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Original Communications.

THE SURGERY OF THE AUDITORY LABYRINTH.

By CHARLES M. STEWART, M.D., M.R.C.S. (ENG.)

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Although there has been operative interference on the auditory labyrinth since 1897, when Jansen gave his classical paper on this subject before the Medical Congress at Moscow, yet it is only within the last few years that deliberate and planned operations have been described for the relief of symptoms produced by labyrinthitis. To-day we have minutely described such operations as superior vestibulotomy, inferior vestibulotomy, double vestibulotomy, sequestrotomy, extirpation and curettage. For the scientific establishment of labyrinthine surgery, we owe much to J. D. Richards, of New York; Richard Lake, of London, and to Jansen himself.

My personal experience in this work is very limited, having only to do with four cases. The reason for selecting this subject was not that I have anything new to bring forth, but only that the paper might stimulate discussion and interest in labyrinthine work. I feel sure that a great many fatal mastoid cases have been lost on account of the surgeon neglecting to search for labyrinthine disease when he was doing the radical mastoid operation.

A most exact knowledge of the anatomy of the internal ear is essential before any surgical interference is undertaken. This can best be obtained by chiselling out a few labyrinths on the cadaver. The physiology of the internal ear is rather unsettled, particularly the vestibular part. The labyrinth is composed of two main parts—the cochlea, which contains a membranous structure, wherein is a specialized epithelium essential for

hearing; the vestibule and semi-circular canals, which also contain a specialized epithelium connected with static and dynamic equilibrium.

The labyrinth is situated in the petrous portion of the temporal bone. To its inside is the temporo-sphenoidal lobe of the cerebrum, covered by the meninges of the middle cranial fossa; behind is the cerebellum, covered by the meninges of the posterior fossa. The dome of the jugular fossa is directly below the vestibule and posterior semi-circular canal. The internal carotid artery lies directly in front and below the cochlea. On the inner side, lies the fundus of the internal auditory canal, with its meningeal prolongation, and so bringing the subarachnoid space in intimate relation with the modiolus of the cochlea. The vestibule is an ovoidal space, with the following dimensions: 1.5 in. x 1.5 in. x 1.8 in. In its roof, posterior wall and floor are the openings for the semicircular canals, while in front and externally is the first turn of the cochlea. The outer wall of the vestibule corresponds to the promontory on the inner wall of the middle ear, the tympanic part of the Fallopiian canal and the two foramina, namely, ovale and rotundum.

Facial Nerve.—After the facial nerve leaves the fundus of the internal auditory meatus, it passes outwards and slightly forwards for 1.8 inch. Here it has an enlargement on it, called the geniculate ganglion. From this point, it passes backwards and downwards at right angles to the first part, and at an angle of 15 degrees with the horizon. This second part of the nerve is about 1.2 in. long. The middle portion of this part of the aqueduct is visible in the middle ear. Often this portion of the canal is incomplete, thus exposing the nerve in the tympanum. Below the nerve at this juncture is the foramen ovale; above it is situated the ampullae of the external and superior semicircular canals; to its inner side is the vestibule. The last 1.8 in. of this second portion of the facial nerve is buried in the posterior wall of the tympanum, and is just above and behind the pyramid from which emerges the stapedius muscle. The third part of the nerve passes downwards and a little outwards and backwards, making an angle of 120 degrees with the second part of the nerve. The third part of the nerve is in relation to the deepest part of the posterior meatal wall. The nerve leaves the skull at the stylo-mastoid foramen.

Pathology.—The vestibule is the seat of the greatest pathological activity. Infection takes place in two principal points, namely, the foramen ovale, and from an erosion in the external semicircular canal, as it lies in the inner wall of the aditus.

Inflammatory conditions in the labyrinth are due to the same variety of organisms that are found in middle ear suppuration. When it is a very virulent infection, the germ is usually the streptococcus pyogenes. Cholesteatomatous conditions are occasionally met with in the labyrinth, and tubercular labyrinthitis is fairly common in tuberculous suppuration of the middle ear. Caries and necrosis follow labyrinthitis, depending on the acuteness of the inflammation. Sequestra sometimes form, the cochlea may form one, but the vestibule usually goes with the semicircular canals. Death in labyrinthitis is due to intracranial complications—either meningitis or abscess of the brain. The tract of infection is usually along the filaments of the auditory nerve, and in this way the subarachnoidal space becomes infected. Hezold has estimated that labyrinthitis occurs in 1 in 500 cases of chronic suppuration of the middle ear. This seems a very small percentage, but this may be accounted for in that the cases most frequently occur in children, and as the symptoms are very vague at best, they are especially so in young children. In children the bone separating the labyrinth from the middle ear is thinner and less dense than in adults, thus explaining why labyrinthitis is more common in the first decade of life. In children with acute otitis media, you may suspect labyrinthitis when there is marked systemic infection.

Symptoms.—It is impossible to definitely diagnose labyrinthitis before operation. Symptoms which we consider point to labyrinthine involvement may be well marked, and yet when we do a radical mastoid operation, the labyrinth is found perfectly intact. On the other hand, fistulous openings may be found in the labyrinth when we least expect them. It is a serious matter to explore a healthy labyrinth in an infective area, such as in a mastoid operation. So it is good practice not to open a labyrinth that shows no external signs of disease. When doing a radical mastoid operation, the external wall of the labyrinth should always be carefully searched for fistulae. The use of adrenalin greatly facilitates a good view being obtained of the field of operation. A strip of gauze, previously soaked in adrenalin, and then packed in the tympanum and mastoid cavity, and left there three minutes will blanch the parts thoroughly. Carefully examine with a probe the foramina ovale and rotundum, also the promontory. The external semicircular canal, just opposite the aditus, is a common seat of a fistulous opening.

Symptoms which are useful in labyrinthine diagnosis are nystagmus, vertigo and disturbances in equilibrium.

Nystagmus.—The patient is never conscious of this condition, so this symptom must always be sought for by the surgeon. Pressure on the stapes will produce nystagmus, if the labyrinth is healthy. Bárány has worked out a caloric test for finding out whether a labyrinth is functioning or not. It is this, when syringing a middle ear with cold water, the eyes turn to the opposite side from the disease, and with warm water to the same side as the disease. In gross lesions of the labyrinth, it is impossible to produce nystagmus by heat or cold. Occasionally, following an ordinary radical mastoid operation, we note that nystagmus has developed, vertigo and disturbances of equilibrium. This is due most likely to luxation of the stapes, or injury to the external semicircular canal.

Vertigo.—This condition is produced by abnormal stimulation to the specialized end organs in the maculae and cristae of the vestibule and semicircular canals. Deaf mutes and animals who have had their labyrinths removed have no vertigo. Patients suffering with vomiting and vertigo, who have suppuration in the middle ear, is very suggestive of labyrinthine involvement. Cochlear lesions do not produce vertigo. Cochlear disease is manifested by deafness, which is a constant symptom; tinnitus is an occasional symptom.

This labyrinthine giddiness must be differentiated from the giddiness produced by cerebellar disease. This can usually be done by examining the eyes and noting the pulse.

Rombergism.—Patient standing on one foot, and eyes shut, sways or falls to the side of the diseased labyrinth.

Gait.—The gait is often characteristic. The patient walks with feet widely apart, sways considerably, and has a tendency to go to the affected side.

These symptoms are all marked for a few days when a healthy labyrinth has been interfered with; but when the labyrinth is gradually encroached upon by disease, the change is so gradual that the other organs in the body which contribute to keep perfect equilibrium take on the function of the diseased labyrinth.

Facial paralysis occurring in a case of suppurative otitis media is not uncommonly due to destructive changes in the aqueduct of Fallopius, and would be very suggestive of labyrinthitis.

There is no labyrinthine localization.

The following four cases I have notes of:

1. Tubercular labyrinthitis.

Woman aged 31 years. Suffered from chronic suppurative

otitis media in left ear for many years. Radical mastoid operation done. Result good; cavity dermatized and dry in seven weeks afterwards. In two years afterwards, patient developed phthisis, and shortly afterwards the ear began discharging again. In the pus were found tubercle bacilli. Facial paralysis developed, and the nerve could be seen when the ear was mopped out with absorbent cotton. The nerve became disintegrated and disappeared, due probably to the irritation of the pus, and to the spirit drops that were used. The patient was incapacitated by vertigo. The labyrinth was extirpated—semicircular canals, vestibule and a portion of the cochlea removed. Vertigo persisted for about ten days. Ear healed up perfectly. To-day patient is living, and looking very well. Vertigo is all gone. The facial paralysis persists.

2. Man aged 19 years. No previous history of labyrinthine trouble. In the course of performing a radical mastoid operation, a fistulous opening was discovered in the external semicircular canal; pus was oozing out of it. The canal was opened up to the ampullae and curetted. Not followed by vertigo. Second day afterwards patient sat up in bed and had ear dressed. No giddiness. Recovery uneventful.

3. Woman aged 36. Radical mastoid operation was being performed. Stapes seen in foramen ovale, and was very loose. Caries around the opening. Stapes removed. Inferior vestibulotomy done. Vertigo followed operation for about two weeks. Hearing destroyed.

4. Woman aged 41. Suffered with otitis media for twelve years. Facial paralysis for three weeks. Radical mastoid operation done. Large sequestrum picked out of the labyrinth. It was composed of portions of the vestibule and semicircular canals. Recovery uneventful. Facial paralysis persisted, but was nearly gone one year afterwards.

Operations.—The radical mastoid operation must always be previously done. The upper part of the skin incision should be made well forward, so that the auricle may be pushed well forward and downward. The facial ridge must be lowered as much as is considered safe for the nerve.

Operations on the cochlea are much more serious than on any other part of the labyrinth. The danger lies in injuring the modiolus, and so opening up microscopical channels for infection to be carried to the meninges. The cochlea should not all be removed. Only the lower two whorls at most should be removed, and special care taken not to injure the modiolus.

Both Jansen and Richards lay special stress on this point. Proceed to the cochlea by way of the promontory.

Vestibulotomy.—The vestibule may be opened by way of the external semicircular canal, and above and behind the facial nerve. This method is called superior vestibulotomy. Or it may be opened by way of the foramen ovale, which is below and in front of the facial nerve. This method is called inferior vestibulotomy. Although inferior vestibulotomy has the best position for drainage, yet superior vestibulotomy is the preferable operation, for the following reasons:

1. The region is more accessible.
2. There is less hemorrhage.
3. You obtain a better view into the vestibule.
4. You can explore the external semicircular canal at the same time.

Between these two openings into the vestibule is a ridge of bone, and in it is the facial nerve. Milligan has called this the bridge operation. The two operations should practically always be done together. The operation then is called double vestibulotomy. It is better not to expose the facial nerve, for in the after-treatment it is likely to become injured by the discharge from the granulations. Facial paralysis usually occurs if it is exposed. This may clear up in time, provided the nerve does not become disintegrated.

Sequestrotomy.—This was the first described operation on the labyrinth. Facial paralysis was the usual result. This was due either to disease or to the destruction done by removing the sequestrum. Suspect a sequestrum where granulations persistently re-form. Never remove a sequestrum forcibly. If necessary, chisel away healthy bone, so that the sequestrum may be picked out of its bed.

Exirpation of Labyrinth.—When this operation is done, it is usually for tuberculous conditions.

Indications for Operation:—

1. Labyrinthitis, as evidenced by one or more fistulous openings or other signs of disease in the external wall of the labyrinth.

2. Luxation of stapes. Jansen recommends operation after 24 hours if there is nystagmus, disturbances of equilibrium increasing, tongue coated and temperature going up.

3. Ménière's disease—labyrinthine apoplexy. Patients suffer with marked vertigo, intense nausea, severe tinnitus and absolute deafness. Richard Lake has reported five cases where he has

done an ablation of the vestibule. He operated for vertigo. The cases had never suffered at any time with otitis media.

4. A patient suffering with suppurative otitis media, and having vertigo, vomiting, nystagmus and disturbances of equilibrium, should have a radical mastoid operation done at once, and careful search made for labyrinthine mischief. In such a condition, a Heath's mastoid would be contra-indicated.

It is interesting to note that there is no weakness in the muscles of the body after operative interference with the vestibule and semicircular canals. Ewald experiments on animals showed that the labyrinth was responsible for the tone of the skeletal muscles. These operations support Crum Brown's theory, given many years ago, that the labyrinth is concerned in giving information as to the position of the head and body after rotation.

142 Carlton Street.

"VILLUS TUMOR AND RUPTURE OF THE BLADDER."*

BY HADLEY WILLIAMS, M.D., LONDON.

The two cases discussed in this paper are so rare that a physician may practice for twenty years and never see either, yet both conditions are among the most serious the surgeon is called upon to treat. Tumors of the bladder, though rare, are somewhat commoner than is supposed, since they give symptoms which are often mistaken for other diseases and, consequently, may be overlooked. It is not the intention of this paper to take up the pathology of the various forms or to discuss the diagnosis at any length more than to give the facts and enough of the symptoms to warrant the operation which was performed. Briefly, more than 50% of these tumors are malignant and next comes, in frequency, the villus papilloma which is often multiple, either sessile or pedunculated and from the size of a marble to an orange. Bleeding is nearly always profuse from the loose floating papillae of the growth, in fact, hemorrhage from the bladder is alarming. Even after removal they are said to recur in the majority of the cases and hence may be classed more with the malignant than with the benign tumors.

Mr. A. M. was a man 55 years old; by occupation a gardener; born in Suffolk, Eng. Family history negative. He admitted ague and gonorrhoea twenty years previously.

In 1903 patient noticed blood in the urine on two occasions, but suffered no pain or other symptoms referable to the bladder.

In 1905 the bleeding recurred and lasted a week.

In January, 1907, he experienced a similar attack lasting the same length of time. A physician passed a sound which caused no pain or increase of bleeding, and the patient felt perfectly well during the intervals.

In October, 1907, the hemorrhage started again, and, with the exception of two intervals of a week each, kept up till February, 1908. The same physician again passed a sound without pain, but with a copious flow of bright red blood.

In February of last year patient consulted Dr. S. Agar, of Chatham, who wrote me concerning the case. "From the appearance of the urine and some shreds of tissue which came away,"

*Read at the meeting of the Ontario Medical Association

said the doctor, "and from the fact that there is no evidence of kidney trouble, no enlargement of the prostate and no calculi, I am satisfied that the patient is suffering from some growth in the bladder."

Early in February (in consultation at St. Joseph's Hospital, Chatham) the patient appeared a well nourished individual, bright and intelligent, slightly anemic and, though ill a long time, very brave as to the outlook. He had two marked symptoms and two only.

1. Profuse and constant bleeding.
2. Sudden stoppage of urine on a few occasions during micturition.

Indeed, he assured us that otherwise he felt perfectly well.

Operation was advised by Dr. Agar, Dr. Sullivan and myself and immediately accepted. Ether was the anesthetic. Twelve ounces of boric solution was allowed to be retained in the bladder after irrigation, and a supra-pubic incision made. Exploration of the bladder with the finger, a large, soft, spongy growth was felt on the left side, with a pedicle as large as the thumb, springing from the mucous membrane some two inches from the urethral opening. The bladder immediately filled with blood and there was some difficulty in stopping the flow. A good view of the interior was out of the question. The pedicle was clamped by a stout pair of pile forceps and the blood washed away, yet in spite of this the fingers still remained the organs of sight. The tumor was then deliberately twisted off, and proved to be as large as a medium sized orange, its papille spreading out in water, waving and moving like the arms of an octopus, and once again the bladder was filled with blood. Water, at a temperature of 135°, was poured into the cavity and the hemorrhage ceased immediately. Small tags of tissue were pared with scissors, a prostatectomy tube inserted, large enough to irrigate clots and debris which might afterwards form; a piece of gauze drained the prevesical space, and the upper angle of the wound was sutured with interrupted fish gut. Dr. Agar, who had full charge of the case, wrote six weeks later on my arrival home from Bermuda: "The patient had some urinary fever on the tenth day and a phosphatic scale came away three-quarters of an inch in length. There have been no other bad symptoms to speak of, except a great deal of mucous and sandy debris; the wound is now healed; urine, 50 ozs. a day; sp. g. 1.012, acid in reaction, normal in color, and there has been no bleeding since the operation." The patient left the hospital on the 20th of March, six weeks almost to the day.

To date, fifteen months after, there has been no bleeding and no signs of recurrence.

There are many dangers attending a supra-pubic cystotomy. Cystitis, if not already present (and it is present in the majority of cases as a result of the very condition for which the operation is performed), almost inevitably occurs; mucus collects in large quantities, gravel often deposits and sticks to the edges of the wound, the fatty tissue breaks down, the fascia dies and tears away in pieces, and in old people especially with sclerosed arteries and some kidney complication uræmia carries them off. For these the character of the tube is often to blame. It should be large enough to allow free irrigation and soft enough to cause no pressure on the sides of the wound. Urotropin is dangerous in 10 or 15 grain doses. It seems to cause sloughing of the wound and painful irritation of the skin. If given at all, 5 grain doses are sufficient.

There are three pertinent questions regarding this case:

1. The value of injections, astringents and the like, to allay hemorrhage or cause shrinkage.
2. The value of the actual cautery to the base of the tumor or excision and ligature.
3. The drainage of the bladder afterwards.

Regarding tumors of the bladder when, from their size or position, a supra-pubic opening is insufficient to properly deal with them, the peritoneal cavity should be opened and the bladder slit backwards a sufficient depth to properly deal with the case, always remembering the danger of septic peritonitis from contamination of the peritoneum at the time, or from subsequent leakage of the wound, to say nothing of the added shock to the patient from a more prolonged operation. The other case I wish to bring before you is one where the bladder was ruptured by a blow on the abdomen.

Rupture of the bladder is either intra- or extra-peritoneal. The former contains from 80% to 90% of the cases, and when it occurs, the tear is said to be very extensive. From whatever the cause, the bladder is usually full when a sudden blow is most likely to cause rupture. In a large proportion of cases, it results fatally, especially in the intra-peritoneal variety, and, in the absence of proper surgical interference, the extra-peritoneal likewise. Prior to 1893, thirty-two cases gave a mortality of 64%, while, since this date, twenty-two cases give only 28% or nearly 50% on the total.

Mr. A. W. was a man 32 years old, who worked in a box factory, was of exemplary habits, and always perfectly healthy.

On September 19th, 1907, he retired at 11 p.m. At 5 a.m. on the morning of the 20th, while on his way to the bathroom (and scarcely yet awake), he took the first turning, which happened to be the wrong one, and fell headlong downstairs, the rounded top of the corner post of the landing striking him a severe blow immediately above the pubis. The bladder was full when he started, but when he picked himself up a few minutes later, all attempts at micturition were ineffectual. Dr. Ernest Williams, his physician, was called and ordered him to bed. There was very little pain, and shock was not a marked feature. Dulness was present about the pubis, but a soft rubber catheter only produced two ounces of bloody urine. In consultation at 5 p.m., there was marked dulness over the bladder, extending well above the pubis and laterally, and was somewhat irregular in outline. This was marked with ink. A catheter produced only three ounces of bloody urine.

We passed a marked quantity of boric solution into the bladder, and found we had lost three ounces. We tried again with six ounces, and left two ounces unaccounted for. The dulness over the lower part of the abdomen increased correspondingly above the indelible line. Dr. J. B. Campbell, who administered the chloroform later, concurred in our diagnosis, and the need of urgency.

Patient was immediately moved to the operating room, and a supra-pubic incision made in the usual way. After separating the recti, and pushing aside much adipose tissue, urine welled up into the wound and was mopped up with pads. The finger, inserted into the wound, entered a rent in the fundus of the bladder, torn transversely near the reflection of the parietal peritoneum, quite an inch or more in length. The superficial dulness immediately disappeared. No attempt was made to suture the somewhat ragged bladder wall, but a half-inch tube was inserted, and a smaller one into the lateral space, also a piece of gauze prevesical. The upper part of the superficial wound was sutured with interrupted fishgut, a No. 8 soft rubber catheter tied in the bladder, and the patient put to bed in the Fowler position. There was practically no suppression of urine. In five days the tubes were removed, also the catheter.

On the sixth day there were some severe chills, the temperature ran up to 105 F., and some pus was irrigated from the wound. Warm boric acid solution was used daily by irrigation through the urethra. On October 20th (one month later), the wound closed, the patient left the hospital and made an uneventful recovery.

The points to be considered in a case of this kind are :

1. An early diagnosis.
2. Urgent surgical interference.
3. A proper after-treatment.

The diagnosis is not inferred, alone, from absence of urine in the bladder, because shock may be so severe as to cause suppression; neither from a rise of temperature or blood in the urine, because these conditions are often present when no rupture has taken place; but that dulness was present above the pubis, even after the catheter had been used, and that measured quantities of boric solution flowing into the bladder failed to return when called upon, and not only failed, but increased the dulness previously marked out, was all evidence of the strongest character that rupture of the bladder had occurred.

Some advise the injection of air as an aid to diagnosis, but it seems a risky thing to force urine through a possible rent in the wall into the peritoneal cavity, when a mild aseptic solution, such as boric acid, answers equally well.

My reading of several cases of rupture of the bladder satisfies me that some of the fatal cases were those in which the surgeon endeavored to do too much rather than too little. A case is recalled to me, where a patient was operated upon for right inguinal hernia for the fifth time. Evidently adhesions had formed extensively, for the bladder was caught in the grasp of one of the sutures. Five days later, the peritoneal cavity gradually filled up with urine (two gallons, if a tablespoonful). The wound was reopened by the attending physician, a tube inserted and the patient recovered, to be operated upon again for the sixth time, doubtless, by some aspiring and adventurous doctor.

If this case of rupture of the bladder had been intra-peritoneal, the same immediate operation would have been necessary, double suture of the bladder wall, dry mopping of the peritoneal cavity with sponges, and retention of a catheter in the bladder.

UTERINE CONDITIONS DEMANDING OR JUSTIFYING THE USE OF CURETTE.*

BY DR. CHAS. J. C. O. HASTINGS, TORONTO.

One feels like offering an apology for presenting a paper or rather opening a discussion, on a subject so familiar to all engaged in obstetric or gynecological practice. The prevailing opinion seems to be that curettage, or scraping out of the uterus, is a useful, simple and positively safe operation. To the former, let me attach a green light, and to the latter a red one; and for a confirmation of the necessity of these danger signals, we require to glance but for a moment at the appalling list of casualties traceable to this operation, a report of which would afford a most profitable half-day's reading.

To what extent human life has been sacrificed and suffering intensified by the unskilled and injudicious use of the curette no one can say. I look upon curettage as one of the most formidable operations, and the one demanding the most scrupulous care of any operation on the female generative organs; yet the most inexperienced physician considers himself quite competent to perform it, and when about to perform any operation about the pelvis, the fact that the patient is under an anesthetic seems sufficient excuse for curetting the uterus. Herman, in an address or a lecture to the Polyclinic, in London, cited a very good example of this, even in a well recognized gynecologist, who had sent him a pamphlet describing what he considered a new operation for cystocele, in which he began by saying, "I first curette the uterus, etc." However, there are conditions that demand and justify the use of the curette, but I feel assured that the consensus of opinion of this section is that it should be more restricted than it is.

The use of the curette is demanded in persistent menorrhagia or metrorrhagia, both for curative and diagnostic purposes, also in suspected cases of malignant disease of the body of the uterus. The information derived from the scraping of the uterus, and the microscopical examinations of the scrapings enables us to determine whether the uterine hemorrhage is due to endometritis, glandular hyperplasia, the remains of an abortion, tuberculosis of the endometrium, carcinoma, or sarcoma.

*Read at the meeting of the Ontario Medical Association.

On the value of the curette in the foregoing, I presume, there is no difference of opinion, for, in addition to the fact that it is indispensable in these cases, its use, with reasonable care, is comparatively free from danger. These are the conditions demanding the use of the curette. It is when we come to consider the use of this instrument in the puerperal uterus that we advisedly ask the question, When is its use justified? When one considers the pathological anatomy of puerperal infection, one naturally shudders at the sight of such headings as "The Surgical Treatment of Puerperal Sepsis," and "The Use of the Curette in Acute Puerperal Sepsis," etc. That the curette may be safely used to clean out the uterine cavity in carefully selected cases, after miscarriage or after the removal of an adherent placenta, I am willing to admit; but even these cases can be done quite as efficiently and much more safely in the majority of cases, with the finger.

It is difficult to conceive of more dangerous teaching than the indiscriminate use of the curette in the treatment of puerperal sepsis. I am sure that no one who has had any experience in the treatment of these cases has failed to notice the aggravation of the symptoms following any form of intra-uterine manipulation. Even the simple uterine douche is not infrequently followed by a severe chill and a rise of two or three degrees of temperature.

The danger of perforation of the uterine wall, resulting in general septic peritonitis. Cases are cited where loops of intestine have been caught by the curette, as has also the omentum. Mann, of Buffalo, reports an interesting case of this kind, in which a loop of the bowel was drawn down and torn across by the curette.

The greatest danger of the use of the curette in these cases, and the one, in my opinion, enough to condemn its use, is the almost absolute certainty of causing a generalized infection as a result of the tearing down of the so-called leucocyte zone, the opening up of new fields for absorption, exposing the mouths of blood vessels and lymphatics.

One reads, with fear and trembling, such papers as that presented by Knyvett Gordon on the treatment of severe cases of puerperal sepsis by active disinfection of the uterus by means of the curette and the use of izal, in which he claims to scrape away the entire endometrium down to the muscle. He then paints the interior of the organ with undiluted izal, and then packs the uterus with gauze soaked in a one-in-two-hundred izal solution.

He compares eighty cases treated thus with seventy-nine cases treated by general means and antiseptic intra-uterine douches. He reports a mortality of 20% of those actively treated as against 46% of those passively treated. In referring to the leucocytal zone, he makes the statement that in such severe cases as these such a barrier is not formed.

Before passing on, let us weigh carefully, or examine carefully some of Dr. Gorden's statements. In the first place, he claims to scrape away the entire endometrium. Post-mortem examinations in France and Germany of the curetted puerperal uterus have demonstrated that this is impossible, and this is the view held by most reliable obstetricians to-day. Next, the writer claims to have a mortality of 20% in those treated with the curette, as against 46% in those treated in the passive way. Such an appalling death rate is difficult to explain.

Ricard, of Paris, has recently estimated that the entire death-rate of severe puerperal infection is not more than 10%, drawing his conclusions from records of 2,640 cases.

Thirdly, the writer makes the statement that, in these severe cases, no leucocytic defence is put up. This opinion I don't think Dr. Gorden will find endorsed by many. I think it is generally conceded that, in all cases the wall of defence is put up, but the more virulent bacilli penetrate it. This is especially true of the streptococcus. Bumm has found that the streptococcus penetrates the uterine wall at the rate of 2 cm. in six hours.

These are the very cases that even some of the most ardent advocates of the curette look upon as unsuitable for this method of treatment.

I do not wish to single out Dr. Knyvett Gorden in connection with the operative treatment of acute puerperal sepsis, as there have been many able papers presented on this subject during the past five years; yet it seems to me, if we appeal to our own unbiased judgment in the treatment of these cases, after reading these papers, one is impressed with the application of the statement made by the late Dr. Fothergill, when called in consultation by one of his pupils. While they were waiting in the reception-room, the young physician gave a very complete summary to the old doctor of the wonderful results he had had from the use of the various new remedies, to which he replied in a very fatherly way. "My young man, by the time you have been in practice as many years as I have, you will be surprised at

the number of cases that will recover, notwithstanding the imprudent interference of the physician.”

As you are all aware, it would be impossible, in the time allotted us for this subject, to give even a brief summary of the arguments advanced pro and con. The object of this paper is to obtain an expression of opinion of this Association on a subject of most vital importance.

We must therefore consider the subject most carefully, as there are strong supporters of the use of the curette, as well as opponents of it. It is our duty to give a decided expression of opinion after carefully weighing the dangers and the possible advantages.

PAPILLOMATA OF THE LARYNX.

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F. L., Male, aged 3 1-2 years, entered the Hospital for Sick Children in December, 1905, for examination under an anesthetic, because of hoarseness and suffocative attacks, from which he had been suffering for some weeks. Upon admission, the boy was thin, poorly nourished, anxious in expression, and coughing frequently. Examination revealed, in addition to enlarged tonsils, numerous warty growths about the rima glottidis. A few of these were removed by means of a small sponge attached to a laryngeal probe, and an intubation tube inserted. The respiration being improved, he was discharged and kept under observation. In about four weeks he was re-admitted, as the breathing had become more labored, the temperature elevated, and bronchitic rales were abundant. Intubation gave immediate relief, and a few days later, when the general symptoms had improved, a tracheotomy tube was inserted in order to place the larynx at rest, with the expectation that this measure would result in a shrinking of the papillomatous outgrowths. Marked improvement followed for three weeks, after which the lung symptoms again caused uneasiness, and it was not until two months later (May, 1906) that removal of the tonsils became possible. Although, during the next four months, in addition to as complete voice rest as could be obtained, thorough tonic treatment of every variety, and residence at the Island Home were employed, repeated examinations of the larynx revealed no change in the size of the growths, the chest sounds remained unsatisfactory, and bloody mucus was intermittently expelled from the tube. There was improvement, however, in the general physical conditions.

Thyrotomy was now determined upon, and on the 10th of December, accordingly, the larynx was opened in the middle line. The growths were found projecting from the length of both chords, and massed up against the base of the epiglottis in the anterior commissure. These were carefully removed, the latter masses being pushed into view by the pressure of the finger applied through the mouth, and the basal tissue seared with pure chromic acid. At the same time a few granulation

warts were removed from the lower edge of the tracheotomy wound, and chromic acid applied. The thyroid flaps were accurately coapted with chromicised gut, and the tracheotomy tube left in place. The wound showed a tendency to slough, but healing was completed in about four weeks, although granulations below the trachea wound were very troublesome. When the tube was closed with the finger, the laryngeal breathing appeared quite free; but when the tube was removed, spasm and cyanosis were marked, due apparently to extreme nervousness on the part of the patient. On October 26th, the larynx was examined under anesthesia, and a large, pedunculated mass was found above and in front of the left arytenoid. Because of the unsatisfactory chest condition and elevation of temperature, operation was postponed, and at the end of a week the larynx was again opened, a mass the size of a bean removed, and lactic acid applied. As the pulse became almost imperceptible, and complete collapse was threatened, the operation had to be hastily completed; and as the larynx had shown evidence of stenosis, an intubation tube was inserted and the tracheotomy tube omitted. The tracheal wound was entirely healed by the 20th of November, but dyspnoea again supervened, and was found to be due to the recurrence of a small growth upon the right aryteno-epiglottic fold, which fell over the mouth of the intubation canula with every inspiration, and which was removed through the mouth.

For the next few weeks the chest symptoms gave rise to great anxiety; the temperature rose as high as 104 deg., and the patient was losing flesh. On the 28th December, the intubation tube was found firmly embedded by papillomatous growths, and a tracheotomy tube was again inserted. For the ensuing three months, the temperature chart showed an average daily variation of above 1½ deg., but the physical condition improved. However, further examination on the 2nd April revealed numerous papillomata, completely filling the larynx. The general condition of the patient continued about the same during the summer, with the same variation in daily temperature; but in July the boy contracted scarlatina, and was transferred to the Isolation Hospital.

In October, the bronchoscope was used to examine the larynx and trachea, and an excellent view was obtained. The left arytenoid was visible, but warty growths obscured the other parts, and similar obstructions presented themselves on the tracheal wall below the opening for the canula. The patient was allowed to reside at home, reporting regularly at the Outdoor

Service, and on the fourth of October, 1907, the following report was made: "Small fistula still present at the lower end of the neck wound, through which air escapes on coughing, etc.: no papillomata seen; the left ventricular band is large and uneven, and the right is apparently normal; the vocal chords are not seen; the interarytenoid space is white and smooth; voice is a coarse whisper; general physical condition improved.

At frequent intervals during his stay in hospital, the sputum was examined, but never was it possible to isolate tubercle bacilli. The bronchitic symptoms were distributed over both lungs, but especially in the sub-clavicular and the basal spaces, where coarse, moist and dry rales were heard.

It was never possible to examine the larynx without a general anesthetic, and this was always administered with difficulty, the resultant depression being very great, while on the other hand the irritability of the respiratory tract rendered it almost impossible to proceed unless the anesthetic were pushed.

This case forcibly illustrates the great difficulty met with in dealing with laryngeal papilloma in the young. Neither prolonged rest of the larynx, by tracheotomy and voice rest, nor complete removal of the growths by thyrotomy were effective in retarding the growths, or preventing their return when removed. Possibly, if the time of wearing the tracheotomy tube after its first insertion had been prolonged to a year, instead of six months, the result of the rest treatment might have become more beneficial; but at the time it seemed best to test the value of thyrotomy. A further communication upon this case will be given.

47 Grosvenor Street, May 12, 1909.

Selected Articles.

THE OCHSNER TREATMENT OF APPENDICITIS.

BY JAMES U. BARNHILL, M.D., COLUMBUS, OHIO.

The great majority of physicians understand Dr. Ochsner's postulates, and "thousands of surgeons faithfully follow them" in treating appendicitis. The treatment has been publicly endorsed by the Mayos, Murphy, Morris, Matas, Richardson, Rodman and many others. Nevertheless, we hear it frequently stated that the treatment is misunderstood, that it is made the excuse by many physicians, for advising against operation, and that when carried out it often results in defeating an operation for the reason that the patient, feeling himself relieved, refuses to submit to the removal of the appendix.

At the last meeting of the American Medical Association, in 1908, R. T. Morris, in closing the discussion of his own paper on "Appendicitis," said, "The Ochsner treatment is one of the greatest points ever made in the history of appendicitis, but the Ochsner treatment, as comprehended by the average physician of New York, is damnable," C. E. Thompson said, in the same discussion, "The Ochsner treatment means, to the general country practitioner, do not operate; many of these practitioners have always been opposed to surgery, and now they assert that a great surgeon in Chicago is saving nearly all of his cases by not operating on them. The treatment has been misunderstood, and has thus been the cause of filling many untimely graves."

In the above statement of Morris we have the highest testimony of the value of the Ochsner treatment, together with his condemnation of the misuse of it by the average physician. While we do not believe there is such a lamentable misconception of the treatment here as Dr. Morris would lead us to believe exists in New York, yet I feel that there is such a degree of misunderstanding in reference to it as to justify a brief consideration of the subject at this time.

Ochsner described his treatment in full before the Chicago Medical Association, October 10th, 1900, giving in this original paper the results of eight years' employment of the treatment. At that time he set forth certain propositions in reference to

the treatment which were very widely quoted in medical journals. Greater prominence was given to his method when he presented it in his Chairman's address before the Section-on-Surgery at the Fifty-second Annual Meeting of the American Medical Association at St. Paul in 1901. He deserves great credit for systematizing the results of his own observation and experience, for calling attention to the admirable protection which nature affords the appendix by its anatomical surroundings, and for the danger occasioned by peristaltic motion in the small intestine. In his second paper he described (a) the attempt on the part of nature to close the ileo-cecal valve to prevent the passage of the intestinal contents into the inflamed area, (b) the movement of folds of the omentum toward and around a seat of injury, (c) the increased peristalsis occasioned on the introduction of food into the stomach, (d) the exudate and new formation thrown out by the peritoneum to wall off the inflamed appendix, (e) the harmful influence which cathartics exert by disturbing the inflamed tissues, and by carrying infectious material to other parts of the peritoneal cavity, (f) the toxic character of stomach contents, and (g) the danger of operation at the acme of septic intoxication.

We may best describe the treatment by giving his conclusions or postulates:

1. Patients suffering from chronic recurrent appendicitis should be operated upon during the interval.
2. Patients suffering from acute appendicitis should be operated upon as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.
3. Aside from insuring a low mortality, this will prevent all serious complications.
4. In all cases of acute appendicitis, without regard to the treatment contemplated, the administration of food and cathartics by mouth should be absolutely prohibited, and large enemata should never be given.
5. In cases of nausea or vomiting, or gaseous distention of the abdomen, gastric lavage should be employed.
6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, fasting and gastric lavage should always be employed until the patient's condition makes operative intervention safe.
7. In case no operation is performed, neither nourishment nor cathartics should be given by mouth until the patient has

been free from pain and otherwise normal for at least four days. The same practice should be followed after operation.

8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later, small sips of very hot water, frequently repeated, may be given, and still later small sips of cold water. There is danger in giving water too freely, and there is great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases of patients suffering from acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution, introduced slowly through a soft catheter inserted into the rectum a distance of two or three inches.

12. This form of treatment cannot supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation.

To conclusion 8 are now regularly added the method, introduced by Murphy, of administering a continuous enema of normal salt solution, and, in case of diffuse peritonitis, the Fowler position.

The clearness of statement in these conclusions should be a guarantee against misconception or misunderstanding, and the soundness of the principles upon which they are based should secure for them general recognition.

One misconception relates to the extent to which the treatment applies. Physicians generally seem to assume that the Ochsner treatment refers to fasting and rest, without reference to other phases of the treatment. They fail to note that the second postulate recommends early operation, when practicable, in all cases, and that other postulates cover indications for treatment of the severe as well as the interval cases.

There is no suggestion in these postulates that this treatment

is to serve as a substitute for operation. It is, from beginning to end, surgical, or a preparation for surgical measures. The starvation part of it should perhaps be called Ochsner's preparation rather than his treatment; for his treatment proper includes operation. We should bear in mind that the treatment includes preparation, operation and after-care.

It is difficult to account for the persistent misinterpretation of the author's clear statement of every detail of this treatment. The harm that some attribute to its employment is the result of its misuse rather than of any inherent defect in the treatment itself. Here, as in many other questions relating to medicine and surgery, good judgment is a *sine qua non*. Defective judgment, as we know, may make shipwreck of any treatment and of all opportunity.

Ochsner distinctly states that all persons who have suffered from an attack of appendicitis will sooner or later come to operation. The fasting and rest so strongly emphasized in the treatment has been of very great advantage to all surgeons, whether they operate early or late, for, as pointed out by Ochsner, many patients have recovered after operations because their surgeons have learned to give neither food nor cathartics after abdominal operations, so it may be said that they receive the treatment notwithstanding the operation. It is evidently to this phase of the treatment that Morris refers when he says that he prefers the quick operation, with fasting, leaving the patient to his opsonins and phagocytes.

During the eight years prior to Ochsner's first publication there were no uniform plans of treatment in reference to any of the types of appendicitis. And since that time the greatest difference of opinion and practice has prevailed. Many distinguished surgeons have helped very materially in establishing certain principles of treatment; some have emphasized the advantages of quick operation, with small incision, for a certain class of cases; others, the advantages of the intermuscular opening; while others have insisted upon early operation for all cases; but no one except Ochsner has succeeded in formulating rules applicable to so many classes and conditions of appendicitis. In his conclusions there are, of course, no rules assumed to be applicable to all cases, but certain important principles are enunciated which have a very general application, and which give to the treatment a distinctive character.

We may illustrate the advance made by Ochsner over much of the teaching of the day by a brief comparison of opinions on a few important points. Compare, for instance, his positive

and rational postulate that all cases seen in the first twenty-four or thirty-six hours, should, if practicable, be operated upon, with the teaching of the International Textbook of Surgery by Warren and Gould, which says that in many mild cases operation should be delayed until the acute attack has passed; or, with Robert's Surgery, which says, "If the symptoms show little increase in severity during the first twelve hours it is probable that the case will do well and that operation will not be required"; or with the English surgeon, Walsham, who says that, "in mild cases he would not follow the American dictum, to operate always within the first twenty-four hours, but wait and operate in the interval"; or with Vaughan's advice that, "if for any reason it is decided not to operate in the early stages of the disease, the patient should be freely purged with sulphate of magnesia"; or with Tiffany, who says that "the medical treatment should consist, among other things, of free purgation, and the appendix, provided the disease is advancing, should be removed, preferably within the first two or three days"; or with DaCosta, that, "in an ordinary mild case it is best to defer operation, experience showing that purging by means of Epsom or Rochelle salt is beneficial"; or with the American Textbook of Surgery, which says, "in cases of mild type, seen at the start, the treatment should consist, among other things, in moderate purgation by calomel in fractional doses, followed by salines or by castor oil and enemata." It will be seen from these brief quotations that in the matter of early operation, he is more radical than many of the so-called radicals, and infinitely saner in refraining from the use of purgatives and in the withholding of food.

A few quotations from the same authors will further illustrate the truth of the latter statement. Thus, Robert's textbook says nothing about dieting or fasting; Von Bergmann says only, that "the diet should be restricted"; Brewer, that "catarrhal appendicitis which has passed the acute stage may be treated by rest, ice-bag, catharsis and an opiate, if necessary, until the attack has subsided"; and Warren, who says that "when nausea and vomiting has ceased nourishment may, of course, be given."

The contrast between Ochsner's treatment of perforative and gangrenous appendicitis and that prevalent a few years ago, still advocated in most of our current textbooks and practised by many surgeons, brings the advantages of the former treatment into relief.

Von Bergmann recommends for these cases with pyrexia,

uniform distention, tenderness and rapid pulse, "operation, preferably not later than the second or third day"; DaCosta, "if there is marked tympanitic distention, operate at once"; Walsham, "In acute perforation, with gangrenous appendix, immediate operation gives the only chance, and in suppurative cases operate at once"; Rose and Carless, "In case of perforation in the first, second or third days, provided it is advancing, operate." American authors are not so ready to recommend prompt operation in this condition as they were a few years ago, doubtless largely due to Ochsner's teaching on this subject.

To review briefly the Ochsner treatment:—In all cases of acute appendicitis, all food, water and cathartics by mouth are prohibited. If nausea persists, gastric lavage is repeated once or twice at intervals of two or four hours. In all cases seen within thirty-six hours, which give no evidence of perforation or diffuse peritonitis, immediate or early operation is performed. In cases in which recovery seems doubtful, the operation is to be postponed and the Ochsner starvation preparation carried out, and in such cases a late operation is to be performed, with complete removal if infection is confined to the appendix, or if circumscribed abscesses have developed they are to be opened and drained. The advantage of this treatment is that there is almost no mortality. The patients are promptly cured, suffering is reduced to a minimum and complications are not liable to occur.

Another class deriving great advantage from this treatment includes those suffering from gangrenous or perforated appendicitis. These patients usually have high temperature, marked tympany and rapid pulse; there is complete obstruction of the passage of gas or feces, nausea or vomiting, and marked meteorism; the pulse is small and quick, respiration rapid, paretics over appendix tense. "The patient," says Ochsner, "is in the condition in which I formerly operated at once—day or night—as a last resort, only to find that it was too late in more than one-third of the cases, the mortality increasing with the time that had elapsed since the beginning of the attack." This is the class of cases of which Richardson has said, they are "too late for an early and too early for a late operation."

In cases of perforative or gangrenous appendicitis, with and without abscess, concerning which there is perhaps the greatest diversity of opinion, the Ochsner treatment has succeeded in greatly reducing the mortality. In a series of a thousand consecutive cases of appendicitis, reported by him, there were 55 cases of perforative or gangrenous appendicitis, with abscess,

belonging to this class; all treated by the starvation preparation, and subsequent operation without a death. In all of these cases food by mouth and cathartics were prohibited, gastric lavage was employed, exclusive rectal feeding was instituted and continued for one week or longer, until they were normal as regards temperature, pulse and absence of pain in the region of the appendix.

The operation was performed in most cases within four days after admission to the hospital; in others the period of preparation treatment was longer. In all cases the appendix was completely surrounded by omentum and new wall formation, effectually circumscribing the infectious material.

In the same series there were 117 cases of acute perforative or gangrenous appendicitis, with peritonitis and abscess, admitted to the hospital after the third day from the beginning of the attack. There were but four deaths. All of these patients had received, prior to coming to the hospital, cathartics and some food.

The mortality in these 172 cases of acute perforative or gangrenous appendicitis was only 2.9 per cent. It is in this class of cases that we formerly had such a high mortality, variously estimated from twelve to eighteen per cent.

Of twenty-six cases of acute appendicitis, with diffuse peritonitis, on entering the hospital, treated by this method and operated upon, there were but three deaths, a mortality of 11.5 per cent., against the very high mortality from the most favorable statistics of cases operated as soon as the diagnosis is made.

Of one thousand cases thus treated by Ochsner, from July 1, 1901, to April 1, 1904, including the cases reported above, the mortality was but 2.2 per cent. This list included seven cases of diffuse peritonitis not operated upon because they were in a dying condition when admitted to the hospital. Omitting these cases, there were 993 cases operated upon, with but fifteen deaths, a mortality of 1.5 per cent. Leaving out the 540 cases of chronic appendicitis and interval operations, Dr. Ochsner's percentage of mortality for operations, both early and late, in acute appendicitis is 2.6. Since then the mortality rate has been still further reduced.

About the time of the publication of Ochsner's report, Richardson reported his elaborate study of 750 cases in which operation for acute appendicitis was done by the rules then generally in vogue, showing a mortality of eighteen per cent.

My own results in applying this treatment have been most satisfactory, and have convinced me that the Ochsner treatment

of appendicitis is founded upon sound surgical principles—principles which apply in some measure to many other inflammatory processes.

The more carefully we study these principles, and the more clearly we see them worked out in actual practice, the more will we realize their truth and vital importance. The postulates should be studied as a whole, and they should be studied in connection with Ochsner's other classical and epoch-making papers and reports on this subject. Thus will the misconception, which to the shame of the profession is quite too general in reference to this treatment, be corrected. Then shall we realize that the Ochsner treatment is not a medical treatment, but surgical from beginning to end; that to withhold food and lavage the stomach is to secure rest and conserve strength; that to limit the peristalsis and thus give the inflamed appendix and its environment a rest, is just as rational as to splint a fracture or to exclude a light from an inflamed iris or retina.

Then shall we understand that the Ochsner treatment is no substitute for operation, but includes both preparation for operation and the operation itself, and that preparation here is just as essentially surgical as the preparation for other operations, albeit less mechanical. We shall then realize that the points urged in these postulates have a broad application, and, taken separately or collectively, are of vital importance, no matter what plan of treatment is followed.

Then we shall realize, too, that Ochsner is not timidly conservative but safely radical, for he declares, in these postulates, that patients suffering from acute appendicitis should be operated upon as soon as the diagnosis is made, providing they come under treatment while the infectious material is still confined to the appendix, and he is progressive and bold enough to delay operation in perforative and gangrenous cases until nature can wall off the infected area and raise the patient's power of resistance, while others are maintaining that immediate operation gives the patient his only chance.

And he is staunch enough and loyal enough to his convictions not to be persuaded into operating at an unfavorable time simply for fear that the patient, if relieved of pain, may refuse operation later.

At present almost all appendicitis patients have had food and cathartics before coming under the surgeon's care. This was true of Ochsner's one thousand cases. The physician sees them a day or two before the surgeon, and this is admittedly a critical time. With this treatment, notwithstanding the dam-

aging influence of food, water and cathartics, early operations have reduced the mortality to less than one-half of one per cent.; and in all cases it has reduced it approximately from 12 to 2.5 per cent. How much more might we reduce it if physicians generally as well as surgeons would all apply the principles of this treatment in the critical hours before the patient enters the hospital, as well as thereafter. Is it not rational to believe that we should thus still further reduce the mortality from this disease?—*Am. Journal of Surgery.*

MEDICAL EXPERT TESTIMONY.*

BY SAMUEL P. GOLDMAN, ESQ., OF THE NEW YORK BAR.

The subject of medical expert testimony and its abuses, because of the prominence of certain supposed miscarriages of justice within recent days, has been brought all too prominently to the attention of the public. That there are abuses is now beyond question, but the general dissemination of meagre information on the subject should not lead to hasty, ill-advised, or poorly considered criticism. The laity naturally look to lawyers to remedy the abuse. Suggestions have been made in numerous quarters. Judges in the various States have put in concrete form their proposals of legislation upon the subject and it seems to the writer that the time is now ripe for a calm consideration of the subject and all its circumstances, to the end that some definite and practical step may be taken which will attack the abuse, if not in its entirety, at least in its most virulent form.

It will be noted first that medical expert testimony is used in cases other than criminal prosecutions. In a large class of litigations, such as will contests, actions to establish wills under the Code, partition suits and ejectment suits, well known to the civil law, the competency of a person to make a valid testamentary disposition of his property comes into question. In these cases the courts allow evidence to be given of acts and declarations of the deceased, and then upon a hypothetical question, embodying a fair resume of the evidence presented to the Court, a medical expert may be asked whether or not in his opinion the acts so testified to were or were not rational. In some cases, again, lay

* Read at the Medico-Legal Society at the Waldorf-Astoria Hotel, on March 17, 1909.

witnesses are permitted to answer an interrogation relative to the rational or irrational character of the acts and declarations of the person whose mental capacity is under inquiry.

Again, in cases based upon a claim of fraud, duress or undue influence, the courts have allowed medical expert testimony regarding the condition of mind of the person whose act is sought to be voided. In these cases also the testimony has been limited to the acts and declarations of the person, and medical experts have been permitted to characterize such acts and declarations. Of course, in both of the classes of litigations just mentioned, where a physical examination of the subject has been had, the medical expert making such examination has been permitted to testify to what he observed at such time, and, upon laying the proper foundation, he has been permitted to state the conclusions which he drew from such observations.

The third important group of litigations in which medical expert testimony has been employed is known as accident or negligence cases. Medical experts have been permitted to testify not only to their opinions as to the effect of specific injuries proven upon the trial, but, likewise, as to the character of these injuries with regard to the permanent or temporary disablement of the person injured.

In these civil cases medical experts have been largely employed for many years, and there can be no doubt that juries, as well as judges, have been influenced, and perhaps largely influenced by their testimony, in the determination of the various controversies before them, but it cannot be stated that this privilege of presenting expert testimony, or, more properly, this use of expert testimony, has become an abuse. In the cases where property rights are involved, the conflict has been no less keen than in the criminal prosecutions to be referred to hereafter. But it seems, and no doubt this statement will be verified by the majority of trial lawyers, that the employment of this kind of proof has worked out with sufficient satisfaction.

There are any number of reported cases to which reference might be made upon this subject. The writer was fortunate enough to be trial counsel in the matter of the contest of the will of Caroline Rumpf, deceased, tried before Surrogate Thomas, of New York County, a man of great ability as a jurist and of known fairness and impartiality. In this case but two medical experts were called, and they, strange to say, on behalf of the proponents of the will. These experts were men of standing, one of them a professor of general medicine at the Fordham University Hospital and Medical School. They testified to their

general observations and stated the conclusions which they drew. The Court seemed to be very well satisfied with this testimony, and delivered its opinion sustaining the will in a most decided manner. An appeal has been taken from this decision, and is now pending in the Appellate Division of the Supreme Court, but there is no doubt that the Appellate Court will sustain the Surrogate's determination.

A case in which the writer was not interested, but which came under his observation, was the contest of the will of a lady of extreme age. Medical experts testified before the Surrogate of Kings County upon both sides of the question. One side declared absolutely that the woman was *non compos mentis*, and the other side, with equal precision and decisiveness, testified that she was *compos mentis*. The lawyers in this case, undoubtedly familiar with the ill repute into which medical expert testimony has fallen, sought some way of turning the scales in favor of either of them, and they brought to court, not only the neighbors of the deceased woman, but the tradespeople who dealt with her, the cashier and teller of the bank with which she deposited her money, and all persons who had come in contact with her within a reasonable period before the time of the execution of the will and during a short time thereafter. These laymen were then interrogated as to what they had observed, and in some instances, characterized the acts to which they testified as rational or irrational. This testimony was received by the Surrogate, and was evidently given considerable weight.

Another case with which the writer is somewhat familiar is the case of Harrold vs. New York Elevated Railroad Co., reported in the 24th volume of Hun's Reports, at page 186. This was an action to recover damages for personal injuries. The question before the jury was the permanency of the injuries. In reviewing the case the General Term of the Supreme Court used the following expression: "The amount of damages to be awarded depended upon the degree of credence which the jury should give to the testimony of the experts on the respective sides. No question of the competency of these witnesses was raised. They were all of them gentlemen of high professional repute; and yet, on the turning point, namely, whether the plaintiff had sustained a permanent injury, the opinions expressed by the defendant's witnesses were diametrically opposed to those to which the plaintiff's witnesses testified. This contrariety of opinion ought, certainly, to add to the accumulating distrust of the testimony of experts in cases of this kind."

In spite of this apparently insoluble situation, juries seem to

master the difficulties, and, as a general rule, render satisfactory verdicts. The general notion undoubtedly is that where the conflict becomes so great, as it was for instance in the Harrold case, juries are apt to reject the testimony of experts altogether, and to apply their common-sense to the determination of the issues submitted to them.

The common-sense of juries is frequently derided by both lawyers and litigants as a vague quantity, but that it should lead juries occasionally to ignore medical experts entirely is no cause for wonder. The attitude of the courts is well illustrated by the case of *Dobie vs. Armstrong*, 27 App. Div. 520, where the Appellate Branch of the Supreme Court said:

“The experience of courts has demonstrated that the answers of experts, though honestly given, to hypothetical questions embracing pages of assumed and isolated facts covering a long lifetime, about which facts the experts have no personal knowledge, are the weakest and most unreliable kind of evidence in respect to the sanity or insanity of the person inquired about.”

So it comes to this, that in civil cases, the use of medical expert testimony, or its abuse, really regulates itself. Lawyers recognize not only the growing distrust, but the actual existing distrust to such an extent that they never fail to bolster up their medical expert testimony with such lay testimony as they know or believe will appeal to the judge or the jury before whom their cases are presented. It is now, therefore, only a truism to say that the matter has regulated itself, so that legislation upon the use of medical expert testimony in civil cases is hardly a necessity.

This situation, however, does not exist in criminal prosecutions. The belief, more or less prevalent in various sections of the country, that under peculiar circumstances one man may be justified in taking the life of another man, has led to the elaboration of a defence to criminal prosecutions wholly without the contemplation of the law. Private revenge can play no part in the jurisprudence of this or any civilized country. The moment a code of assassination is established anarchy reigns supreme.

The most familiar form in which this subject presents itself is what is known as the defence of the unwritten law to a prosecution for homicide, murder. Its method of presentation is this: As the law recognizes no responsibility in an insane man, after wreaking his vengeance, the defendant before the bar of justice sets up the claim that at the moment of its commission he was not mentally responsible for his wrongful act; that is, no matter how sane he may have been before he committed the act, and no

matter how sane he became after he committed it, at the time he committed it his mind was in such a condition that he did not know the moral quality of the act he committed; that he was not able to judge between right and wrong, and, therefore, he should not be subjected to the punishment prescribed by the Penal Code for his transgression.

Whether or not it is necessary for a man whose dignity, whose feeling, whose sense of justice, or what not, may have been outraged, to commit murder before he can recover his sanity may be, or may become, an interesting investigation for psychologists. Men dealing with practical sociological problems, however, can recognize but one standard, and that is that each member of the community must exercise that restraint without which communal existence is impossible. So we have this irreducible conflict. The prisoner endeavors to shield himself behind the doctrine of the criminal law that one not mentally responsible may not be penalized for his act; the State, on the other hand, presses vigorously the proposition that this doctrine of the law has no application to the defendant in the toils, because he was at the time of the act mentally responsible.

The various forms in which insanity is presented as a defence need not be gone into here in detail. Suffice it to say that the most frequent form in which we hear of it is what is called temporary insanity; that is, as heretofore stated, sane before the act, sane after the act, but insane at the time of the commission of the act.

This is where the conflict of the experts comes in, and it has not infrequently happened that a number of eminent and respectable physicians will testify one way, and perhaps an equal number of equally respectable and eminent gentlemen will testify to conclusions diametrically opposite.

Of course this is only the means by which the defendant is permitted to introduce before the jury the facts by which he seeks to justify his wrongful act, for, while the jury may not say that murder by a sane man is justified, they may say that these facts were calculated to produce insanity in the defendant, that they did produce insanity in the defendant at the time of the murder, and that, therefore, their verdict will be "not guilty."

Now, the difficulty seems to lie very largely in this, that a rich defendant is able to employ these expensive experts and the public believes or regards, in the language of Lord Justice Campbell, in the Tracy Peerage Case (10 Clark & Frost, 154-191, decided in 1839), that "the skilled witnesses come with such a bias on their minds to support the case in which they are em-

ployed that hardly any weight should be given to their evidence." It has been said, and perhaps the statement is not wholly devoid of truth, that the rich defendant gets experts and the poor defendant gets justice. It is the employment of these experts that now engages our attention, and the efforts of the learned gentlemen of the bar in the various States of this Union have been directed to abating the nuisance, for it is indeed a nuisance, of having medical experts of ability, and even of respectability, testify to diametrically opposed opinions.

The suggestion of the committee upon medical expert testimony of the New York State Bar Association recently submitted at its annual convention, is but one of the steps that have been taken. The legislation there proposed requiring the appointment of from ten to sixty medical experts in the four judicial departments of the State, would hardly seem to remedy the situation. Supposing that the Appellate Division of the Supreme Court in this, the first and most populous department of the State, appoints sixty medical experts; both the State and the defendant's counsel will undoubtedly be able to find one or more among these sixty who will testify the opposite of what others will. This probability of difference of opinion is not diminished by the fact that the State is expected to compensate them, and in an extreme case we can well imagine all sixty of the experts being called to court to give their testimony and opinion. Every defendant charged with the commission of crime in English-speaking countries has the inalienable right to call witnesses of his own choosing, and if there is a physician of ability and standing who has not been fortunate enough to receive the appointment of the Supreme Court as a medical expert, whose testimony would aid the defendant, there would seem to be no doubt that his constitutional privilege is violated if he is not permitted to present this witness and his testimony to the jury, upon the same plane that the testimony of any of the sixty experts appointed by the Appellate Division would be presented. Again, as this bill permits the defendant to call such experts as he may choose, whether appointed by the Supreme Court or not, it is difficult to see how any such legislation as is proposed will shorten the trial. In fact, its effect would seem more to the confusion of the jury than otherwise.

The remedy seems to lie in a wholly different direction. In order that the jury may really be assisted in determining the question, there must be some fixed standard of medical expert testimony; it must be non-partisan; the number of experts must be limited, so that the trial will not be unnecessarily prolonged,

and so that the jury will not be confused, and freedom and latitude should be allowed for the exercise of the fairest and widest discretion in the regulation of the medical expert testimony in each case as it arises. To accomplish this purpose, it would seem that an amendment to Section 658 of the Code of Criminal Procedure would be sufficient. The section, as it now stands, grants the Court, in its discretion, the right to appoint a commission of not more than three disinterested persons to examine the defendant who pleads insanity, and report to the Court as to his sanity at the time of the commission of the crime. (People vs. McIlvane, 125 N. Y., 109.) The proposed amendment makes it mandatory for the Court in which the indictment is pending to appoint this commission, and requires that the commission shall report with their opinion upon the sanity of the defendant at the time of the commission of the crime. The opinion of the commissioners shall thereupon be presented to the jury, and both the State and the defendant shall be given the privilege of cross-examining such commissioners in regard thereto.

This proposed amendment would seem to embody a correction of most of the evils which surround the subject. The discretion of the trial judge as to the appointment of commissioners is not confined to medical men, although it is fair to assume that the Court will select three physicians unless the case is peculiar and calls for other selection. Their impartiality will hardly be brought into question, as they will be paid by the county in the same manner as commissioners are paid under Section 658, as it now stands. Being appointed by the Court, they will not be partisan, and not being the selected witnesses of either the prosecution or the defence, they will not be influenced by the fever of belligerency or the zeal of advocacy. Fortified with evidence of this character, trial judges will be less prone to admit specious and ill-considered testimony, and as the trial counsel contemplates the overwhelming effect of the judgment of such impartial experts as are here proposed the temptation to proffer or countenance such specious testimony will be reduced to a minimum.

The limitation of the number of experts to be appointed by the Court to three is, of course, wholly arbitrary and has been fixed upon after a consideration of a large number of cases of public interest within the last two decades. It is safe to say that a mere multiplication of witnesses will not materially aid a jury in reaching a conclusion while it must be remembered that if the view of these three experts appointed by the Court is different to the view of the experts of either the State or the defence, testimony of additional experts will undoubtedly be pre-

sented, so that the number of experts who may possibly testify will be doubled or trebled.

The appointment of the experts by the trial court would seem to have considerable advantage. The function of the Appellate Division as a court of review should be maintained. When a case is brought before them upon appeal, it is but fair that they should consider the testimony of the medical experts upon the same plane as they would the testimony of other witnesses. And, as it is only natural that the higher court should look with more favor on the testimony of its own appointees, such uniform consideration might not always be given. Again, the selection of medical expert witnesses by the trial court will undoubtedly result in as good a choice as if made by a higher court, for the opportunity of both the State and the defence to select the foremost physician as their own witness will undoubtedly keep the Court mindful of the necessity of choosing such men only as may fairly be ranked among the foremost in the profession, while their service is assured by permitting the Court to fix their compensation, just as it is permitted to do by Section 658, as it now stands.

In conclusion it should be stated that it is not hoped by the proposal here made to do away with the evils of the situation in their entirety. It is believed that so desirable a result is impossible; at least, no proposal has come to our attention that would seem to accomplish this end, but most of the evils can be obviated, and as the legislation here proposed is believed to come nearest to effectuating the purpose in view, it is hoped that this honorable and learned body will lend the great influence of its name and sponsorship to its enactment.

AN ACT to amend section six hundred and fifty-eight of the Code of Criminal Procedure, in relation to inquiry into the insanity of the defendant before or during the trial, or after conviction.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section six hundred and fifty-eight of the Code of Criminal Procedure is hereby amended so as to read as follows:

Sec. 658. When a defendant pleads insanity, as prescribed in section three hundred and thirty-six, the court in which the indictment is pending, instead of proceeding with the trial of the indictment, *shall* appoint a commission of not more than three disinterested persons to examine him and report to the court *with their opinion* as to his sanity at the time of the commission of the crime. *The opinion of the commissioners may be*

presented to the jury, and the counsel for the State and for the defendant may cross-examine such commissioners in regard thereto.

If the defendant in confinement, under indictment, appears to be, at any time before or after conviction, insane, the court in which the indictment is pending, unless the defendant is under sentence of death, may appoint a like commission to examine him and report to the Court as to his sanity at the time of the examination.

The commission must summarily proceed to make their examination. Before commencing they must take the oath prescribed in the Code of Civil Procedure to be taken by referees. They must be attended by the district attorney of the county, and may call and examine witnesses and compel their attendance. The counsel of the defendant may take part in the proceedings. When the commissioners have concluded their examination they must forthwith report the facts to the Court, with their opinion thereon.

Sec. 2. This act shall take effect, etc.

The additions and changes are indicated by the *italics*.—*Medico-Legal Journal*.

THE PATHOLOGIC ANATOMY AND PATHOGENESIS OF ACUTE APPENDICITIS.*

After several years of extensive and systematic study, Aschoff, one of the best-known pathologists in Germany, has published a monograph on appendicitis* which is of great importance because of its scope, its thoroughness and the apparent finality of some of its teachings. It may be of interest to discuss briefly some of the more striking results reached.

In the first place, Aschoff made a thorough study of the normal appendix at various periods of life, using for this purpose the most approved methods. In the new-born, the appendix does not contain any lymph follicles in the submucosa, and the lining is not folded, but during infancy and childhood the lymphatic tissue in the submucosa greatly increases, the muscularis mucosæ becomes better marked, and the mucous membrane folded. In the adult the mucosa presents quite definite furrows,

*Die Wurmfortsatzentzündung, 1908.

partly longitudinal and partly transverse, and the submucosa consists of lymphatic tissue with follicles of varying sizes and numbers, these being most marked toward the distal end.

Anatomically, Aschoff regards acute appendicitis as always one and the same disease, the different anatomic forms simply representing various stages in development, or special complications. A superficial catarrhal appendicitis is not recognized; the attack is held never to begin as a diffuse surface inflammation, but always as one or several foci of primary infection in the crypts and furrows of the mucous membrane, and in the subjacent tissue outside of the lymphatic follicles. The first change is a subepithelial accumulation of neutrophilic leucocytes in the bottom of a furrow, corresponding to which there is a small defect in the epithelial lining. In this stage, bacteria are found only about the defect, and not deeper down in the wall of the appendix. There is also more or less diffuse leucocytic infiltration, which spreads out more broadly toward the serous coat than towards the mucous side. Later, in the next stage, various primary foci may coalesce, and the muscular and serous coats now become more or less diffusely infiltrated with leucocytes and serum. Most instances of acute appendicitis do not pass beyond this stage, the stage of diffuse inflammation, but subside rapidly.

In case the inflammation progresses, small abscesses form in the wall, which may perforate into the lumen of the appendix and thus give rise to ulcerations; or the perforation may take place into the peritoneal cavity. In some instances, the submucosa may be so riddled with abscesses that the mucous membrane is loosened (appendicitis dissecans). Ulcerations arise practically always from purulent softening of the mucosa, beginning in the bottom of the furrows, and thence spreading, a fibrino-purulent deposit being often present. The softening may spread into the outer walls of the appendix and give rise to larger perforations. The necrosis preceding the softening is caused partly by the toxic action of the numerous bacteria present, and partly by thrombosis of the lymph and blood-vessels. Quite typical anemic and hemorrhagic infarcts may form, most often opposite the mesenteric attachment, because the blood supply in this district is poorest. On entrance of putrefactive bacteria the necrosis passes into gangrene.

Aschoff distinguishes three kinds of perforations of the appendix; perforations of miliary intramural abscesses, perforations caused by more diffuse purulent softening of the wall, and perforations associated with gangrene, the latter being the largest.

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Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, F. A. CLARKSON, AND BREFNEY O'REILLY.

Primary Carcinoma of the Lungs.

Garbat reports one case, a study of which has convinced him that while pulmonary alveoli and bronchial mucous membrane show no neoplastic tendency, there is conclusive evidence that this primary carcinoma of the lungs originates from the mucous glands of the smaller bronchi still containing cartilage. Several clinical features in his case deserve mention. The patient gave a history of distinct hereditary predisposition to tuberculosis. Several old tuberculous lesions were found in the left apex. This coexistence of tuberculosis and carcinoma of the lungs, although denied in general by Rokitansky, is not at all rare. Wolff described 31 cases of carcinoma of the lungs, of which 23 were complicated by tuberculosis. Schwalbe described 10 cases, of which 3 were complicated by active tuberculosis. Furthermore, Friedländer, Hildebrand, Seigert and Ribbert described cases of carcinoma developing in tuberculous portions of the lung.

The clinical diagnosis of tumor of the lung was made rather late in the disease. The probability of tuberculosis seemed so great that one was inclined at first to favor this diagnosis rather than that of carcinoma. The asymmetry of the chest, the diminished expansibility of the affected side, the bloody pleural fluid, and the persistence of dulness after evacuation of the fluid, speak for both tuberculosis and carcinoma. The fact, however, that the apices remained practically clear while the process was localized entirely at the right base, and in addition to this the absence of tubercle bacilli, should have suggested strongly the diagnosis of carcinoma. The sputum examination, too, proved interesting. The sputum was examined almost daily, and the only almost constant finding was blood. Naturally, it was profuse and mucopurulent. The variously described so-called characteristic "granule cells" ("*Kernzellen*") for carcinoma of the lungs were not found. As a rule, in a man over 50, profuse expectoration which almost constantly contains blood and

no tubercle bacilli, associated with physical signs denoting some abnormal lung condition, should always make one very suspicious of neoplasm.

Two complications which arose—the abscess of the lung and the empyema of the gall bladder—masked the diagnosis in the lungs to a great extent; but the fact that even after those operations, the patient did not get any relief, but became progressively worse, spoke highly in favor of an underlying malignant condition. When stenosis of the air-passages became sufficient to produce symptoms, the diagnosis became more evident; but this, as usual, came late in the disease. Summing up the age of the patient (64 years) the bloody pleural fluid, the persistence of dulness after tapping, and the constant presence of blood in the sputum without tubercle bacilli, there was enough ground for making the diagnosis of carcinoma of the lung.—*Am. Jour. of Med. Sciences and J. A. M. A.*

Carriers of Bacilli and Propagation of Typhoid Fever.

Although it is well established that most cases of typhoid are due, not to the use of contaminated water, but to direct or indirect contagion by means of carriers of bacilli. Baumann considers it opportune to make known the latest observations on the subject. Bacteriological investigators are all unanimous in showing that typhoid fever is a primary bacteriemia; that the bacillus which produces it penetrates the gall-bladder, in which it finds a suitable soil; thence it is continually carried into the intestine. The feces and the urine remain for a long period after the cure of the fever, contaminated by the bacillus of the fever. One must also consider the cases in which the typhoid infection has been so light as to pass unobserved, making these cases the most likely ones to carry infection. The author refers to a man, 66 years old, in whose factory 16 persons had labored or dwelt. These were all, in succession, stricken down by typhoid fever within a period of ten months. This man suffered from hepatic colic, a frequent symptom in those who have once had typhoid fever. From his dejections there was isolated the bacillus of Eberth. Examining these 16 cases, it is quite evident that there was no other source of infection.—Translated from *Giornale Internazionale delle Scienze Mediche*, by Harley Smith.

Nitrous Oxid and Oxygen Anesthesia.

C. K. Teter, Cleveland, Ohio (*Journal A. M. A.*, August 7), gives his experience with nitrous oxid and oxygen anesthesia. He first gives a sketch of the history of this method, crediting the

first reported cases in which it was used to Dr. E. Andrews of Chicago, who, however, did not use it to any great extent. It was studied by Paul Bert, but its extended use is more due to Dr. F. W. Hewitt of London. Warming the gas improves its effects and safeguards best against postoperative bronchitis or pneumonia, besides requiring a much less volume of gas to produce the narcosis. The elimination takes place principally through the respiratory tract, and a patient with good circulation will come out of the anesthesia very quickly. It has been advised against in brain surgery, but with the proper addition of oxygen he has never had any difficulty with it. If air is used instead of oxygen there is less asphyxia, but the anesthetic effect is diminished. He reports cases in which the effect on the brain was directly observed, showing, in his opinion, that the discoloration and dilatation were not due to the anesthetic, but were purely asphyxial manifestations. The asphyxia, moreover, is not dangerous as compared with that from ether or chloroform. Several cases are reported also, illustrating points of special interest, such as strength of narcosis, the effects of age of patient, physical condition, primary shock, etc. He has kept a patient under this anesthetic for several hours, and considers it safer in this respect than any other of the general anesthetics, without exception. The aged as a rule are good subjects, but in children it is best to watch the symptoms closely, as the effects are very rapid. It is not always best to continue with nitrous oxid and oxygen under all circumstances, for, in some cases, it may be impossible to retain the desired depth of anesthesia. In some cases it may be better to change to a more stimulating or tolerable anesthetic, either in combination or sequence. He has had a few cases showing shock, probably more than would be noticed with other agents, owing to the fact that the nitrous oxid was selected on account of abnormal conditions present. He has had but one fatality which he reports, and that was due to shock and primary cardiac failure. He emphasizes the importance of continuous auscultation and describes his method of performing it during an operation with an improved Kehler stethoscope, which is especially adapted for the purpose. One of the main objections to nitrous oxid is the rigidity encountered in about 10 per cent. of cases, and his best results in meeting this difficulty were obtained with an injection of from $\frac{1}{4}$ to $\frac{1}{2}$ grain of morphin sulphate and from 1-100 to 1-150 grain of atropin, injected half an hour before the operation. He does not advise the use of morphin as a preliminary, however, to anyone not experienced in this method of anesthesia. The apparatus and the technic for this

operation are described, together with the variations required when operating on the mouth and throat. The dangers are enumerated in some detail. The principle one is asphyxia. But he believes that nitrous oxid can produce death without the asphyxial element coming into it at all. Ordinarily, the cyanosis is not so severe as to be very objectionable, the principal result being a postoperative headache. Another undesirable symptom is tetanic cramps in the arms, hands, feet, and legs, but in every case in which this was observed the patient's physical condition was either bad or he was of a neurasthenic temperament, or both. Blood pressure is slightly raised during nitrous-oxid anesthesia, and this point and other effects on the blood have been brought out by Hamburger and Ewing. Their experiments, the author thinks, prove that nitrous-oxid anesthesia does not reduce hemoglobin and thereby cause anemia; that it does not increase hemolysis, and that what apparent change it does produce is transient and of no clinical significance, and that nitrous oxid causes no permanent effect of any significance from the standpoint of blood changes. The advantages are the freedom from nausea and vomiting, the better after-effects, and fewer complications retarding recovery.

The Science of Clinical Medicine.

S. J. Meltzer, New York (*Journal A. M. A.*, August 14). thinks that clinical medicine as a science should be taken up apart from the practice of medicine, by investigators who will give their whole time and attention to the subject. The objection may be made that its conclusions cannot be verified by experiments, and this he meets by asking whether the science of biology or that of geology are not similarly disqualified from the rank of pure sciences because some at least of their problems are not amenable to experimental proof, and is not physiology itself less precise than physics and chemistry? The men who should carry on the researches in the science of clinical medicine should have the scientific spirit and training and devote the best part of their time to the cultivation and elevation of this field. Without the development of such a department of clinical science, the efficiency of the practice of internal medicine will lag behind, no matter how progressive the allied sciences of medicine may be. Taking up the actual state of affairs, as regards the subject, neither abroad nor here do we find a separate class of investigators confining their activity solely to the domain of clinical medicine. Everywhere science and practice go together. He says, however, there is a vast difference in the status of medical

research here and abroad, and he takes Germany, for example, as an illustration of the keeping the main stem of medicine scientific in spite of its differentiation into the various specialties. There the clinicians do not master the immense knowledge and manual skill which contemporary clinical medicine demands, but nearly all of them are themselves diligently adding new facts to the store of medical science. The secret of their scientific success is that science is the first and practice the second object of their lives. With most of the leaders of medicine in Germany the task of gaining and diffusing knowledge receives their first attention and consultation and practice comes in last. The scientific spirit rules their institutions and instruction, and the government, no matter what its political ideals may be, never loses sight of the fact that the cultivation of science is one of the greatest assets of a people. Here, he thinks, the factors favoring the scientific spirit are nearly all lacking, though in spite of this medicine has risen to a certain commanding position, at least at certain periods. Latterly, however, while the special sciences of medicine have gained a strong foothold in this country, clinical medicine has not advanced with an equal step; has, in fact, suffered from the advance of the others. The brainy men now devote their energies to the pure sciences or the specialties, and the greatest evil of them all is the deplorable fact that in most instances internal medicine is taught in this country by very busy consultants, who can give only a small fraction of their time and mental energy to this side issue of their lives. Teaching medicine and furthering it as a science should be carried on by men who are ready to devote all or most of their time to it. The progress of clinical medicine in this country must be accelerated again. He would recall this obligation to the minds of those called to chairs of medicine in important schools. They are not absolutely prohibited from practice, but they should beware of its temptations.

SURGERY.

IN CHARGE OF EDMUND E. KING, GEORGE A. BINGHAM,
C. B. SHUTTLEWORTH AND F. W. MARLOW.

"A Review of Proctologic Literature from May, 1908, to May, 1909."

Dr. Samuel T. Earle, of Baltimore, Md., at the meeting of the American Proctologic Society.

Among the interesting conditions referred to in the review by the author were the following: "Congenital Idiopathic Dilatation of the Colon" (Hirschprung's Disease). In Dr. Finley's report of his case he reviewed the literature of the subject to January 1st, 1908, and collected some two hundred and six cases, after which he stated that while to Hirschprung belongs the credit of having first called attention to this disease, a number of cases had been found in the literature antedating his classical description. In the article Dr. Finley discussed the various hypothesis as to the etiology of the disease and some ten theories, which have been suggested from time to time, as the causation of the malady, including that of hypernutrition, which was the author's principal theory. His conclusions as to the etiology of the disease were that no one theory apparently explained every case; that each one explains some.

The symptomatology was described and a complete clinical picture of the disease given, with a list of a series of cases discussed in the Johns Hopkins Hospital—eleven in all. Regarding the treatment, the author concludes that no one plan seems applicable to all cases, and suggests the method employed in his own case as perhaps the one most applicable to the large proportion of cases, to wit: a preliminary enterostomy; then a colostomy some months subsequently; finally a complete excision of the affected portion. This artificial anus is left open until after the success of the proceeding steps are assured when it should be closed under cocaine anesthesia.

Another case of interest reported was that of a "*Sarcoma of the Rectum in a Boy*," aged ten years, by Cecil Rountree. (Proceedings Royal Society of Medicine, February, 1908.) The pathological examination showed the tumor to be a mixed cell sarcoma. Of five hundred and ninety-six cases analyzed in the Cancer Research Laboratory, of the Middlesex Hospital Reports, there were only six cases under thirty years of age—the age of

the youngest, a boy of sixteen years, who had a sarcoma of the rectum. There are likely to be many metastasis in sarcoma of the rectum. This malady is rare at any age.

Attention was called to the article of Dr. Charles O. Files, of Portland, Maine. (*New York Medical Journal*, Vol. 87, p. 1154), in which he considers that there are two important factors that should be studied in connection with the "*Treatment of Pruritus Ani.*" These are an analysis of the contents of the rectum and the physical condition and mechanical efficiency of the sphincter ani muscles—external and internal.

The normal feces contains about 73% of water. This water holds in solution various volatile, fatty acids, and probably other irritating excrementitious substances. During the retention of the feces in the rectum a considerable portion of the water disappears. In prolonged constipation the feces become hard and dry, some of the fluid passes by osmosis into the cellular tissue about the anus and thence to the skin. The liquid feces are very often irritating to the mucous membrane of the anus, and causes an intense burning sensation. When this acrid solution is absorbed into the cellular tissue it causes an irritation of the skin, and we call that irritation pruritus ani.

The sphincter muscle, as long as it remains in a normal condition, prevents the passage of any appreciable amount of fluid through it. When, however, the action of the sphincter is made somewhat irregular by the pressure of a hemorrhoidal condition some of the fluid leaks through the anus and causes pruritus by direct contact. The skin about the anus is often found to be moist in persons having hemorrhoids.

Dr. W. Ernest Miles (*London Lancet*, 1908, Vol. 2, p. 1812) reviews the "*Perineal Excision for Carcinoma of the Rectum and of the Pelvic Colon,*" and states that so far as he has been able to gather from the literature on the subject, the technic of previous operations seems to have failed in one important respect, namely, the complete eradication of the zone of upward spread of cancer from the rectum, whereby the chance of recurrence of the disease above the field of operation can be distinguished, if not entirely obviated. In his personal experience of fifty-seven such peritoneal operations, he found that recurrences took place in periods from six months to three years in fifty-four instances.

In order to ascertain the cause of his failures he made a post-mortem examination of such of his patients who died and found that recurrence appeared in situations that were beyond the scope of removal from the peritoneum, namely: (a) the pelvic

peritoneum; (b) the pelvic mesocolon; and (c) the lymph nodes situated over the bifurcation of the left common iliac artery. He considers that this area constitutes the zone of the upward spread of cancer of the rectum the removal of which is just as imperative as is the thorough clearance of the axilla in cases of cancer of the breast, if freedom from recurrence is to be obtained.

The appreciation of this important fact, induced him two years ago to abandon the perineal methods of excision of the rectum and to substitute therefor an abdominal method, comparable to those methods of performing abdominal hysterectomy known as the Wertheim and the Kronig-Wertheim. He then gives the technic of his operation in full, and has formulated what he considers certain essentials, which must be strictly adhered to, if satisfactory results are to be obtained, namely: (1) that an abdominal anus is a necessity; (2) that the whole of the pelvic colon, with the exception of the part from which the colostomy is made, must be removed because its blood supply is contained in the zone of the upward spread; (3) that the whole of the pelvic mesocolon below the point where it crosses the common iliac artery, together with a strip of peritoneum, at least an inch wide on either side of it, must be cleared away; (4) that the group of lymph nodes situated over the bifurcation of the common iliac artery are in all instances to be removed; and, lastly (5) that the peritoneal portion of the operation should be carried out as widely as possible, so that the lateral and downward zones of spread may be effectively extirpated.

Conservatism in Surgery of the Mandible.

Thomas L. Gilmer, Chicago (*Journal A. M. A.*, August 7), reminds surgeons that exsection and resection of the mandible are followed by greater mutilation and disfigurement than follow any other oral or facial surgery. When the continuity of the lower jaw is broken by the removal of considerable sections of the bone, facial deformity is at once and permanently made, and no means of restoration by prosthesis, or otherwise, has as yet been suggested or employed, which meets the demands either cosmetically or functionally in any degree satisfactorily, either to the surgeon or to the patient. This statement may be qualified in a slight degree by excluding a few cases in which only a small section of the mandible has been removed in the anterior part of the bone, and there are present in the two fragments of the jaw a number of good sound teeth firmly set, to which a bridge may be secured; and even such cases, owing to the heavy strain to which such teeth will be subjected, it is unreasonable to expect

them to withstand permanently the necessary strain of mastication without finally becoming loosened and lost. When the surgeon realizes the truth of the foregoing statements, he should be slow in deciding on an operation so radical as exsection or resection. He should be sure that the life of the patient can be saved only by such an operation; and Gilmer is of the opinion that it is good practice, even in some malignant types of disease, unless the bone throughout its entire thickness is involved, to do an operation which will save at least a small part of the body of the jaw in its continuity, taking some risk of recurrence rather than maiming the patient for life. Take, for instance, the most prevalent type of malignant tumor of the mandible, the giant-cell sarcoma. Since in this type of sarcoma metastases are not early formed, a conservative operation may first be done, then the case subjected to ray energy and watched closely. If the growth recurs, it is not yet too late for the more radical operation. The author is no advocate of temporizing with malignant neoplasms; but he believes we should be sure of the diagnosis and then radically remove all of the invaded tissue so far as we can judge, saving, if possible, a small part of the jaw in its continuity. For cosmetic reason: operations on the jaws, when they may be thoroughly and completely done from within the mouth, should be done that way, but if the disease is of a malignant nature a clear field with unobstructed light is necessary to enable one to judge of the extent to carry the operation, then an external incision should be made. Such incisions may usually be made in a manner to cause the minimum of disfigurement.

“Treatment of Pruritus Ani, with a Consideration of Its Pathology and Etiology.”

Dr. William M. Beach, A.M., M.D., of Pittsburg, Pa., in an article arrived at the following conclusions:

1. That pruritus ani occurs in mild and severe forms; mostly in middle life; the mild type with simple pruritus, the severe type with marked eczema and skin changes.
2. Certain aberrations in general metabolism, or in adjacent structures, are simply incidental and should be considered as complications.
3. Intra-rectal growths, as hemorrhoids, adenomas, etc., or the presence of parasites are contributory.
4. The distinct pathogenesis of pruritus ani consists of single or multiple burrowings from the anal pockets, emitting a serous or sero-purulent substance, which sinus may be complete or blind

and is always accompanied by proctitis, and frequently by cryptitis, and small ulcers at the ano-rectal line.

5. These sinuses when complete are the sequelae to an abscess history, but the origin of the blind recesses is in doubt, and yet it is not unlikely due to an infection by the colon bacillus.

6. The treatment is surgical for the purpose of obliterating the sinuses, correcting a rigid sphincter when necessary, and curing the proctitis and ulceration.

7. Gastro-intestinal and general metabolic disturbances must be met by rational measures.

LARYNGOLOGY AND RHINOLOGY.

IN CHARGE OF J. PRICE-BROWN.

The Treatment of Acute Coryza. Lowy (*Münch. Med. Woch.*, July, 1908).

A combination of four parts of menthol to two of camphor makes an oily fluid. A few drops are warmed in a test tube containing a little water. The patient inhales the vapor two or three times a day from five to ten minutes at a time. The remedies are believed to be sublimed on the surface of the respiratory tract.

Passage of a Piece of Tissue Through the Eustachian Tube After an Operation for Adenoids. E. KRONENBERG, (*Zeitsch. f. Laryngol., Vol. Part IV.*)

The case is unique, no similar one having been recorded. A child, aged 6, had bilateral otitis media, following scarlet fever. Much of the tympanic membrane in each ear was destroyed. Six months later both ears were dry, but large perforations persisted. The pharyngeal tonsil was then removed by Beckmann's curette. There was no vomiting. Five days later, a mass of tissue the size of a pea was removed from the left tympanic cavity. There had been no aural pain, but microscopical examinations showed that it consisted of adenoid tissue. The marvel was that so large a mass should pass through the Eustachian tube without producing symptoms.

A New Method of Treatment of Acute Tonsillitis. HAHN,
(*Bollet. delle Malattie dell'orecchio, naso e Gola*, No. 11,
1908).

The treatment combines the mechanical washing of the crypts with the reduction of the inflamed condition of the tonsil. He first injects a 3 per cent. solution of boracic acid, in lukewarm oxygenated water, into the crypts of the tonsil, and follows this by a solution of cocaine and adrenalin, and finally insufflates with orthoform. The author claims recovery in twenty-three cases after only one treatment in each.

Untoward Results from Diphtheritic Anti-Toxin, with Special Reference to Its Relation to Asthma. H. F. GILLETTE
(*The Journal of Laryngology*, June, 1909).

The author concludes that all sera are still in an experimental stage, and that no one should be used without a well-defined object in view, and watchfulness for contra-indications. Twenty-eight cases are recorded, in which untoward results followed directly from its use, fifteen of which died. Symptoms came on usually within ten minutes of injection, and death, when it occurs, within one hour, due to respiratory failure. The writer disclaims any alarmist intention.

Chronic Stenosis of the Larynx. BY D. BRYSON DELAVAN.
(*Laryngoscope*, June, 1909).

The patient, an unmarried woman, aged 35, of excellent family history and good general health, had been a sufferer for years from chronic laryngitis. She was first seen in consultation in 1902, when, in conjunction with severe chronic inflammation, there were marked erosions along the free borders of both vocal cords. Together with other treatment, prolonged intubation was then advised, but not followed.

Two years later, urgent dyspnoea supervened, and tracheotomy was done by the attending physician, the cannula being worn until 1905, when, by the desire of the patient, the plan of treatment previously advised was adopted. For another year a tube was worn in the larynx almost continuously, but every time it was removed stenosis would return, compelling immediate re-insertion.

Finally, as a last resort, an intralaryngeal incision in the anterior obstruction throughout the full depth of its entire length, was made by means of Gleitsmann's cutting dilator, and a large size O'Dwyer tube inserted. This was worn from the date of operation, in June, 1906, to January, 1907, when it was

removed. In a little while dyspnoea again returned, and re-insertion became necessary. This time it was worn continuously until September, 1907, when the parts being entirely healed, it was finally discarded. Since then she has had no difficulty whatever in respiration, and although still voiceless, her general health has materially improved. The result may be considered a brilliant one, when the alternative of a life-long wearing of a cannula is considered.

Bronchoscopy and Esophagoscopy: The Technique, Utility and Dangers. E. FLETCHER INGALS (*Laryngoscope*, July, 1909).

In a long and somewhat exhaustive article upon this important subject, the writer makes the statement that, "Much has yet to be done in the development of this most valuable operation, especially in learning to avoid its dangers."

Basing his remarks on personal experience, he believes that unfavorable symptoms after bronchoscopy are largely due to the mechanical irritation produced by the instrument. In support of this view, he cites the following facts: The bronchi and the trachea, in young children, expand and contract greatly with each respiration. The bronchi are also lifted upward and depressed downward with each complete respiratory movement. From these movements there is a constant respiratory stretching and pulling of the air tube over the end of the bronchoscope, when in position, producing much mechanical irritation of the bronchial mucous membrane.

To avoid this and other dangers, he advocates making the operation as short as possible, touching no more of the tracheo-bronchial tract than is absolutely necessary, and using as small a bronchoscope as will give sufficient illumination and allow the use of suitable instruments.

The difficulties of esophagoscopy are slight, as compared with bronchoscopy. Yet, while in the former the largest available instrument should be used, and in the latter the smallest, it must be remembered that the edematous mucous membrane may roll over and completely hide the foreign body, even though the esophagoscope be passed without obstruction into the stomach.

What makes esophagoscopy less dangerous than bronchoscopy is the fact that its mucous membrane is designed for the passage of foreign bodies, and therefore can bear the irritation of the instrument much better than can the mucous membrane of the bronchial tubes.

Some Experiences in the Direct Examination of the Larynx, Trachea and Esophagus. A. BROWN KELLY (*Journal of Laryngology*, June, 1909).

Direct Laryngoscopy he had found particularly useful in the examination of infants. It enabled him to differentiate the various causes of stridor in babies, something which was rarely possible by means of the laryngeal mirror. In cases of congenital stridor, he found the epiglottis abnormally long, with lateral margins rolled backward in cylinder form.

For operative purposes, direct laryngoscopy in infants was also endorsed. Papillomata were removed, and by a light touch of the cautery, vocal nodules were destroyed. As the movements of the vocal cords cease during chloroform anesthesia, delicate operations can be readily done by the direct method.

Tracheoscopy.

Several cases in children are recorded, in which tracheotomy had been followed, on removal of the tube, by stridor. Direct examinations revealed more or less ringed stricture to be the cause. These cases were relieved by notching and dilating. In another case a bean had slipped into the larynx of a boy aged three. Direct examination 30 hours later found it at the bifurcation of the bronchi. It was removed piecemeal by means of forceps. The boy recovered.

Esophagoscopy.

In malignant disease this has only been of corroborative diagnostic value. In removal of foreign bodies, however, the esophagoscope has been of great service. Also, in the discovery and treatment of cicatricial stricture. In dilating these cases, the danger of getting into a pocket or perforating a weakened wall has been avoided. One case of exploring a diverticulum is also recorded, the opening being distinctly seen through the lumen of the tube.

Observations on Esophageal Cases. HARRIS PEYTON MOSHER (*Laryngoscope*, June, 1909).

In this paper, which is somewhat elaborate, the writer deals largely with the use of the esophagoscope in the examination and treatment of malignant diseases of the esophagus, and in the removal of foreign bodies from this organ. His cases were chiefly of these two classes. The former all occurred in adults, and all were tragedies. The latter all occurred in children, and all recovered. All had swallowed coins or buttons.

In examining a patient, he places the operating table and the etherizer upon a platform, while the operator stands on the floor with his eye on a level with the inserted tube. In short, fat-necked people, the insertion of the tube is difficult, while in long-necked, thin people, it is much easier. The absence of teeth is also an advantage in inserting the tube.

The tube should always be as large as the esophagus can be made to take, particularly in examining for foreign bodies, as a small tube will frequently slip past a coin or a button without touching it.

Malignant Disease.

The one advantage that the use of the esophagoscope has, in the treatment of malignant disease, is the fact that it permits of an earlier correct diagnosis being made than by any other method. This, however, is largely a matter for investigation, as cure of the disease through the tube is out of the question—the important point being that, by its use, operative treatment could be decided upon earlier.

Foreign Bodies in the Esophagus.

Investigation of a large number of cases brought out several important facts: 1st. In very young children, the esophagus is much wider than is usually supposed. The writer gives an instance in which a child one year old swallowed a pearl button one inch in diameter. Examination by the esophagoscope failed to find the button, but it pushed it into the stomach. No symptoms were produced, and the button was discharged through the alimentary canal three days later.

Another instance is given in which a similar button was swallowed by a child eight years old, and discharged in the same manner; and a year later the same child swallowed and passed a silver fifty-cent piece without symptoms.

2nd. That, owing to the size and distensibility of the esophagus, the tube may be passed all the way into the stomach without either touching or discovering the foreign body. Several instances of this nature are related.

3rd. A means of locating the foreign body by the use of the esophagoscope is given, even in cases when it cannot be seen. In passing the instrument, wherever the esophagus is empty it collapses ahead of the tube in a small, dark central rosette. When, however, the tube approaches the coin, the rosette, which represents the lumen of the esophagus, disappears, and its place

is taken by a dark oval slit, produced by the pressure of the coin upon the esophageal wall.

The use of the X-ray also aids materially in locating the foreign body.

The places where foreign bodies usually lodge are: 1st. Back of the cricoid cartilage, and 2nd, Just above or below the clavicles. Once past these regions, they usually find their way quickly into the stomach.

PEDIATRICS.

IN CHARGE OF ALLEN BAINES AND W. J. GREIG.

Circumcision and Its Abuses.

It is not sufficiently realised that, however advisable circumcision is on hygienic grounds, the anatomical state of the foreskin is by no means frequently sufficient justification for operating. There is much too great a tendency to regard a long and narrow foreskin as in itself a proof that circumcision is needed. Such a foreskin is the characteristic of male babies at birth; while, on the other hand, the penis of the new-born infant is small in size, and frequently very small.

In the new-born babe the glans and prepuce are adherent by reason of the persistence of the epithelial agglutination of the surfaces. Few babies are born with the adhesions fully separated, but separation takes place in the course of some months, and the perfect adult condition is attained about the eighth year.

True congenital phimosis is a rare condition. Sometimes the orifice is constricted, and occasionally it is absent. Constriction of the orifice may lead to ballooning of the foreskin on micturition, a very evident sign, which quickly attracts the attention of the nurse, for the state of the foreskin in babies seems to be peculiarly interesting to nurses, and the question of circumcision generally arises through their initiative. It is stated that a constricted orifice may lead to dilatation of the urethra, bladder, ureters, and kidneys, giving rise to hydro-nephrosis and atrophy of the renal tissue. Certainly such results are extremely rare from this cause, but excite undue apprehension in the mind of the family doctor. It is also said to cause the retention, accumulation and decomposition of

smegma, eezema and balanitis, preputial calculi, adhesion of the prepuce, narrowing of the meatus, urethritis, cystitis, pyelitis, retention, incontinence, and enuresis.

To the local irritation which accompanies some of these affections are ascribed restlessness, insomnia, irritability, paroxysmal screaming attacks, pavor nocturnus, dysuria, frequent micturition, severe colic, and even pain in the hip. Painful micturition is much more probably due to highly acid urine. Masturbation has followed on local irritation; but, on the other hand, the habit is by no means rare in the circumcised, and has often been ascribed to the effect of circumcision and the friction of clothes on the sensitive glans. Continued mild inflammatory mischief leads to adhesions and the development of a thickened non-retractile foreskin, with subsequent difficulties in coitus and liability to attacks of balanitis. Straining to pass water is supposed to develop or maintain hernia, prolapsus recti, and even hydrocele.

In the course of a very extensive experience of the ailments of infancy, the writer has found remarkably little confirmatory evidence of the occurrence of these conditions. Many of them are almost unknown.

Let it be clearly understood that mere redundancy of foreskin is no indication for circumcision. The penis develops later, and subsequently the supposed long foreskin may be insufficient to cover the glans completely. If the prepuce can be retracted with moderate ease, it should certainly be left. It is a very valuable protection for the glans. The fact that among the children of the careless and unwashed, smegma may accumulate under the prepuce and become offensive, is not an argument in favor of operation, but a slur on the person responsible for the welfare of the child.

Circumcision must not be regarded as a trivial and harmless operation, for many evil and fatal results have ensued. Sepsis, sloughing of the skin, and ultimately extensive scarring, sloughing and gangrene of the penis, fatal hemorrhage, erysipelas, and pyemia have all occurred. Syphilis and tuberculosis have been transmitted when the operation has been done as a religious rite, and not by a trained surgeon. Hemorrhage is rare, for the Jews remove skin only, do not cut the mucous membrane, and carefully avoid the frenum, though neither sutures nor ligatures are used. Hemorrhage is commonly due to neglect to tie the vessels of the frenum.

Apart, however, from serious and fatal sequels, the operation of circumcision may be a source of discredit to the operator and

of subsequent trouble to the child. It is by no means rare to find an excessive amount of skin removed. A chronically thickened preputial stump or a mass of redundant skin may give the organ an unkempt and ragged appearance, which spoils the reputation of the surgeon for years, and is a constant source of gossip among the female branches of the family, although the inartistic appearance eventually is lost or forgotten.

In many babies it is quite sufficient to separate the adhesions with a probe, without causing bleeding. Others can be treated by dilatation with dressing or artery forceps, until the foreskin can be easily retracted. It is then cleaned, oiled, and replaced. Retraction and oiling should be done daily for a time. This may be left to the mother or nurse, if the foreskin can be replaced easily. Otherwise, there is the prospect of being hastily summoned to deal with a paraphimosis. If the surfaces bleed on separation, adhesion is almost certain to recur, for the retraction cannot be carried out daily without pain, and will be neglected. Failing cure by these simple measures, recourse must be had to complete circumcision; to incision of the mucous membrane only on each side; to longitudinal dorsal incision of the foreskin; or to other modification of the complete operation, depending on the length of the foreskin, the degree of adhesion and stenosis, and the ideas of the parents and operator in reference to the desirability of this operation. Care should be taken not to remove too much skin, leaving enough to cover the corona, and to enlarge a narrow meatus, if present; for this may quite well be the cause of screaming and straining on micturition.—*The Hospital*.

Editorials.

THE PLEA OF INSANITY.

One of the saddest features in connection with the attempt to prove that a weak-minded young degenerate, who has for some time been confined in a criminal insane asylum, from a professional point of view, is the humiliating position in which certain alienists have been placed.

Most of our decent folk long since became tired of the oceans of news respecting the details of Harry Thaw's various degenerate idiosyncrasies and crimes. Justice Mills, who delivered an able judgment, concludes as follows: "The enlargement of Harry K. Thaw would now be dangerous to the public peace and safety, and therefore cannot be permitted." The press and the public generally appear to consider the judgment correct.

From a professional point of view, it is of interest to consider the position of some of the expert witnesses. It is generally supposed that the opinions expressed by expert physicians will always be considered of some value by the Court. In this Thaw trial, the Judge evidently considered that the evidence of the alienists who swore as to the creature's sanity was worthless—to use a mild expression. There is nothing sadder, from a professional standpoint, than the pitiful attempts of an honest physician to color his evidence in favor of one side.

What does the public think of such witnesses? We fear that the following quotation from a well-known, respectable newspaper, *Saturday Night*, of Toronto, represents fairly well the views of the whole community: "And in connection with Thaw's attempt to escape from the confinement one of the most disgusting exhibitions of the trial has been the testimony of the so-called medical experts. Men who were heralded as great alienists got into the witness-box and with unabashed effrontery declared the sanity of the man whom they had previously stated to be hopelessly insane and irresponsible from birth. It is such shameless exhibitions as these that give grounds for

the attacks on the medical profession so often heard. These self-constituted experts are a menace to the cause of justice and the profession they claim to follow. Every one, who has ever followed up closely the operations of the courts, knows the great value and perfect reliability of the general medical practitioner as a witness. No better and more careful testimony could be desired than what is usually given by the local doctors in any case with which they are connected. But also nothing could be more worthless and dangerous and unscrupulous than evidence of the kind given by the alienists in the Thaw trial."

THE BRITISH MEDICAL ASSOCIATION.

The seventy-seventh annual meeting of the British Medical Association was held at Belfast, Ireland, July 27 to 30. It will be remembered that one of the most interested guests at the Montreal meeting, in 1897, was the Governor-General of Canada, Lord Aberdeen, now the Lord-Lieutenant of Ireland. Two of the most interested guests at the Belfast meeting were the Lord-Lieutenant and the Countess of Aberdeen. His Excellency, in replying to the toast of "The Lord-Lieutenant and Prosperity to Ireland," devoted his reply (*Brit. Med. Jour.*) to a sketch of the public health work done in Ireland during the last few years, especially that done by the Women's National Health Association, to check the ravages of tuberculosis. The statistics for 1908 indicated that the death-rate from tuberculosis was declining. His Excellency added that the Countess of Aberdeen was exceedingly gratified that her work in this direction should have been recognized by the British Medical Association, for he was permitted to say that the Council had that day resolved to recommend the Association to elect her an honorary member, a privilege he had himself enjoyed since the annual meeting in Montreal.

We understand the meeting was at least equal to the average of the last few years. The principal addresses, in addition to

Sir William's presidential address, were: Address in Medicine, by Dr. R. W. Philip, of Edinburgh; Address in Surgery, by Mr. Arthur Barker, of London; and Address in Obstetrics, by Sir John Byers, of Belfast. The hospitality extended to the guests by all classes in Belfast was of the most generous sort in all respects. The total number in attendance was about fifteen hundred.

THE CITY OF WINNIPEG.

Nothing was more interesting to the visitors from the East than the young but great city of Winnipeg. We had heard much during recent years about the growth of this western town, but we had scarcely appreciated the fact that its population has trebled in the last eight years, and that it is now growing proportionately. This is, however, telling only a small part of the story. Its streets are beautifully paved and boulevarded. Its main business street is 133 feet wide. Its stores, warehouses, banks and public buildings are large and substantial. Its parks are capacious and artistically laid out. Many of the large residences are beautiful in construction and surrounded by spacious greens. In fact, it is a large, beautiful and clean city.

Among its educational institutions is the Manitoba Medical College, which is in affiliation with, and will probably soon become an integral portion of Manitoba University. This College has now about 400 graduates. There are five general hospitals, with an aggregate capacity of about 800 beds, and a large maternity, which can accommodate 200 patients. The veteran medical practitioner of Winnipeg at the present time is Hon. Dr. O'Donnell, who began practice at Fort Garry just forty years ago. The magnificent and generous hospitality of the physicians of Winnipeg at the meeting was highly appreciated by the visitors.

THE CANADIAN MEDICAL ASSOCIATION.

The following statements respecting the recent meeting of the Canadian Medical Association in Winnipeg cover considerable ground:

1. The meeting was the largest and best in the history of the Association.

2. The success of the meeting was largely due to the great personal popularity of the President, Dr. Blanchard, and to the untiring energy and executive ability of the Secretary of the Committee of Arrangements, Dr. Harvey Smith.

There appears to be no doubt as to the absolute correctness of the first statement in the minds of those who were in attendance. We do not vouch for the second statement, but simply state that the man who made it was "in the spot all the time" and apparently knew whereof he spoke.

The general opinion among the visiting members was that all the local physicians worked together with a will and that the success of the meeting was due to their united efforts. The preparation for the meeting was accomplished by a local committee of thirty-three men. The following sub-committees were appointed: Exhibit and Accommodation, Chairman and Secretary, Drs. Munroe and Coulter; Credentials, Drs. Campbell and Kenny; Advertising and Publicity, Drs. MacKay and Hughes; Transportation, Drs. Blanchard and Vrooman; Entertainment, Drs. Rogers and Field; Finance, Drs. Simpson and Pope.

In addition to the general sessions there were five sections, as follows: Medicine, Chairman and Secretary, Drs. Jones and Hunter; Surgery, Drs. Nichols and Maclean; Obstetrics and Gynecology, Drs. Gray and McCalman; Eye, Ear, Nose and Throat, Drs. Prowse and Turnbull; Pathology, Drs. Bell and Peirce. We may say in a general way that the proceedings were conducted with a Western *snap* which appeared to keep things *humming* all the time.

Personal.

Dr. W. A. Young, Managing Editor of the *Canadian Journal of Medicine and Surgery*, of Toronto, was elected President of the American Medical Editors' Association at the last meeting, held in June, at Atlantic City. This Association has a membership of over two hundred editors of the principal medical journals in the United States and Canada. Dr. Young was thus honored because of the deep and active interest he has taken in the Association in the past, although, as it happened, he was not present at the meeting when he was elected. He was crossing the Atlantic at the time, and returned to Toronto, after his European trip, August 26th.

Selections.

Treatment of Aneurysm of Aorta.

Four considerations must be remembered in the medical treatment of Aneurysm of Aorta :

1. The situation, the volume and the physiological importance of the aorta make it impossible to apply the means which are used in aneurysm of other arteries.

2. There is always difficulty in rightly appreciating the value of a treatment, because (a) certain aneurysms of the aorta develop with great slowness; (b) after a period of rapid growth, they often remain stationary; (c) at the beginning of a stay in the hospital or of treatment which keeps the patient quiet, the changed manner of living often produces an improvement of the functional disturbances and at times of certain physical symptoms.

3. Aneurysms of the aorta may be cured spontaneously.

4. Some of the etiological conditions may become the point of departure of therapeutical indications.

An instructive example of spontaneous cure is that of a woman of 79 years, seen by Prof. Robin at the *Maison de Retraite des Ménages*. The patient said she had never had a day's illness. She succumbed to an attack of broncho-pneumonia, which she resisted for a period of 19 days. At the autopsy, beside the classical lesions of broncho-pneumonia, there were found two cured aneurysms of the abdominal aorta. The first was a fusiform aneurysm, situated just below the diaphragm, filled with white fibrinous clots, very hard, stratified, adherent to the aortic walls. The second, almost immediately below the first, on the anterior wall of the vessel, was also filled with white clots, stratified, old, those nearest to the orifice of the sac being softer and of a reddish hue. The aorta was, throughout, hard and marked by cavities and calcareous flakes.

So, it appeared manifest that two aneurysms could develop and be cured with no outward manifestations of the pathological and curative processes. In this cure, the arterial wall and the circulating blood each played a part. In the arterial wall, there was seen an infiltration of embryonal cells which produced a resisting tissue. At the same time the inequalities and the roughness of the lining membrane caused the formation of clots. The blood performed its part, by clotting, and forming successive layers of fibrin. Thus is explained the spontaneous cure.

Let us now examine the etiological conditions. To bring about an aneurysm, there must be first of all a soil, that is a lesion, which weakens the elastic resistance of the vessel. This lesion has, for causes, those which lead to arteritis and endarteritis, from alcoholism to syphilis. In 1554 Fernel affirmed that the venereal virus was a cause of aneurysm. To-day no one disputes the preponderating influence of syphilis as a cause of aneurysm. The arteritis, which it produces, seems to have the *vasa vasorum* as the point of departure. As the next step, it is often, if not always necessary to have an *infection* added, such as rheumatism or grippe, which causes micro-organisms to become imbedded in the lining membrane.

These two conditions being established (the second may be wanting or pass unobserved), that which brings about the aneurysm is the continuous action of the *arterial tension* on the arterial walls, whose resistance is lessened.

Hence it follows that the treatment must be directed to the vessel walls (taking into account the causes which have placed them in a state of lessened resistance), to the blood itself and to the arterial tension.

The author then refers to the various forms of treatment that have been adopted—surgical treatment, coagulating injections, direct compression, indirect compression, acupuncture, galvanopuncture, ligature of the carotid arteries, treatment intended to modify the aneurysmal walls, such as applications of ice, etc. Treatment intended to modify arterial tension has met with greater favor. In 1728 Valsolva and Albertini proposed to treat aneurysm by absolute rest and a very reduced diet, having as their objective the lessening of the pressure of the blood on the arterial walls.

Treatment directed to the coagulation of the blood is represented by that of Graves and Stokes, who tried to cause coagulation of the blood by means of nutrition as substantial as possible and a long list of coagulating drugs, acetate of lead, tannic acid, perchloride of iron, chloride of calcium, etc., all have been abandoned, in view of their inactivity or symptoms to which they give rise.

But the question has assumed a different aspect since Lancereaux and Paulesco (starting from the experiments made by Dastre and Floresco as to the coagulating properties of gelatin) have given us a treatment which seems to be far superior to all others.

Gelatin contains a small quantity of calcium and is feebly acid in reaction. Possibly these two elements play a small part

in the process of coagulation. It has been also proven that it increases the secretion of the coagulating materials of the white corpuscles. Lancereaux adopts the following solution:

Gelatin sterilized at 120°gr. 4.55
Chloride of sodiumgr. 1.40
Sterilized watergr. 200

The complete treatment requires from 30 to 40 injections. The only contra-indication to this treatment is the existence of albuminuria. Possessing in gelatin a valuable means of favoring the coagulation of the blood, one must seek measures for lessening the arterial tension and modifying the condition of the vessel-walls. To accomplish the former, the best measures are rest in the horizontal position, an absolute milk regimen and iodide of potassium. Rest in the horizontal position lowers the arterial pressure by 40 millimetres. The iodide of potassium is preferable to the sodium salt, as it has a better effect on the nutrition of the vessel-walls. One must also treat any etiological conditions which come into play. If the patient is undoubtedly syphilitic, one must use mercurial preparations.—Translated from *Giornale Internazionale delle Scienze Mediche* by Harley Smith.

The Lost Art of Prescribing.

It is a venerable grumble among physicians of the older school that the art of therapeutics is decaying because the younger generation is extremely ignorant of materia medica and remarkably inefficient in the matter of prescribing elegant mixtures. The result, it is averred, is that proprietary drugs are acquiring an increasing vogue, to the detriment both of the patient and the practitioner. A recent contributor to the *Medical Record* has made this thesis the text of an address upon the proper teaching of therapeutics in medical schools. "I have maintained for years," he says, "that the best way to do away with nostrums is to give our medical students thorough courses in materia medica, medical pharmacy, pharmacology, and therapeutics. The way to abolish proprietary medicines is to teach medical students how to prescribe, and acquaint them with the physiological and therapeutic action of drugs. They should be taught how to write or compound prescriptions that would be palatable and agreeable, compatible, yet so associated or combined as to meet the indications for which the prescription is intended in a scientific manner."

With due submission to the ripe experience of these praisers of the past, we take leave to question the deduction, while admitting the premiss. It is past question, we believe, that the younger generation of medical men is far behind its predecessors in the matter of prescription-writing: a thing in itself to be regretted. But the march of events which has evolved this state of affairs has not been without its compensations, to the patient at least. It may be granted, from the professional point of view, that the old-fashioned "grapeshot" prescription, as it has been irreverently called, was a triumph of art, and that to combine a dozen medicinal substances in one draught so skilfully that it should neither precipitate, nor explode, nor revolt the patient's stomach, was no mean achievement. But to say that the loss of this faculty has invited the inroads of proprietary medicines is an assumption not only unproved, but probably incorrect. To us at least such a proposition seems an argument of the *post, ergo propter* variety, for the following reasons. Fifty years ago the Pharmacopeia was largely composed of crude drugs, for pharmaceutical chemistry was relatively in its childhood, and standardization of drugs was not attempted. With the rough materials at his disposal, the physician of the time no doubt did wonders in the way of obscuring nauseous qualities and compounding imposing formulæ. Time slipped away, and presently there arose a generation of chemists who were not content with the old crude drugs, but set to work to standardize them and isolate their active principles. From this stage, it was but a step to the subversion of the old-fashioned draught and its replacement by preparations less bulky and more convenient, and at the same time more pleasant to take. For with all their boasted skill in compounding elegant mixtures, the "grapeshot" school seems to have left a tradition among the contemporary laity that draughts, even in those days, were not grateful to the palate. We have to consider, then, on the one hand, a time in which drugs were crude, unstandardized, very variable in strength, and administered in a form which, if as palatable as it was possible to make it, was nevertheless inconvenient and distasteful: on the other we have an epoch in which the active principles of those drugs can be obtained pure, standardized, vouched for in both these respects by chemical firms of high scientific reputation, and withal convenient and easy to administer. Can it be wondered at that the medical practitioner of the present day finds himself driven, even against his material interest, to give the proved and pleasant forms of drug which the patient knows well enough are on the market, rather than to spend his time in learning the *finesse*

of prescribing the antiquated remedies of the British Pharmacopeia?

The truth is that our Pharmacopeia is an anachronism. It contains, of course, plenty of old and well-tried friends, but they are almost swamped in rubbish. When a person has travelled by an express train, it is idle to assure him that a coach is the best way of getting about, and still more idle to complain, when he refuses to go back to coaching, that his tiresome choice is due to the fact that coachmen have forgotten how to drive. The British Pharmacopeia does not meet the needs of the present day, and in consequence it goes to the wall. No one is responsible for this except those whose business it is to keep the Pharmacopeia level with the march of civilization. This they have neglected to do, and the result is what we see.—*The Hospital.*

Relation of Medicine to Other Professions.

McWhorter discusses the changes that have been brought about in the practice of Medicine by those of environment, the crowding of population in the cities, the discoveries of science, etc., and considers the relation of the physician with the lawyer, the press, the legislature, the engineer, the educator, and the social economist. He particularly contrasts the results of the old French Canal Company at Panama, with its disregard and ignorance of hygienic conditions, with those of the brilliant, hygienically conducted enterprise of Colonel Gorgas, and remarks that "the adverse forces of Nature may be scientifically controlled; they may not be ignored." To the general practitioner McWhorter says: "Do not misapprehend the dignity and importance of your efforts because of the humble station in life of your patients. The country doctor whose homely science restored Abraham Lincoln to health in boyhood days probably made a larger contribution to the needs of humanity than did the brilliant surgeons who operated on Napoleon III. or the Emperor Frederick. It might be well to remember this, gentlemen, as you sit at the bedside of some bare-ankled girl or some freckle-faced boy. Only a large perspective reveals the true relations of things."—*Alabama M. Jour.*