is often unable to get his board to act when his medical knowledge shows its necessity."

"Every local board of health must have been struck with the indefiniteness of the law governing its powers and duties, and its entire inability to do needed things for the protection of public health, by reason of lack of funds, and the vague provisions of the law, seemingly conferring upon them great power, but failing to specify how it can be used."

"The people of this State are, at last, fairly awake to the value and necessity of sanitary reforms, and they are demanding both from the Department and from their local boards of health and health officers, effective action along many lines."

NEED OF REFORMS.

The remedy lies in making the rural boards of health as efficient as those of larger cities, and the methods and systems there in vogue could well be copied with such modification as local conditions require.

The public are open to receive instruction in medical subjects.

The eagerness with which patent medicine advertisements are read by the masses well demonstrates this fact.

For this reason it is obvious why the President of the American Medical Association warns those who undertake the education of the public in this connection—that we should be careful in our efforts to impart new truths that we should not convey error.

Josh Billings said truly: "You better not know so much than to know so many things that ain't so."

MEDICAL JOURNALISM.

STATE JOURNALISM IN PARTICULAR; WITH ESPECIAL REFERENCE TO THE NEW YORK STATE JOURNAL OF MEDICINE.

By JAMES PETER WARBASSE, M.D.

BROOKLYN-NEW YORK.

WHILE the main function of a medical journal is the diffusion of medical knowledge, still it is sometimes profitable to discuss the agencies themselves by which this knowledge is disseminated and preserved. Retiring from editorship, I feel impelled to present a few views on this subject in the interest of medical journalism with the hope that interest in this particular journal may be stimulated and that some general good may accrue.

I do not agree with those who have misgivings as to the possibilities of the permanence of State journals. It is true, these journals are conducted under the enormous disadvantage of shifting and changing policies. Publication committees may be actuated by interests not always in harmony with the interests of the journal. Sometimes one journalistic policy may be pursued, sometimes another; thus the tendency of these publications is to vacillate and to depart from the lines of permanency which characterize the better independent journals. An author does not care to bury a good paper in a journal which fluctuates in style and form and which may discontinue with its next volume; advertisers place less value upon a publication which seems ephemeral; the editor becomes discouraged; and general interest in it is not sustained. Journalistic battledoor and shuttlecock is hard on a journal.

Any practical journalist recognizes these difficulties and knows how they are to be overcome. In a State having a well supported medical society, the profession may have as good a medical journal as they want, and its permanence of character can be assured. It is simply a question as to whether they want it or not. It is like politics; the people get about what they want and what they deserve. There is an abundance of material for publication, and no dearth of good editorial talent. So far as material goes, in the

case of the NEW YORK STATE JOURNAL OF MEDICINE, a journal four times its size could be issued. It is simply a question of wanting such a journal or not. This journal starts out with an assured circulation equal to the number of members in the State Society. That is a big subscription list to begin with, and guarantees financial success. For the completion of its success it needs unhampered editorial management. It is the editor who makes a journal. I am discussing a real medical journal, not a bulletin of proceedings, or a catalogue of the activities of the officials of local medical societies.

As editor of such a journal as this the State Society should be satisfied only with the best man who can be secured. He should by all means not be a man who is regarded as available because he "has the time to give to the work." A man who accepts the editorship because he has leisure time which can thus be filled in is just the man who is not desirable. He should be an occupied man, but one who is willing to give up some part of his work to be replaced by editorial responsibilities. The office should not be cheapened. Above all *the editor should be the editor in every sense of the word.* There has never been a medical journal that had enduring qualities that was edited by more than one man. A corps of figure heads, collaborators, and assistants do no harm provided the actual editorial responsibility is vested in one individual. I have no hesitancy in predicting that State journals which are edited by committees will always lack bowels. The editor of a journal like this, having a Society of 7,000 members behind it, should be paid for his work. The Society should not extort his services from him or accept his philanthropy. He should be paid a salary at least equal to that which is paid the legal counsel of the Society. Inasmuch as all papers read before the Society become its property, the editor of the Journal, I am inclined to think, might wisely be the chairman of the Committee on Scientific Work, or the chairman of that committee might be the editor of the Journal. Such an arrangement would place at the head of that important committee the one man who is most interested in the quality of the papers read at State Society meetings. There would then be assurance that in the making up of the scientific program not only would the auditors who attend the meetings be considered but the ten thousand readers of the Journal who can not attend the meetings would also be had in consideration.

If advertisements are to be accepted the strictest supervision over their quality should be exercised, leaning always to the side of strictness rather than laxity towards enterprises which have wares to vend to the medical profession. The employment of drugs in the treatment of diseases is upon such an uncertain basis that, no matter how good and ethical a remedy seems to be, a time is pretty sure to come in the near future when its claims to excellence will seem absurd. This may be seen by consulting advertisements of drugs published a few years ago. It is also true that, no matter how ethical a preparation now is, as soon as it becomes much used by the profession, the public will become familiar with it and it will become purchasable over many counters. That is not only the fate of every good preparation but it is what the manufacturers are striving for in advertising it. They hope ultimately to vend it directly to the public when the physicians have created a great enough demand for it and made it sufficiently popular.

The practice of medicine is a profession; selling drugs is a business. The standards of one are not the standards of the other. Advertising in medical journals can not be made ethical from the professional standpoint. Oil and water will not mix. So long as we publish advertisements there will be the eternal discussion of ethics. Nor does it apply to drugs alone. There is just as much unprofessional commercialism in other advertisements. This Journal, as well as the *Journal of the American Medical Association,* carries the advertisement of a publishing house advertising a work as being written by "the world's most eminent authorities." I have carefully scrutinized this list of authors, and while many of them are eminent men the list is not made up by any means of "the world's most eminent authorities," and the statement is false. Here is another advertisement of "the most beautiful beach in the world;" and the illustration shows barrel hoops in the foreground. There are many more beautiful beaches. A medical college, advertising "unexcelled laboratory facilities," has laboratory facilities which are excelled by several other colleges within its own city; and everybody knows it. I mention these few instances to show that the terrible nostrum business is not the only source of unwarranted advertising claims in our medical journals. There is scarcely an advertisement in these medical journals but that is a deliberate misrepresenting scheme. Business is business; and it is a very different thing from professional ethics. Some editors say that they have no interest in the advertisements in their journals and that the business and editorial management are utterly separate. This is an unwarranted attitude for a medical man to assume. No self-respecting editor can be indifferent to the frame which surrounds his editorial picture. He surely must feel concerned to see it dribbling ooze across his canvas. Advertisements are unethical in the nature of things; and I am strongly of the opinion that a medical journal properly to represent the medical profession should carry no advertisements. However devoutly this consummation is to be wished for, it is doubtful if it will find general approval. The Medical Society of the State of New York could afford to publish a journal without advertisements if it desired to. I doubt if it would care to do it.

The old and substantial medical journals in this country, which are the repositories of the best medical thought, are under the business con-

trol of well established business houses. Such a condition makes for permanence. Here the success of the publication is the aim. A fixed policy prevails even though the personnel of the controlling power changes. But with publications, controlled by societies, there is a lack of fixedness of policy. A very few members run things, but now and then a revulsion takes place upon some special provocation, and the policy is changed by the whole organization voting to upset the plans of the minority. Thus these publications are destined to have their ups and downs unless they are placed under the control of an independent business concern, or unless the methods of such concerns are adopted by the society in the management of their journal, or unless an individual dominates the policy of the journal. This latter condition is the case in the largest and most successful organization medical journal in the world.

A committee having supervision of the journal is the most natural plan. But inasmuch as such a committee can not have a financial interest in its literary projects there are certain conditions to be guarded against—they are, the possibilities of indifference, politics, and prejudices. In the interests of a medical journal, published by a medical society, the committee or management which has in charge the journal should not have in charge other publications for the society, lest it happen that they become more interested in one publication than in another, or be disposed to sacrifice one for the benefit of the other. A journal will thrive best if it has an exclusive management, jealous of its success.

Most of the State journals do not aim to take a place among medical journals, but are more in the nature of bulletins of local medical progress. New York can have either one: a real medical journal or a bulletin of State affairs. My own observation of the feeling of the profession in this State is that they would prefer that the State Society give them a well-rounded medical journal, partly supported by advertisements, and adding as much of local features as is not inconsistent with a good journal. We, therefore, come back to the necessity of emulsifying the oily advertising business with the limpid waters of ethical purity.

The securing of advertisements and conducting the business affairs of such a journal as this should be in the charge of an individual business man who should have the title of Business Manager. Every important publication has such a man. In the purchase of paper, the checking up of printers' charges for type-setting and corrections, overseeing and keeping corrected the addresses of the subscribers, extending the subscription list, securing advertisements, representing the business interests of the journal, and in many other relations incidental to the publication of a journal, such a person is indispensable. A committee on publication, consisting of members of the society, should not be expected to perform this work. The matter of advertisements in a journal reaching such a large number of medical men as this publication does is capable of unlimited development. But to be well done a man must make it his business. Advertisers do not come unsought. They must be solicited; and once in they can not be expected to stay in unless the interest of the journal is constantly represented. Every practical advertising man knows that advertisers require nursing.

This Journal has been fortunate in having had committees on publication composed of men who were willing to give their time and energy to the work; but business is business, and it is asking too much of them to expect them to exhaust the possibilities of a project of this nature. I may be wrong about these things but I think I am correct.

To succeed and take its place as a dignified product in the world of medical journalism a State journal requires the greatest care. It grows in a precarious soil. It should not be pulled up periodically to have its roots examined to determine how it is thriving; nor should it be subjected to too much pruning or cultural experimenting. The more it can be given over exclusively into the hands of its editor the better it will be. When the best editor possible is secured he should be instructed to produce the best journal possible, and the chances are that he will come pretty near doing it. But the best editor possible by no means implies the most tractable editor possible; they are two different things. The disposition to be editor *de facto* must be regarded as nothing less than commendable; and the disposition to lack sympathy with any policy which hampers the development of his journal must be regarded as nothing short of the duty of the editor.

HYSTERIA AND ALLIED NEUROSES.*

By N. A. PASHAYAN, M. D.

SCHENECTADY, N. Y.

THE progress made in recent years in the study of psychoneuroses has been of sufficient value to excuse our undertaking to discuss an old subject. Hysterical manifestations have been recognized from the early days of medicine, but it is only during the past few years that its clinical entity has been placed upon a firm basis and freed from a mass of allied conditions. In this field of inquiry most active has been Pierre Janet, of France, whose contributions have been the best since the days of his former chief, Charcot. Valuable work also has been done by Babinski, Breuer, Freud, and in this country by Putnam, Morton, Prince and many others. As a result there has been a steady evolution in our conception of hysteria, modifying our views radically and permitting us a better insight into its nature and pathogenesis.

Essentially hysteria is a mental disease and its roots are deeply imbedded in the domain of the

* Read at a meeting of the Medical Society of the County of Schenectady, May 20, 1908.

psychic. Its problems are in the main psychological, although it reveals itself under the guise of many a physical affection. Should we lose sight of this fact hysteria becomes as much of an enigma as it was in the days Sydenham described it "as a Proteus that cannot be laid hold of."

It is in the recognition of the nature of hysteria and its fundamental characteristics, known as stigmata, that valuable advance has been made. What constitutes the proper stigmata of hysteria has been variously interpreted by different authors in different epochs. For Charcot anesthesia was pathognomonic, for others globus, theatrical display, convulsions, the tendency to create astonishment and attract attention, and again for a few others outright mendacity. That all these symptoms are noticed in a large majority of hysterics admits no doubt; yet the most prevalent symptom—anesthesia—is seen only in two thirds of the cases, and no trace of it can be found in the remaining third. The sense of ennui, an intense longing for sympathy and attention are very common, but these are observed with equal frequency in psychasthenics and other neuropaths.

There are three stigmata, however, that obtain only in hysteria and distinguish it from other neuroses. First.—*Suggestibility,* using the term in a special sense, it means that when a definite idea is imparted to an hysterical person in words or otherwise, that idea is seized upon involuntarily by the patient and carried into effect. The best illustrations of this suggestibility are seen in hypnotism. You suggest "fire," the hysteric imagines himself in the midst of a conflagration and acts the scene out without any volitional effort on his part. Suggestibility in this sense is only seen in hysterics and disappears with recovery.

Second.—*Exaggerated Absent-mindedness and Abstraction.* Hysterics can see and do one thing at a time and are quite unable to carry on two simple acts, such as rotating the hand while opening and closing the mouth, simultaneously. It is probably due to this mental limitation that contraction of the field of vision and dyschromatopsia are so common in them.

Third.—Mutation of Symptoms. What is paralysis to-day may change into another manifestation such as amaurosis or convulsion at another time.

These three symptoms, especially the first two, can readily be demonstrated in all true cases of hysteria and are the expression of what Janet designates "the contraction of the field of consciousness." Normal consciousness is compared to an illuminated circle with a penumbra and fringes surrounding it. In hysteria the penumbra and the fringes are wanting and the circle only is visible. Whatever falls within the circle is perceived to the exclusion of everything else. That is why an idea suggested is gotten hold of and carried into effect. It also explains their inability to perform more than one act at a given time.

To understand hysteria properly it must be remembered that its genesis is invariably due to some psychic trauma, a moral shock, a blow to one's affectivity. This shock may range from terror, incident to great catastrophes, to simple fright; or it may be a mere chagrin, jealousy or even a trifling rebuke. Particular emphasis is laid upon shocks received in sexual life and Breuer and Freud go to the extent of affirming that it is the greatest etiological factor in the production of hysteria.

How does a psychic trauma give rise to hysteria, what is its pathogenesis? Normally a painful incident is met with anger, rebuke, surprise or some other emotional reaction. Should it for any reason fail to find an outward expression but be pent up and suppressed, it produces a sort of dissociation in the personality of the individual, the idea referring to the incident does not form a link in the chain of thoughts traversing the consciousness but sinks into the realms of the subconscious so that the shock and idea referring to it are lost sight of.

As soon as the subconscious idea comes to the surface the normal consciousness is in abeyance and then and only then takes place what we call an hysterical attack. It is through the operation of the particular idea or system of ideas that such a multiplicity of symptoms are developed. These attacks may appear as a ball in the throat, chorea, tetany, ecstacy, syncope, somnambulism, fits of sleep, fugues, convulsions, paralysis, contractures, astasia-abasia, convulsions, multiple personalities, anuria, pyrexia, local edemas or even hemoptysis and hematemesis.

Diverse as these symptoms are, they are still governed by certain basic principles which underlie every true attack of hysteria and constitute their distinguishing feature. The following case well illustrates these principles:

A school girl, age 17, residing in a neighboring city, went to see a dentist whose office was in a large public building. The elevator boy took her to the top floor, claiming that the dentist had removed there, and dragged her into an unoccupied room with malicious intent. The girl was horrified, screamed and rescued herself. On her return home she did not say anything to her parents, nor was their suspicion aroused by her appearance or manner. Presently a change was noticed in her disposition, she became inattentive, peevish, could not keep up with her studies and almost daily would have certain attacks of temper, would cry, pull her hair, throw furniture around and look bewildered. As the parents described, she acted as if she was "in a delirium." During her calmer state she claimed to be ignorant of her peculiar conduct and was unable to offer any explanation. A few weeks later one day she happened to pass in front of the building where the dentist's office was located, in the company of her mother, when suddenly she became terror stricken and begged her mother to go across to the other side of the street. Then she related what had transpired in that building, which was subsequently confirmed by the elevator boy himself. She positively assured the family as well as the physician that she had entirely forgotten her experience with the elevator boy until she happened to pass in front of the building and the entire scene was thus revived.

We observe a few characteristics in this case: First, during the attack there was a complete change in her disposition, she acted as though she were "in a delirium." Second, after the attack she did not remember her conduct and knew of it because her parents had told her of it. This amnesia persisted even after she was entirely free from these attacks. Third, the idea referring to the incident was not connected with the normal train of thoughts but existed in the subconscious, and as soon as it made its appearance there was a complete transformation in the personality of the patient.

These three cardinal features are present in every genuine attack of hysteria and *a priori* should be so if our views of the pathogenesis of hysteria are correct. These characteristics taken in conjunction with the proper stigmata of the disease should necessitate the separation of hysteria from a host of bizarre manifestations, such as peevishness, emotional outbursts, simulation, wilful deceit as practiced in traumatic cases, all of which are *hysteroid* in nature but do not belong to the grand neurosis.

In contrast to the above we may refer to the case of a young man residing in this city, who a few days ago while walking on the street felt weak, his legs became tremulous, his heart began to palpitate and he was compelled to lie down in the street. He was taken to a physician's office near by, where he had a convulsive seizure which, from all appearances, was typically hysterical. On inquiry, however, he gave a full account of the entire attack, how it began, how it developed and terminated. He had retained his normal consciousness as well during the attack as before and after it. None of the three essential phenomena pertaining to hysteria obtained in this case. As a matter of fact the seizure was not hysterical in nature but purely psychasthenic.

To enter into the discussion of psychasthenia, essential and symptomatic neurasthenia would prolong this paper into tedium and will not be undertaken.

PRESENT STATUS OF THE CALMETTE REACTION.

By IRVING WILSON VOORHEES, M.D.

NEW YORK.

IT is now a little more than one year since Calmette, following up the work of Wolff-Eisner and Vallée, described before the French Academy of Sciences a new method of diagnosticating tuberculosis by means of a 1 per cent. solution of tuberculin applied to the conjunctiva. French and German physicians have been quick in working up this matter clinically and have published already a large number of articles dealing with its efficacy. The English and Americans, however, have been slow in taking hold and it is only recently that their experiences have appeared in current medical literature.

In the *Journal of the American Medical Association*, of June 13, 1908, Professor Frederick Tile of Chicago gives his results from a series of one hundred and fifty-seven cases in which the ocular reaction was tested. Great care was taken that only the best tuberculin obtainable for the purpose was used inasmuch as indifferent results have been reported by investigators who used old tuberculin containing glycerin and other substances which rendered the reaction of dubious value. Tablets containing 10 mg. of dry purified tuberculum were dissolved in 1 c.c. of physiologic salt solution to make a 1 per cent. suspension and a fresh solution was made up for each treatment.

Barring out all cases of eye disease such as conjunctival hyperemia and simple conjunctivitis it was found that the reaction takes place in typhoid, cerebro-spinal meningitis, gonorrheal rheumatism, secondary syphilis, and even in the eyes of apparently normal healthy persons, while in those cases of a demonstrable lesion, such as tuberculosis of the hip, spine, knee, cervical glands, etc. no reaction whatever took place. It is noteworthy that many incipient cases also failed to react, and since early diagnosis of human tuberculosis appears to be almost the only positive hope of ultimate cure this fact is especially to be deplored. Even when bacilli were present in the sputum the conjunctiva was unaffected by the serum in twenty-one cases, while in twenty-one others, strange to say, the reaction was uniformly positive. This makes the chances of usefulness so nearly even that one is inclined to condemn at once the entire procedure; but when we recall that a like experience was gleaned from our first efforts with diphtheria antitoxin, the outlook is not quite so dark. It was only after considerable investigation and trial that anything approaching a correct dosage was obtained, and likewise it may be that Calmette's reaction is still too crude and imperfect in detail to mean much to the clinician.

In all laboratory tests we should ever remember that the evidence is not final but merely corroborative whether it be positive or negative. For just as no experienced diagnostican would certify to the presence of initial regurgitation in every case of apical systolic murmur without other signs, so should the laboratory man guard against a too positive statement based merely on the evidence furnished by microscope and test tube.

Our forbears were in this respect much wiser than we inasmuch as they were obliged to depend on ear, eye and finger, rather than upon insensitive glass or unsympathetic steel when differentiating between similar conditions.

Although present indications seem to declare the inutility of the ocular reaction in tuberculosis it is certainly all too soon to forsake it for some new and equally unknown fetich which might lead us even further into the marsh land than does this uncertain light which we are now watching so intently.

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Further information on last advertising page.

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Editorials

NOTICE.

TO THE PRACTITIONERS OF MEDICINE OF THE STATE OF NEW YORK.

The Society for the Prevention of Abuse in Animal Experimentation last year caused to be introduced into the Legislature of this State a bill seriously restricting experiments on living animals. The above named society now enters the field again and proposes another bill of the same general character as that of last year. The Medical Society of the State, through its committees on legislation and experimental medicine, successfully opposed the passage of last year's measure.

Acting under the resolution referring to animal experimentation which was passed at the last annual meeting of the State Society, its committees on legislation and experimental medicine will oppose the passage of the proposed bill. We, therefore, urge all members of the medical profession to disapprove the measure and on its introduction into the legislature, to work in all legitimate ways for its defeat. Specific objections to it will be presented later.

(Signed) Frank Van Fleet,
Chairman of the Committee on Legislation.

Joseph D. Bryant,
Chairman of the Committee on Experimental Medicine.

John G. Curtis,
Secretary of the Committee on Experimental Medicine.

VALEDICTORY.

With this issue of the Journal I resign the editorship. I can not do this without saying a few words to the readers and to the members of the State Society. Three years ago, at the request of a committee appointed to secure an editor, I undertook the work. Some one had to do it. The efforts to develop a medical journal have brought both pleasure and profit. I have always felt a close sympathy with the readers of the Journal, and am conscious of having made many friends and few enemies. The editorial policy pursued has never been to cheapen medical journalism or medical thought. For three years I know that this Journal has stood for high ideals in medicine. Efforts to preserve our reading pages from the encroachments of commercial and selfish interests have met with a good measure of success. The present editor has endeavored to be editor *de facto* so long as his name stood at the head of the editorial page; and while it is neither to be assumed or hoped that every reader has agreed with all editorial views and observations, still the general expressions of approval which have been received and the wide reprinting by other journals from this Journal have brought much of encouragement.

I desire to thank the contributors of original articles for the patience which they have often displayed towards the tardy publication of their papers, which has been necessitated by the large amount of material which has always been on hand clamoring for appearance and which has made their earlier publication impossible.

The editors of the special departments have placed the readers under obligations to them for the value of their contributions and the discernment which they have displayed in their selection.

Our book reviews are widely read and many of them are of extraordinary merit. The reviewers have written on the whole admirable criticisms of new publications, and have not retained the books as the price of their work. No other periodical within my knowledge has been able to secure gratuitously this service. These reviewers represent busy men of high standing in their profession, and they are deserving of thanks for their service to the Journal and to the Society.

I personally feel a deep sense of gratitude for the help which all of these contributors have rendered, and for the moral support of the general profession in my efforts to make a medical journal for them. James P. Warbasse.

MEDICAL EDUCATION OF THE PUBLIC.

ON January 1, 1909, the Legislature of the State of New York will meet in regular session, in Albany.

Many of the subjects which will be presented for consideration at this session have been considered at previous sessions, and the senators and assemblymen who have been re-elected will be more or less familiar with them. Many of the gentlemen who will sit in the legislative halls as representatives will do so for the first time, and these measures with which the older members have familiarity, will be, to them, new and strange. Then, too, new measures will be introduced with which neither the old nor the new members will be familiar, and it will not be strange if our legislators are in doubt, at times, as to the course they should pursue in conscientiously fulfilling their duties.

The two Anti-vivisection Societies existing in the State are already becoming active and are sending their literature to members elect of the Legislature, presenting arguments for the enactment of laws restricting animal experimentation.

The Society for the Prevention of Abuse in Animal Experimentation, in its campaign before the Legislature of 1908, expended the sum of $4,481, as shown in the sworn statement to the Secretary of State. This was used in disseminating literature and employing paid agents to present their case.

The society now announces: "We propose to conduct this year a campaign throughout the entire state along practically the same lines as last year."

By a concert held recently in New York City several thousand dollars are said to have been raised to carry on the work of the New York Anti-vivisection Society.

It is evident that failure to secure restrictive legislation in 1908 will not deter the Anti-vivisectionists from renewed efforts in 1909.

It would seem incredible that serious consideration will be given to the demands of these societies, any more than would be given to the demands of an Anti-vaccination Society, which, we understand is also in the field. Their arguments, however, when presented by plausible and fluent speakers, may, if allowed to go unchallenged, have greater influence with the lay mind than would appear, to us, possible.

It is not inappropriate at this time to call the attention of our readers, and especially those who are members of the Medical Society of the State of New York, to the fact that each can do something to strengthen the hands of those who will be designated to conduct the campaign in defense of this most important work.

The Legislature is made up of two hundred and one members, and each member is the elected representative of a certain number of physicians; one senator from the county of New York having over one thousand members of our State Society residing in his district.

The influence of such a body of men, actuated by motives which must appear, even to the most sceptic, to be altruistic, can hardly be overestimated.

We should early in the session get in touch with the senators and assemblymen representing the districts in which we reside, urging them to act cautiously in matters relating to medical progress, and the public health. We should also offer with becoming modesty and deference to place in their hands accurate information bearing on these subjects, which may not be readily accessible to them, but which we, because of medical education and training, are more or less familiar with.

We should be willing, even at the sacrifice of our personal comfort to do our utmost to educate the public along these lines, assured of the fact that the members of the Legislature and the public generally are anxious to know the truth, and knowing it, will act intelligently when the time for action comes.

No doctor should shirk a citizen's duty by saying that he is not interested in public questions. The welfare of the community, as well as one's personal interest demands that each shall do his part. Nor can any one hereafter plead ignorance of a knowledge of the immense benefits which have come to humanity through properly conducted scientific experimentation on the lower animals, unless such a one shall deliberately refuse to avail himself of the information which can be had for the asking.

The Committee on Experimental Medicine of the Medical Society of the State of New York is having prepared, and will, before the Legislature of 1909 convenes, be ready to distribute, certain leaflets written by members of our profession who are authorities on the subjects of which they will write, and these leaflets will be published for free distribution to all who desire accurate information.

It is hoped that the profession will avail itself of this source of information and that individual members will be prepared to do what they can to counteract the misstatements made by misinformed people concerning animal experimentation.

These leaflets may be obtained by addressing the office of the New York State Journal of Medicine, 17 West 43d Street, New York City.*

*One of these leaflets appears in this issue of the JOURNAL, see page 606.

Medical Society of the State of New York

The following article is one of a series issued under the auspices of the Committee on Experimental Medicine of the Medical Society of the State of New York.

Copies may be obtained by application to the NEW YORK STATE JOURNAL OF MEDICINE, at 17 West 43d Street, New York City.

ANIMAL EXPERIMENTATION.

So long ago as the autumn of 1866 there were published in New York denunciations of the practice of making upon living animals those scientific observations and experiments which are commonly called vivisections. During the following forty-two years there have appeared, from time to time, at one or another place, similar denunciations, more or less sweeping and violent. Of these some condemn vivisection altogether, and others in various of its phases. Some call for its total abolition, and others for its material restriction. Some are labored essays, and others are brief "tracts" or "leaflets," intended more easily to arrest the attention. Most of these publications, however, have this in common, that they seek to fortify argument with strenuous appeals to emotion; and some make use of bitter invective. In many of these publications, too, there figure extracts from the writings of medical and scientific men; these extracts often being so deprived of context as to make an exceedingly inaccurate impression. Sometimes, too, they deal with antiquated methods, some of the extracts even dating from the days before the discovery of anesthetics.

Science is simply common knowledge made precise, extended, and transmitted from generation to generation of trained observers and reasoners. The biological sciences study in the most varied ways the bodies and the lives of men, of animals, and of plants. The applied sciences utilize knowledge thus obtained for the every-day good of mankind; and one of these applied sciences, medicine, brings biological discoveries to bear upon the prevention and cure of disease and injury. As experience grows incessantly, the fact which has laboriously been established with no other thought than the noble one of advancing knowledge may be applied, the next day or the next century, in the most practical way, by some inventor or physician; and, in the application, new facts may come to light, which will markedly extend the boundaries of knowledge.

Therefore, in the slowly woven fabric of achievement, pure science and applied science, biology and medicine, have always been warp and woof. Let either be destroyed, man's life shall go threadbare. Experience shows that it is impossible to disentangle pure science from applied science; that vital human interests are benefited by "scientific curiosity," as well as by work more directly practical; and that this general law holds good for those sciences, pure and applied, which deal with man as such, and with the other living things upon the earth. Without physiology, pathology, pharmacology, and their allies, which investigate the laws of life by experiments upon living creatures, practical medicine would be worse than mediaeval plight; for before the Middle ages the genius of the Greeks had inaugurated the practice of experimental physiology, with results of value for all time.

Therefore, the use of animals by mankind for scientific purposes takes its place beside those other uses of them for the good of man which involves imprisonment, enforced labor, and death. That society asserts with practical unanimity the right to kill and even inflict pain upon animals for its own purposes is shown by the legal view of cruelty as the unjustifiable infliction of suffering. Were every infliction of pain as such punishable as cruel, the painful operations, for instance, required to make animals docile, or to fit them to be food, would be abolished. In every great civilized country these operations of the farm-yard aggregate millions in each year.

Happily, of the very various procedures known collectively as vivisections, many are painless; in others the suffering is trivial, whether the animal be killed or remain alive; and in the very great majority of the rest some drug is given to quiet pain, or insensibility is produced by sudden operation. There remains, however, a very limited proportion of cases, which may be of great importance, where the results of experiment would be endangered by any means that could be taken against suffering. In these cases the animal must suffer, though often far less than would be supposed, for the benefit of man, as does the gelded horse or the wounded game.

Common sense requires, therefore, that investigations in biology and medicine shall proceed, at the expense, when necessary, of the death and even at times of the suffering of animals. If these sciences are not to be extinguished, they must be transmitted from generation to generation, they must be taught, and, like all the other natural or physical sciences, they must at institutions of the higher learning, be taught by demonstration. No one would think favorably of a student of chemistry who had never handled a test-tube, or of a student of electricity who had never set up a battery. The young astronomer sees the stars and planets themselves through the telescope. So do serious students of biology or medicine see for themeslves the structure of the body, see for themselves the workings of that structure through the experiments of the physiological or pathological laboratory or lecture-room, just as, if medical students, they see disease in the wards of hospitals, and look on or assist at the surgical operations performed upon men, women, and children. No models and pictures can replace such teaching. From this last fact there is no escape. It is rooted in the constitution of the human mind. No mother would knowingly allow her children to ride behind a locomotive engineer who had never seen the workings of an actual engine. Surely, the physician who does his best to guide the living mechanism along the path of safety should be taught its natural workings as exactly and as fully as possible; otherwise he may not understand its workings in disease.

The cases in which experiments for teaching purposes involve more than momentary or trivial pain are even rarer than cases of pure research. In the very great majority of such experiments the creatures are kept free of pain until they are killed. As to whether or no, under given circumstances of research or teaching, an experiment involving pain should be performed, is a matter which should rest with the responsible expert by whom or under whose direction the thing would be done. Otherwise, in a matter involving the interest of the community, those who know would be directed by those who do not know. For any experiment improperly conducted the person responsible is liable under the general laws against the maltreatment of animals. In fact, American biologists and physicians are no more inclined than other members of the community to culpable negligence toward their fellow-creatures. The work of science goes on; but those who are responsible desire, and see to it, that the work be painless, so far as admissible. No intelligent man or woman should give heed to the denunciations of those ill advised persons who have been drawn into one of the least wise of the agitations which beset modern society.

The foregoing statement is based upon an article entitled "Vivisection—A statement in behalf of science," published in 1896.

Annual Meeting of State Society.

The programme for the next annual meeting of the Medical Society of the State of New York is now in preparation. Members desiring to read papers or to suggest topics for discussion will kindly write to Dr. Leo. H. Newman, Chairman Committee on Scientific Work, 194 State Street, Albany, N. Y.

MEETING OF THE COUNCIL.

A meeting of the Council of the Medical Society of the State of New York was held at the Fort Orange Club, Albany, on Saturday, May 2d, 1908, at 8 P. M. There were present: Drs. Root, Wheeler, Hawley, Toms, Bartley, Stover, Gibson, Snow, Nellis, Neuman, Townsend, Lambert and James Taylor Lewis, Esq.

The Council approved the appointment of the Committee on Legislation as follows: Dr. Frank Van Fleet, Chairman, Dr. H. L. K. Shaw, and Dr. E. Wende.

The Council approved the appointment of the Committee on Public Health as follows: Dr. J. L. Heffron, Chairman, Dr. J. S. Billings, Jr., and Dr. F. R. Ford.

The bill of Dr. Bristow, as member of the Committee on Scientific Work, on trip to Albany, was approved and ordered paid.

The following resolution was passed:

Resolved, That the Committee on Publication be authorized to distribute to libraries and medical societies copies of the History of the Medical Society of the State of New York.

The following resolution was passed:

Resolved, That the Councilors be instructed to investigate the question of illegal practitioners in their district and report at the next meeting of the Council.

The Treasurer presented a report showing cash on hand of $2,500, and bills outstanding of $800.

Dr. Toms presented the following report for the Committee on Publication:

"The Committee on Publication begs to report that during the last three months a strenuous effort has been made to procure as many new advertisements as possible for the New York State Journal of Medicine, and since March 1st, $1,432 worth of advertising has been obtained. Much more could have been procured, were it not for the business depression, which makes many, who would otherwise advertise, unwilling to assume new responsibilities until the financial situation improves. There are also many firms who will not sign contracts in the spring, owing to the dull summer season. These firms will probably come in in the autumn, and the Committee on Publication expect to be able to greatly increase the advertising pages of the Journal during the months of September, October, November and December.

Preparations are now being made for the publication of the Directory for 1908, and there have been already procured $912 worth of advertisements, and $200 has been taken in on advance sales.

It was moved and carried that the session of 1909 in Albany be of three days' duration, that the dinner be held on Wednesday night, and the Committee on Arrangements and Program be instructed to begin preparations for the next meeting.

As the headquarters of the Society at 64 Madison Avenue had to be abandoned, owing to the owner demanding a largely increased rent and refusing to make necessary repairs, the Finance Committee were given power to secure a lease of suitable quarters for the Society on the expiration of the present lease in October, 1908.

The following resolution was passed:

Resolved, That on and after July 1, 1908, no member of the Medical Society of the State of New York shall receive the Directory, the New York State Journal of Medicine, nor be entitled to Mal-Practice Defense, until his county dues and state assessment have been paid.

There being no further business the meeting adjourned at 11.30 P. M.

Wisner R. Townsend, *Secretary.*

DISTRICT BRANCHES.

SECOND DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Garden City, L. I., October 31, 1908.

The following officers were elected: President, E. H. Bartley, Brooklyn; Vice-President, Geo. P. Jessup, New Dorp; Secretary and Treasurer, Victor A. Robertson, Brooklyn.

Several proposed amendments to the By-Laws were adopted. These amendments related to the manner of electing the officers of each district branch, to the time and place of the annual meeting and as to what constituted a quorum. The Secretary was directed to send copies of a communication regarding Ophthalmia Neonatorum to the delegates of the Medical Societies constituting the Second District Branch, these delegates to bring this matter before their respective Societies for action.

After the meeting the members attended the Scientific Session of the Associated Physicians of Long Island.

THIRD DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting in Troy, October 27, 1908.

Program.

BUSINESS SESSION.

The following officers were elected: President, J. L. Archambault, M.D., Cohoes; Vice-President, Andrew MacFarlane, M.D., Albany; Secretary, Henry L. K. Shaw, M.D., Albany; Treasurer, S. V. Whitbeck, M.D., Hudson.

One feature of the Scientific Session was the address of Dr. von Pirquet on the "Cutaneous Tuberculin Reaction."

A large reception was given after the meeting by the Troy Committee.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

The cojoined Meeting of the Society and the Albany Committee on Tuberculosis of the State Charities Aid Association was held at German Hall, November 25, 1908.

Program.

SCIENTIFIC SESSION.

Introductory Address, Charles Gibson, Esq., President Albany Branch, State Charities Aid Association.

Address of the Honorary Chairman, Hon. Charles E. Hughes, Governor of State of New York.

Address, "The Work of the Albany Committee of the State Charities Aid Association," Rt. Rev. Richard H. Nelson, Coadjutor Bishop of Albany.

"The Relations of Organized Labor to the Tuberculosis Crusade," Philip V. Danahy, Esq., of the Central Federation of Labor.

"What Can a City Do to Combat the Ravages of Tuberculosis," John H. Pryor, M.D., Buffalo.

"The Favorable Aspects in the Medical Treatment of Pulmonary Tuberculosis," Samuel B. Ward, M.D., Albany.

"The Tuberculosis Dispensary; Its Part in the Albany Campaign." Arthur T. Laird, M.D., Albany.

"Nature of Tuberculosis" (with Stereopticon), Herbert D. Pease, M.D., Albany.

MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

ANNUAL MEETING OCTOBER 8, 1908, AT HOTEL BELMONT.

Program.

BUSINESS SESSION.

A communication was read from the Genesee County Medical Society asking for the opinion of the society, in regard to the discontinuance of the publication of the Medical Directory for New York, New Jersey and Connecticut and the publication of the Directory for New York only once in five years, and in reply the society voted to take no action in the matter.

Two new members were elected. The following officers were elected: President, E. W. Ayars, M.D., Alfred; Vice-President, F. H. Van Orsdale, M.D., Belmont; Secretary and Treasurer, C. R. Bowen, M.D., Almond; Delegate to the State Society, F. E. Comstock, M.D.; Delegate to the District Branch, V. C. Kinney, M.D.; Censors, F. E. Comstock, F. A. Howard, L. C. Lewis, A. J. Remington and W. O. Congdon.

SCIENTIFIC SESSION.

Address by the President.

"Etiology of Typhoid Fever," C. O. Sayres, M.D.

"The Relation of the Doctor to the Druggist," E. W. Ayars, M.D.

"Typhoid Fever," Charles M. Stewart, M.D.

BROOME COUNTY MEDICAL SOCIETY.

ANNUAL MEETING AT BINGHAMTON, OCTOBER 6, 1908.

Program.

BUSINESS SESSION.

The following officers were elected: President, E. H. Wells, Binghamton; Vice-President, L. H. Quackenbush, Binghamton; Secretary, Jack Killen, Binghamton; Treasurer, A. S. Fritts, Binghamton; Censors, J. G. Orton, J. M. Farrington, J. H. Chittenden, D. S. Burr and Charles S. Butler.

SCIENTIFIC SESSION.

"The Proper Way to Vaccinate," D. S. Burr, M. D.

"Minor Injuries to the Foot and Ankle," F. A. Goodwin, M.D.

CAYUGA COUNTY MEDICAL SOCIETY.

ANNUAL MEETING NOVEMBER 10TH, AT MASONIC PARLORS, AUBURN.

Program.

BUSINESS SESSION.

The following officers were elected: President, W. D. Cuddeback, Aurora; Vice-President, S. E. Austin, Auburn; Secretary, F. A. Lewis, Auburn; Treasurer, F. D. Putnam, Auburn; Delegate to State Society, Frederick Sefton; Alternate, Ledra Heazlit; Delegate to Seventh District Branch, C. T. Brandow; Alternate, F. E. O'Brien; Censors, G. C. Sincerbeaux, C. E. Goodwin, L. F. O'Neill, R. W. Robinson, W. H. Neville.

The following resolutions were read and adopted:

Resolved, That the publication in the daily papers of business cards, inserted among business advertisements and partaking themselves of that nature, is not in the spirit of the code ethical; and it is further

Resolved, That the Cayuga County Medical Society disapproves of this practice; and be it also

Resolved, That this society condemns the practice of physicians allowing their names to be published in connection with newspaper reports of sick and accident cases when this can be avoided.

SCIENTIFIC SESSION.

"The Causes and Manner of Infection in Typhoid Fever," A. H. Brown, M.D.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

REGULAR MEETING AT THE ROOMS OF THE BUFFALO SOCIETY OF NATURAL SCIENCE, ON OCTOBER 12, 1908.

Program.

BUSINESS SESSION.

The resignations of three members were accepted. The special committee appointed to agitate and plan for the establishment of a Municipal Hospital for Infectious Diseases reported progress, having combined forces with a similar committee of the Buffalo Academy of Medicine, and also having secured the co-operation of many civic organizations—the Chamber of Commerce, Manufacturers' Club, Business Men's Associations, Women's Clubs, etc.—and this was strongly augmented by the efforts of Health Commissioner Dr. Ernest Wende.

The subject matter was presented to the Common Council of Buffalo, with arguments as to why they should look upon and act favorably on the project.

The poor enforcement of the anti-spitting ordinance was a subject of discussion, and a committee was appointed to obtain estimates for securing placards and properly placing them about the city.

SCIENTIFIC SESSION.

"Cerebral Hemorrhage in the Newly Born," N. G. Russell, M.D.

"Some Thoughts on Sick Headache," A. G. Bennett, M.D.

"A Case of Anxiety Psychosis," Helena Kuhlman, M.D.

"Lymph," George N. Jack, M.D.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

STATED MEETING, NOVEMBER 17, 1908.

Program.

1. "The Treatment of Lacerated and Contused Wounds and Compound Fractures," by Martin B. Tinker, M.D., Lecturer on Surgery, Cornell University Medical College, Ithaca, N. Y.

2. "The Ethics of Our Profession," by A. Vander Veer, Professor of Surgery, Albany Medical College, Albany, N. Y.

SECTION ON PEDIATRICS.

REGULAR MEETING, NOVEMBER 20, 1908.

Scientific Program.

1. Report of Case: "Infection Following Alveolar Abscess," Henry N. Read, M.D.

2. Scientific Paper: "Modified Buttermilk in Infant Feeding," clinical reports, John W. Parrish, M.D.

MEDICAL SOCIETY OF THE COUNTY OF GENESEE.

ANNUAL MEETING, OCTOBER 7, 1908.

Program.

BUSINESS SESSION.

The following officers were elected: President, A. F. Miller, M.D., Batavia; Vice-President, M. P. Messinger, M.D., Oakfield; Secretary and Treasurer, E. F. Will, M.D., Batavia; Delegate to State Society, W. D. Johnson, M.D., Batavia.

SCIENTIFIC SESSION.

"Some Considerations in Dietetics," H. R. Hopkins, M.D., Buffalo.

MEDICAL SOCIETY OF THE COUNTY OF MONROE.

Regular Meeting Held at Hotel Seneca, Tuesday, October 20, 1908.

Program.

BUSINESS SESSION.

Nominations for officers for the year 1909 were made.

Report from the Milk Commission, covering its work for the past year, followed by a general discussion of the Pure Milk Question.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

One Hundred and Third Annual Meeting Monday Evening, November 23.

SCIENTIFIC SESSION.

A Symposium on Tuberculosis; arranged as a part of the introductory exercises attending the opening in New York of the Exhibit of the International Tuberculosis Congress at Washington.

1. "The Lessons of the Recent International Tuberculosis Congress," by Woods Hutchinson, M.D.

2. "The Incidence of Tubercular Bacilli in New York City Milk, with the Study of Its Effect on a Series of Children," by Alfred F. Hess, M.D.

Discussion by Henry Koplik, M.D., Rowland G. Freeman, M.D.

3. "The Relative Importance of Human and Bovine Types of Tubercle Bacilli in Human Infection," by William H. Park, M.D.

4. "The Methods Employed to Differentiate the Different Varietes of Tubercle Bacilli," by W. H. Woglom, M.D. (By invitation.)

General discussion.

The following officers were elected: President, H. Seymour Houghton; First Vice-President, John E. Weeks; Second Vice-President, Joseph Brettauer; Secretary, John Van Doren Young; Assistant Secretary, J. Milton Mabbott; Treasurer, Charles H. Richardson; Censors, J. Riddle Goffe, Henry M. Painter, Charles G. Kerley; Delegates to the Medical Society of the State of New York, H. Seymour Houghton, Floyd M. Crandall, Ward Bryant Hoag, E. Elliott Harris, Henry M. Silver, J. Milton Mabbott, Abraham Jacobi, Michael C. O'Brien, Egbert Le Fevre, Frederic R. Sturgis, Arnold H. Knapp, Frank S. Fielder, Walter Lester Carr, Charles H. Richardson, John A. Bodine, Edward M. Foote, Edmund Prince Fowler.

MEDICAL SOCIETY OF THE COUNTY OF ORANGE.

Regular Meeting, Bauer's Inn, Port Jervis, October 20, 1908.

Program.

SCIENTIFIC SESSION.

Address on "Proceedings of the International Congress on Tuberculosis," Dr. De Vine, D.V.S.

"Diagnosis and Treatment of Tuberculosis," H. M. King, M. D.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

Regular Meeting, Tuesday, November 10, 1908.

Program.

BUSINESS SESSION.

A resolution to continue the publication of the Medical Directory of New York, New Jersey and Connecticut was passed.

The following officers were nominated: For President, H. W. Carey, M.D., Troy; Vice-President, C. B. Sprague, M.D., Troy; Secretary, J. H. F. Coughlin, M.D., Troy; Treasurer, O. F. Kinloch, M.D., Troy; Censors, J. H. Flynn, J. A. Barnes; Delegate to State Society, E. R. Stillman; Delegate to the District Branch, Hiram Elliott.

SCIENTIFIC SESSION.

"A New Method for Radical Cure of Inguinal Hernia," C. F. Kivlin, M.D.

Discussion of Hernia by the members of Society.

RICHMOND COUNTY MEDICAL SOCIETY.

Regular Meeting Held at Staten Island Academy, November 11, 1908.

Program.

BUSINESS SESSION.

The minutes of the preceding meeting were read and adopted.

The Secretary read a letter from Miss Mary Millspaugh, expressing her appreciation of the action taken by the Society in regard to the death of her father, Dr. Isaac Millspaugh.

The Society nominated the present staff of officials for the coming year.

The following resolutions were passed:

Whereas, Resolutions have been received from the Medical Society of the County of Genesee, urging the Medical Society of the State of New York to discontinue the publication of the Medical Directory of New York, New Jersey and Connecticut; and

Whereas, The publication of a list of legally authorized physicians of this State is of great value to the public and to the profession, and the continuance of the Directory of the utmost importance; therefore be it

Resolved, That the Medical Society of the County of Richmond requests its delegates to vote in favor of the continued publication of the Directory; and be it further

Resolved, That the Secretary be requested to send a copy of these resolutions to the Medical Society of the County of New York.

SCIENTIFIC SESSION.

"Glaucoma," Charles Kinney, M.D.

Discussion followed by Dr. N. D. Chapman and Dr. Hicks.

The Society then adjourned to the Staten Island Club for a collation.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting Knights of Columbus Hall, Schenectady, Wednesday, November 18, 1908.

Program.

SCIENTIFIC SESSION.

Glaucoma:

"General Observations," J. E. Reed, M.D.

"Simple Glaucoma," J. J. O'Brien, M.D.

"Acute Inflammatory Glaucoma," D. W. Overton, M.D.

"General Treatment of Glaucoma," M. S. Lord, M.D.

"Tonsils," J. A. Heatly, M.D.

THE SENECA COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, WILLARD STATE HOSPITAL, WILLARD, OCTOBER 8, 1908.

Program.

SCIENTIFIC SESSION.

"History of Medicine," L. W. Bellows, M.D.

"Treatment of Valvular Heart Disease," H. E. Schoonmaker, M.D.

Clinic. Mania, Excited and Depressed, with Presentation of Cases, John W. Russell, M.D.

A most enjoyable dinner was served, which was attended by the members and their wives.

SUFFOLK COUNTY MEDICAL SOCIETY.

ANNUAL MEETING, GRIFFIN HOUSE, RIVERHEAD, THURSDAY, OCTOBER 29, 1908.

Program.

BUSINESS SESSION.

The following officers were elected: President, Arthur H. Terry, M.D., Patchogue; Vice-President, Marcus B. Heyman, M.D., Central Islip; Secretary, Frank Overton, M.D., Patchogue; Treasurer, Barton D. Skinner, M.D., Greenport; Censors, E. S. Moore, P. V. B. Fowler, C. E. Wells.

SCIENTIFIC SESSION.

President's Address.

"Diagnostic Difficulties," A. H. Terry, M.D.

"The Treatment of Fractures and Depressed Deformities of the Nose by Means of a Combined Bridge and Intra-Nasal Splint," W. W. Carter, M.D.

"Catarrhal Otitis Media," S. Busby Allen, M.D.

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

REGULAR MEETING HELD NOVEMBER 17, 1908, AT Y. M. C. A. HALL, WHITE PLAINS.

Program.

Meeting called to order at 3.10 P. M. by President Byington. Minutes of preceding meeting read and approved. Report of Comitia Minora given by Dr. Minor.

The following officers were elected for the year 1909: President, W. A. Minor, Ossining; Vice-President, F. W. Shipman, Mt. Vernon; Secretary, W. D. Robertson, Mt. Vernon; Treasurer, G. A. Peck, New Rochelle; Censors, C. R. Byington, H. B. Brown, R. C. Eddy; Delegates to State Medical Society, H. R. Charlton, H. B. Brown.

A communication was read by the secretary from the American Medical Association regarding illegal practitioners. It was suggested by Dr. Myers that the members notify the secretary of all cases of illegal practice coming under their observations.

A communication from the First District Branch was read by the secretary recommending an investigation of certain conditions at East View Almshouse relative to criticisms offered at the First District Branch meeting.

The president appointed Drs. Schmid and Getty as a committee to investigate the conditions complained of.

Moved, seconded and carried that the following resolution be adopted:

WHEREAS, Resolutions have been received from the Medical Society of the County of Genesee, urging the Medical Society of the State of New York to discontinue the publication of the Medical Directory of New York, New Jersey and Connecticut; and

WHEREAS, The publication of a list of legally authorized physicians of this State is of great value to the public and the profession, and the continuance of the Directory of the utmost importance; therefore be it

Resolved, That the Medical Society of the County of Westchester requests its delegates to vote in favor of the continued publication of the Directory; and be it further

Resolved, That the secretary be requested to send a copy of these resolutions to all other County Medical Societies of this State, asking them to take similar action.

The following amendments to the By-laws were proposed:

PROPOSED AMENDMENTS TO THE BY-LAWS OF THE MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

Chapter 10, Section 1. For "one dollar" read "two dollars," making the section read:

"Each member shall pay annually the sum of two dollars," etc.

Also insert at the end of Section 1:

"Each new member shall pay an initiation fee of five dollars."

Amend Chapter 13, Section 1, by changing third and fourth lines to read "at any regular meeting," and sixth and seventh lines to read "at any regular meeting at least two months preceding."

Dr. Oscar Myers reported progress for the committee appointed to draft a circular letter to be sent to the druggists of the county in regard to counter prescribing.

President Byington in his annual address gave an exceedingly able and interesting paper on "The Eclamptic Condition in Pregnancy," citing a number of cases occurring in his own practice. A free discussion followed the reading of the paper.

There being no further business the meeting adjourned at 5.15 P. M.

OBITUARY.

JOHN T. WHEELER, M.D.

The medical profession in New York State has met with a great loss in the death of Dr. John T. Wheeler, of Chatham, who died of pneumonia on December 3d, aged 58 years. Dr. Wheeler was one of the best-known practitioners in his part of the State. He had been president of his County Society and of his District Branch, and at the time of his death was First Vice-President of the Medical Society of the State of New York. Although an active general practitioner, he gave much of his time for the public good. He was an efficient officer in the State Department of Health, being at the head of the Department of Communicable Diseases. For many years he was a member of the Board of Education of his town. It was through his activities that the public library was secured; and his interest in all philanthropies has been very great. His death is mourned by a large circle of friends, patients and colleagues, who recognize his valuable qualities as a physician and his lovable character as a man.

DEATHS.

WALTER J. CORCORAN, M.D. President of the Brooklyn Gynecological Society in 1905; gynecologist to St. Mary's Hospital and St. Mary's Maternity, Brooklyn; died at his home in Brooklyn, November 5th, from heart disease, aged 52.

WALTER ROBARTS GILLETTE. Assistant surgeon in the Army during the Civil War, and for thirteen years thereafter surgeon to the New York post office; at one time consulting physician to Bellevue Hospital and St. Francis Hospital and the Manhattan State Hospital for the Insane; for thirty years an official, and for twelve years vice-president of the Mutual Life Insurance Company; died in New York City, November 7th, aged 68.

ADDISON W. SCOTT, M.D., of Syracuse, N. Y., died in Philadelphia, October 24th, aged 57.

INDEX.

NOTE.—Original articles are indexed in *italics*. Department articles are abbreviated as follows: Editorials (E); Items (I); New Books (B); Progress of Medicine (P).

ORIGINAL ARTICLES.