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CLINICAL NOTES ON METHODS AND NEW REMEDIES IN THE TREATMENT OF DISEASES OF THE UPPER AIR PASSAGES.

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These observations are taken from histories of cases seen in private and hospital practice during the past two years. They are intended to place briefly before the general practitioner the most approved methods and remedies which, in the special experience of the writer, have been the most satisfactory in the treatment of the affections under consideration. The results from other remedial measures have been carefully compared and tested, so that, only those drugs which were found to possess superior value are mentioned.

NEW DRUGS EMPLOYED:—Camphoric Acid, Mono—and Para—chlorophenol, Pyrozone, Lysol, Tannigen, Argentamin, Thiol, Guaiacol, Alumol, Aluminum Aceto-tartrate, Ichthyol, Creasote carbonate, Tartarlithine, Cocaine saccharinate, Antipyrin, Benzoinol, Ferropyrin, Iodic acid and Ethyl Bromide.

Of these, Tannigen, Lysol, Iodic acid and Thiol, did not prove to be of special service. The other drugs are worthy of distinct recognition and will be considered under the diseases which were most relieved by them.

For brevity and clearness the subject may be considered under the following divisions. 1st, Nose and Accessory Sinuses. 2nd, Pharynx. 3rd, Larynx and Trachea.

1. *Disease of the Nose and Accessory Sinuses.*

The methods used in the treatment were douches, sprays, applications, operative measures and semi-fluid preparations. The latter are formed by the combination of 3 parts benzoinol and 1 part oxide of zinc ointment, well rubbed together and forming a white creamy base, to which may be added any remedy that the nature of the case indicates. This oily base will be spoken of as oleum hydrocarbon co. whenever its employment is recommended.

(a) Acute rhinitis or influenza. Without doubt this is one of the most frequent nasal affections to claim our attention and often with indifferent success. To be of any marked service the treatment must be commenced within twenty-four hours of the onset of the symptoms; and internal

remedies and local measures adopted. Rest and even temperature are desirable, but of course cannot always be obtained.

Considerable relief and decided arrest of symptoms may be expected in every case from one of the following prescriptions:—Tablet triturate rhinitis, of which there are several strengths, one containing Camphor $\frac{1}{4}$ gr., Belladonna Fl. Ext. $\frac{1}{8}$ gr., Quiniæ Sulph. $\frac{1}{4}$ gr. in each tablet is of the most service. One tablet should be administered every 15 minutes, until eight have been taken, then one every hour or two as required; or Pil. phenactin, camphoræ et atropinae sulph., as first recommended by Dr. A. H. Smith. Each pill contains phenactin $3\frac{1}{2}$ grs., camphora $\frac{1}{2}$ gr., atropina sulph, $\frac{1}{300}$ gr., and should be taken once in four hours.

The following powder is of considerable value in persons of a plethoric habit or rheumatic tendency:—

℞. Pulv. glycyrrhizæ co.	℥i.
Sodii bicarbonatis.	℥iii.
M. ft. pulv. no. 6.	

Sig. One every half hour until finished and the same number repeated in six hours if required.

The semi-fluid preparations are especially suited for applications to the acutely inflamed mucous membranes of a common cold. They should be warmed before using, by placing the vessel containing them in warm water, and then applied by means of a camel's hair brush, a dropper, or poured from the tip of a small teaspoon.

One of the following combinations is very serviceable:—

Liq. Plumbi subacetatis gtt. x. or boric acid grs. x. to one ounce of the oleum hydrocarbon co. When the nasal discharge is profuse and accompanied by excessive sneezing, applications in the form of snuffs give marked relief. One of the best is

℞. Camphor	℥ss—℥i.
Bismuth, sub. nitrat.	
Pulv. acaciae.	āā ℥i.
M. ft. snuff.	

Sig. To be used every four hours until relief is obtained.

Hay fever and intermittent rhinorrhœa from the similarity of their symptoms to those of influenzal colds will be considered under this heading. Intermittent rhinorrhœa appearing at any season of the year, is in the opinion of the writer most frequently of malarial origin. Our best results have followed full doses of quinine administered during the attacks, and the persistent use of arsenic given in increasing doses between the attacks. The treatment of hay fever will depend on whether advice is sought before or during an attack. Many remedies may benefit this affection, but in the writer's experience, the most uniform and decided results are obtained from the use of cinchonidia sulphate. Its influence on the vaso-motor system is in many cases remarkable. It produces a dryness of the naso-pharyngeal membrane almost equal to the effect of belladonna. The writer has seen several patients in whom six grains of cinchonidia given during 12 hours produced an intolerable dryness and thirst. The distress was so great in one case that the hay

fever was preferred to the effects of the remedy. When possible, treatment should be commenced ten days before the usual date of the attack, with 5 grains doses of cinchonidia sulphate three times a day. On the day preceding the usual date of attack, 20 grains should be administered, and the dose increased 10 grains daily until the symptoms are controlled. If the attack does not appear or is controlled, the dose should be gradually diminished. If the patient is not seen until the attack has begun, full doses of the remedy should be given and increased as required. Large doses, or the continuous use of this remedy may cause some nervous disturbance, similar to those produced by quinine. Fifteen or twenty drops of dilute hydrobromic acid given in water, will control the symptoms and should be given when the large doses are reached.

Constriction of the chest and other asthmatic feelings which appear as a later symptom in hay fever patients are greatly relieved by the administration of sulphur. It may be given in solution with cream of tartar and syrup, or in capsules containing ten or twenty grains, every half hour until the attack subsides. Considerable griping and looseness of the bowels follow its administration in some patients. The writer deprecates the use of cocaine by hay fever patients, as many persons suffering from the cocaine habit date their downfall from a cocaine spray prescribed to relieve their nasal distress during an attack of hay fever. Very little relief can be expected from local applications alone, but to supplement internal medication they are of some value. An application of the following combination, acts as a protective to the mucous surfaces and is very cooling.

R Mentholis
 Camphoræ grs. v.
 M—Rub together and add
 Olei. hydrocarbon co. ℥i.

M—Sig. Use with a camel's hair brush 3 or 4 times a day.

(b) Hypertrophic Rhinitis. This is one of the most frequent causes of nasal obstruction, and runs either a sub-acute or a chronic course. In the former the hypertrophy is due to engorgement of the vessels and dilatation of the sinuses; in the latter, some fibrous change takes place. Local medication in the form of sprays is useful in the more recent cases, such as a half per cent. of camphoric acid in watery solution or one per cent. of menthol in benzoinal, continued for several weeks. If considerable discharge accompanies the hypertrophy the spraying should be followed by applications of tannic acid or iodine in a solution of oleum hydrocarbon co. Occasionally the hypertrophy involves not only the mucous membrane covering the turbinated bodies, but also that of the septum. In many of these cases, sprays, applications, or operative measures, seem to aggravate the trouble, as it is gouty or rheumatic in origin. The writer has seen patients who discharged at intervals small, chalky deposits from the nasal mucous membrane. Remedies to correct this condition are indicated, and tartarilithine is one of the best.

When the hypertrophy becomes fibrous in character, minor surgical measures or some caustic must be selected. Powdered nitrate of silver fused to the size of a small bead on the point of a fine applicator is the

most ready and efficient caustic. A two per cent. solution of cocaine should first be spread over the mucous surface and the application made in small spots at frequent sittings. Very slight pain or inflammation ensues, and there is a minimum destruction of glandular tissue.

(c) Atrophic Rhinitis.—Popularly termed "bad smelling catarrh." Cleanliness is the cardinal rule in the treatment of this affection. Hand sprays are not of much service as they reach only the anterior part of the nasal fossae and frequently leave large masses of thick, mucous in the posterior part. For thorough cleansing the nasal douche is necessary. In prescribing the latter, the following directions should be given, as improperly used the douche may produce inflammatory action in the middle ear.

Directions for using the douche or nasal cup:—

- 1st. Warm the fluid used and apply vaseline to the nasal tip.
- 2nd. Put the nasal tip in the nostril that has the most obstruction.
- 3rd. Hold the breath, throw the head slightly backward and allow the fluid to flow gently into the nose.
- 4th. If you feel that you must breathe, take the tip away and after a few moments begin again.
- 5th. While using the douche, don't attempt to walk, talk, cough, swallow, sneeze or become excited in any way.

Any alkaline solution may be used in the douche and after the mucus has been thoroughly removed, some stimulating application should be made. For several years iodine has been used almost exclusively in my service at the hospital, as repeated tests proved it to be decidedly more beneficial than any other remedy. Three grains of pure iodine was added to an ounce of oleum hydrocarbon co. and applied to the mucous surfaces night and morning with a camel's hair brush. Persistent use of this remedy relieved most cases.

In some patients scattered spots of ulceration appear on the septum and turbinated bodies. On these, occasional applications of 50% solution (also full strength) of ichthyol, and the daily use of a 5%-10% solution of ichthyol will prove very serviceable. For a year past, monochlorophenol has been on trial, and promises to surpass in value other remedies in atrophic rhinitis. A 10-25% solution in glycerine should be smeared over the mucous membrane once or twice a week. Considerable smarting follows, but lasts only a few moments. For home use a one-half to one per cent. solution in oleum hydrocarbon co. is applied twice a day. In many cases that had not previously received any treatment, and in several where iodine and ichthyol had failed, the use of monochlorophenol produced immediate and remarkable results. When the ulcerations on the septum are especially large and do not respond quickly, a 25% solution of monochlorophenol or the pure drug may be employed. It should be carefully applied in small quantities to small surfaces and preceded by the use of cocaine; considerable lachrymation and frontal headache may ensue, but are only transient. Any treatment to be successful must be continued for several months.

(d) Epistaxis.—Recurrent nose bleed is usually due to minute abrasions of the mucous membrane at the anterior and lower part of the septum.

The volume of blood which may flow from them is surprising. Treatment must be directed for the arrest of an acute hemorrhage and the prevention of its recurrence. Holding the nose between the thumb and index finger, the former making firm pressure over the bleeding point is usually successful if the patient at the same time assumes the horizontal position. Should this method fail, one of the following haemostatics may be used: Ten per cent. watery solution of aceto tartrate of aluminum, 3% of pyrozone, 10% of pure powder of ferropyrin or antipyrin-salol. The latter is made by filling a test tube, one third with equal parts of antipyrin and salol. It is then heated over a spirit lamp until the mixture is first transformed into a clear liquid, and later takes a well defined brown color; when the latter color is reached the liquid is ready for use, but must be allowed to cool sufficiently before applying. The solution can be kept warm by placing the test tube in a glass of warm water.

All solutions of haemostatics should be applied with a dropper, or spray. In my experience, plugging the nose with absorbent cotton is very undesirable, as a secondary hemorrhage always follows its removal. Sometimes all of these recommendations prove useless and we are obliged to apply the cautery directly to the bleeding point. Considerable care is necessary to secure the exact heat of the cautery. After the hemorrhage is under control, a short time should elapse, and then the bleeding point sought for and touched with the finest cautery point or powdered nitrate of silver fused on an extremely fine applicator. The latter method in my practice has been very efficient. As a supplementary treatment, some of the oily preparations are very satisfactory, such as tannic acid, rubbed up with oleum hydrocarbon co. The writer has seen severe cases of persistent recurrent nose bleed yield alone to the use of semi-fluid preparations, when they were commenced between the attacks.

(e) Frontal Maxillary and Sphenoidal Sinusitis:—Acute inflammation of these sinuses has been remarkably frequent since the last visitation of the grippe. When recognized early, medicinal measures will successfully combat further progress of the inflammation. External and internal heat locally applied is immediately indicated, and should be used on the cutaneous surface in the region of the affected sinus, and by a hot alkaline nasal douche. A tense feeling of pricking and pain are usually felt over the inflamed sinus, and great relief from this may be obtained by the persistent application of a counter irritant, such as:

℞ œ sinapis seminis gtt. xv. menthol and camphor āā ʒss. Sig. Apply as directed. In using this solution over the and frontal maxillary regions, the eyes should be protected. When the sphenoidal sinus is affected there is frequently intense pain just below the occiput, which is best relieved by keeping the back of the head on a bag of very hot water or salt. Sometimes the inflammation progresses to suppuration, and requires the usual surgical measures for relief.

(r) Folliculitis Alae Nasi. Although a very simple affection, it causes considerable annoyance and discomfort. Most of the cases are seen in children suffering from a more or less acute ophthalmia, which has spread through the lachrymal canal into the nasal cavity. The dried secretions must first be removed, and then a 10% solution of nitrate of

silver or monochlorophenol applied. Powdered boric acid is given for home use, to be dusted on three or four times a day, with directions not to wash the parts for a few days.

2. *Diseases of Pharynx.*

(a) *Naso-pharynx.* The usual affections in this region are post nasal catarrh and adenoid growths. The hypersecretion of post nasal catarrh is frequently due to nasal obstruction, and relief must be sought from some of the methods already considered. Increase of adenoid tissue is also a prolific source of post-nasal dropping. Occasionally, during an influenzal cold, a pharyngeal tonsil of normal size will share the general inflammatory condition of the surrounding region, swell considerably, and exude a quantity of thick, yellow mucus. Warm, alkaline, post-nasal douches are indicated until the acute symptoms subside; then applications, such as 10% solutions of alumnol or monochlorophenol, continued for some time until the secretion is arrested and the gland resumes its normal size and appearance. Follicular hypertrophy and congested vessels also promote hypersecretion in this region. Daily and persistent application of a 2% solution of zinc chloride will give very decided relief. A powder composed as follows is extremely serviceable. It does not change chemically, will not become lumpy, is non-irritating and not offensive to the taste.

Rr. Argent. nit.	grs.x-xl.
Potass. sulph.	ʒ i.
Bismuth subnit.	ʒ viii.

M. Sig. Apply behind the soft palate three times a week. In all cases attention should be directed to the digestion, condition of the liver and bowels and mode of life.

ADENOID GROWTHS.—The methods and details of treatment of these growths depend on the age, temperament, and general condition of the patient, also on the amount of tissue present. When the amount is small and the enlargement slight, they frequently subside under astringent application, or the relief of some nasal obstruction, which accompanies and is partially responsible for their presence. Removal of adenoids in children may be accomplished with or without an anæsthetic. If the adenoid tissue is moderate in quantity and of the soft, gelatinous variety, the index finger, properly used, will shell out all that is necessary. In using the finger it is well to protect it in part with a rubber or leather stall, otherwise some injury may be sustained from the child's teeth. Abundant adenoid tissue requires an anæsthetic, preferably nitrous oxide gas or bromide of ethyl. Forceps and curette are both necessary for complete removal of the growths, and the greatest care must be exercised in their use. If the blade of the forceps or curette is pressed too hard into the parts, an unnecessary amount of mucous membrane will be sacrificed. After removal, a solution of pyrozone, or aceto-tartrate of aluminum, should be made to the bleeding surface, and the child kept quiet and in an even temperature for 24 hours. It is also well to remember that these operations are contra indicated when any symptoms of acute ear trouble are present, and that the presence of chronic aural suppuration necessitates great care in proceeding with the operation. In adults cocaine

anæsthesia is sufficient for the removal of adenoid tissue, and in my experience cocaine saccharinate is preferable for use in all affections of the upper passages. It is decidedly sweet in taste, always antiseptic, causes less pharyngeal discomfort, and equals other preparations of cocaine in anæsthetic properties. Antipyrin and cocaine may be combined when a prolonged anesthesia is required. The forceps and curette should both be employed, and if the amount of tissue is considerable, several sittings should be given for its removal. Care must also be exercised in the use of instruments, and some antiseptic hæmostatic applied after each sitting.

(b) Oro-Pharynx. The treatment of diphtheria has been so thoroughly discussed in all the journals, that the writer will only state that in his opinion antitoxine serum cannot yet be accepted as the final remedy for the treatment of diphtheria.

FOLLICULAR TONSILLITIS.—Early treatment is desirable, as many of these cases subsequently become peritonsillar and suppurate. Cleansing sprays and the application of any good antiseptic will cause the disappearance of the follicular secretion and membrane in from 5 to 7 days. This period may be considerably shortened and the constitutional symptoms modified by local applications of creasote carbonate and the administration of two-drop doses of guaiacol every 4 hours. Whiskey and 1/100 of a grain of strychnine sulphate should be given at the same time, as they relieve the extreme exhaustion which is so marked in all cases of acute follicular throat trouble.

Mycosis of the tonsil and pharynx resists many forms of treatment. The cautery point introduced at a white heat destroys the growths in many of the follicles, and twenty-five per cent. solution of pyrozone is also very satisfactory. Occasionally a short change of climate succeeds when all other methods of treatment have failed.

QUINSY OR PERITONSILLITIS.—Unless the patient is seen early it is almost impossible to prevent suppuration. Rest, with external and internal heat, a brisk application of cocaine and arterial sedatives may abort some cases. If the history is rheumatic, full doses of sodium salicylate should be administered, as it frequently limits suppuration and modifies the whole course of the disease? Occasionally the acute symptoms subside leaving a fullness in the pharyngeal wall and tonsil and some bulging of the soft palate. This is really an abscess deep in the tissues which may remain quiescent for several weeks unless incised; sooner or later inflammatory symptoms reappear, and the abscess discharges of its own accord. After incising a tonsillar abscess the cavity should be washed out with hot water. If the opening is large, solutions of pyrozone or peroxide of hydrogen may be used to thoroughly cleanse the cavity. Peritonsillar inflammations are usually dependent on diseased tonsillar tissue in which the follicles are large and deep, also on adhesions of the pillars to the tonsils, leaving deep pockets, which are receptacles for all kinds of decomposing materials. Occasionally the tonsils are completely encapsuled by their pillars, which prevents the escape of tonsillar secretions. Preventive measures should therefore be taken in all cases of recurrent peritonsillitis, the adhesions loosened and the follicles kept free.

FOLLICULAR PHARYNGITIS.—This affection may occur in the acute or chronic form. The former should be treated as an acute follicular tonsillitis. The latter requires prolonged treatment to obtain permanent results. The galvano cautery and strong acids, while very efficacious are inadvisable, as they are apt to produce a dry pharyngeal wall.

Powdered nitrate of silver fused on a probe and applied to a few follicles at each sitting gives the best results and leaves the mucous membrane in a healthy condition. Caustic iodine similarly applied is also very satisfactory. The latter is composed of iodine and carbolic acid crystals, each 120 grains, iodide of potash, 10 grains, rectified spirits, two drachms. Soothing sprays are desirable as adjuncts to the other treatment.

ENLARGED TONSILS.—In children under 15 the tonsillotome is universally used for the removal of tonsils, and preferably Ermold's guillotine. This instrument is simple in construction, without barbs on the fork, and insures the removal of the tonsil without danger of the fork being caught. Two instruments expedite the operation as the moment one tonsil is excised, the second instrument is taken and used on the other tonsil. The child thus has no opportunity to object, which will assuredly be done if an opportunity is given. This supposes that no anæsthetic is employed, which I think can only be necessary in special cases.

In adults removal of the tonsils can only occasionally be necessary. When determined upon, the personal and family history must carefully be considered, and the blood supply of the tonsils and pharynx examined. If there is no contra indication any of the numerous tonsillotomes may be chosen, and 15 minutes allowed to elapse between the excision of each tonsil. Complete removal of the gland should not be attempted, as it is apt to result in an uncomfortable dryness of the throat.

The writer has never used the cautery loop in removing the tonsils, believing that the cicatrix from a burn, causes a permanent dryness of the throat more distressing than the presence of largest tonsils. When it seems undesirable to use the tonsillotome, the frequent application of caustic iodine will sometimes diminish hypertrophied tonsillar tissue.

Haemostatics and antiseptics are advisable after all tonsillotomies.

(c) **Laryngo-Pharynx.** Hypertrophic lingual adenitis. Increase of adenoid tissue at the root of the tongue is frequently overlooked, although it is the most usual cause of fullness and desire to clear the throat. Only a few nodular masses may be present, or several groups of large, pale, flabby masses, which completely fill the glosso-epiglottic fossa, and in some cases overhang the epiglottis and press it backward over the glottis. Any strong astringent will relieve the cases with moderate growths, but something more radical is necessary when the tissue is abundant. In the latter cases, the galvano-cautery gives the best results and should be used when practicable. The epiglottis should be carefully avoided in the use of the cautery, as oedema may result if it is burned. Solid nitrate of silver or chromic acid, may be used but are not so effective. Occasionally the growth is in two large masses resembling enlarged tonsils. The lingual guillotine, suggested by the writer and later improved upon by Dr. R. C. Myles, is the best means of removing large isolated growths.

Occasionally the lingual hypertrophies become acutely inflamed and small yellow secretions fill the follicles; soothing sprays are the only treatment needed as the trouble causes only slight pain on swallowing and disappears in a few days. A collection of varicose veins at the root of the tongue produces considerable tenesmus in this region, and should be treated by the galvano-cautery. Attention should also be given to the digestion.

3. *Diseases of Larynx.*

The most frequent inflammatory affections of the larynx are either subacute or chronic. The subacute cases are usually caused by cold and are quickly relieved by sprays of one per cent. solutions of aluminol or two per cent. argentamin. Argentamin solutions are very satisfactory for laryngeal sprays as they do not produce the dryness and spasms which usually follows the use of nitrate of silver in the larynx.

In chronic Laryngitis, rest of the voice is of primary importance 5% solution of argentamin or 1% of zinc chloride are about the best applications for the physician's use. For home use, one grain of iodine in an ounce of benzoin as a spray, is of service. The neoplasms of the larynx are innocent or malignant. The former are usually papillomatous in character, and in adults are easily removed by Grant's guarded forceps. In children this is not so easy and they are apt to recur. Dr. Delavan has recently suggested sprays of absolute alcohol for laryngeal papillomata, and in the writer's experience it is remarkably successful. Tracheotomy is also to be recommended for the treatment of recurring papillomata in children, as physiological rest produces atrophy of the growths. In malignant diseases an early diagnosis is of the greatest importance. If this is made, a complete removal of the larynx is indicated, and may prolong life many years.

When the disease has made considerable progress nothing can be gained from this procedure and tracheotomy gives the most relief.

TUBERCULAR LARYNGITIS.—The treatment of this terrible disease is curative or palliative. The former is not frequently successful, but in selected cases, curetting and submucous injections of creasote will arrest the disease. Of palliative measures, many remedies will give relief if persistently employed. Thorough cleansing of the larynx is of first importance and alone gives great comfort. Applications of creasote in castor oil, and iodoform in ether are the best remedies for the relief of pain and general laryngeal distress. The automatic syringe and Mizpah dropper are the best means of applying solutions to the larynx. In the later stages of tubercular laryngitis, accompanied by extreme ulceration, 10 per cent. solutions of parachlorophenol give some relief, but cocaine is the only remedy which affords comfort while eating. If the epiglottis is much affected food is apt to drop into the trachea. To prevent this the patient should be directed to flex the chin on the sternum during the act of swallowing. In chronic tracheitis creasote and malto yerbine relieve the cough, and intra-tracheal injections of selected remedies are of undoubted value.

**EXTRA-UTERINE PREGNANCY; FOUR AND A-HALF MONTHS;
OPERATION; RECOVERY.**

BY W. J. GIBSON, M.A., M.D., BELLEVILLE, ONT.

The patient, Mrs. S., was taken ill on September 3rd, with what she termed "cramps." As her bowels had not moved for four or five days, she attributed the pain to constipation, took a dose of salts and applied turpentine stupes. She kept up the hot fomentations for twenty-four hours, when, failing to obtain relief, she summoned Dr. McColl, who on examination found her suffering with general peritonitis. Pulse 120, temp. 101. The abdomen was very much distended and tympanitic, and exceedingly tender to pressure. The rectum was filled with a mass of hardened faeces, requiring the use of a scoop to break it up; after which a large enema was given, with the effect of producing a free evacuation of the bowels. Owing to extreme tenderness, nothing could be ascertained by vaginal examination, more than the fact that the uterus appeared to be crowded forward against the pubes. On being questioned as to the regularity of her menstrual periods, she stated that she had missed two periods, but as this was not an uncommon occurrence, her suspicions as to pregnancy were not excited. In a few days' time the inflammation subsided and the doctor ceased attendance.

One month after this he was again asked to see her, and found her complaining of a great deal of pain in the back and limbs, with some tenderness over the lower part of the abdomen. Bowels had been constipated since the former attack, notwithstanding the constant use of laxatives. Her pulse was very rapid and her temperature slightly above normal. She had become very much emaciated, had not been able to take much nourishment, owing to distressing flatulence which accompanied the ingestion of food. Examination disclosed a tumor in the pelvis which could readily be felt above the pubes. The os uteri was soft and patulous and the whole organ crowded up behind the pubes and in front of the tumor. The condition of the patient was reported to me and I advised her removal to the hospital. I saw her in consultation with Dr. McColl and Dr. Walker. Her temperature on admission to the hospital was $99\frac{1}{2}$, pulse 125. She complained of distress in the stomach, not so much from nausea as from flatulence. There was no pain about the tumor, though it was tender to the touch and seemed to be about the size of a child's head. It extended to within two inches of the umbilicus, and on vaginal examination was found to fill up the whole of the pelvis, the greater part of the tumor being on the right side. The neck of the uterus was soft, the os patulous, and fundus could be plainly felt above the pubes and in front of the tumor. There had been no signs of menstrual flow, nor had there been any passage of shreds or decidua. The breasts were not enlarged. Feeling certain that if pregnancy existed it must be extra-uterine, I passed a sound to demonstrate the position of the organ. The diameter was $3\frac{1}{2}$ inches and the position as above stated. A distinct sense of fluctuation could be

made out in the tumor, and as she had been complaining of chills, with some increase of temperature, I thought that probably we had an abscess to deal with, or, possibly, an enormous hydrosalpinx. Her general condition was such to render abdominal section extremely hazardous, and I therefore proposed, in the absence of urgent symptoms, to get her bowels regulated and the stomach in a better condition. At the end of a week her condition was much improved, bowels moving regularly and the stomach in a state to allow of a fair amount of nourishment. On the eighth day after her admission to the hospital, I determined to explore the tumor, per vaginam.

After carefully preparing the field of operation, I introduced a large aspirating needle on the right side. About four ounces of a watery fluid escaped, followed by an ounce or more of very dark blood, which clogged the needle, and I at once withdrew it. Diagnosis was still doubtful, though inclined in favor of ectopic gestation. Patient was put to bed and suffered no ill effects from the operation, but on the contrary, affirmed that she felt much better. Her stomach was more settled and she began to take nourishment with more relish. Bowels still constipated. No appreciable change in size or condition of tumor.

Four days afterwards, I again used the aspirator, with a similar result. First, a small quantity of watery fluid, followed by blood, about five ozs. in all. As nothing unusual followed, we determined to await developments. From this time on she improved somewhat, rested better, took food more regularly and grew stronger, so that she was able to sit up for a short time each day. At the end of three weeks she was able to walk across her room, though not without assistance. She did not appear to gain in flesh; pulse still rapid, temperature about normal.

On the 18th December she expressed a desire to go home. On being informed of this, I directed that she be not allowed to leave the hospital until I had examined her. In consultation with Dr. McColl and Dr. Walker, I again examined her. The tumor seemed to be larger, and, during my manipulations, I observed a slight movement, which was strongly suggestive of the movement of a foetus. In a few minutes it was repeated, and I at once pronounced the case one of extra-uterine pregnancy, and asked the other physicians to satisfy themselves as to the movements, which they accordingly did. Dr. Clinton was at this stage asked to see the case, and he also confirmed the diagnosis, which was now unmistakable. The true condition of affairs was explained to the patient and her husband, and immediate operation advised, to which they readily consented. The usual preparations for laparotomy having been made, the operation was performed on December 20th.

Dr. Walker administered the anæsthetic, Dr. McColl and Dr. Clinton assisted me. I made the incision about an inch and a-half to the right of the mesial line, in the hope that the sac would be found to be adherent to the abdominal parietes. On cutting through the peritoneum the sac was found to be perfectly free, no adhesions. It was very thin, and so transparent, that the motions of the foetus were perfectly visible. I enlarged the incision with the hope of being able to gain access to the tube and ligate it, but fearing I might accidentally rupture the thin sac, I aban-

done the idea and tried to seize it with forceps, so as to enable me to stitch it to the abdominal wound after opening it. Unfortunately, it ruptured on the first attempt to seize it, and the contents rapidly escaped, some, in spite of our efforts, getting into the abdominal cavity. I at once seized the extremities of the foetus and extracted it without difficulty. There followed a tremendous hæmorrhage, which I quickly controlled by instantly shoving my hand full of gauze down deep into the pelvis and against the bleeding placenta. Retaining my hand there to keep up pressure, with the other I packed in large quantities of gauze. The patient had suddenly become blanched and pulseless, and we thought she was dead. Hypodermic injections of brandy, ether, and strychnia were given, artificial respiration restored to, hot applications applied, and, after half-an-hour's anxious suspense, the pulse could be feebly felt at the wrist. In the meantime the cord had been tied as low down as possible and dropped into the pelvis. The child was living, though feeble.

So exhausted was the patient, that we did not dare move her from the table for upwards of two hours. She was then put to bed and carefully watched. Part of the gauze packing was removed on the third day and fresh gauze applied. The subsequent history of the case was uneventful, except that, on the fourth day, she had a severe attack of vomiting and ejected a large round worm from the stomach; she sank into a state of collapse, and for some hours it was doubtful whether she would recover. At length she rallied, and from that time forward made slow but steady progress to recovery.

In order to destroy the life of the foetus, it has been suggested by some authorities to aspirate the sac.

This case gives an instance when such procedure, though not done with the object in view, failed to arrest gestation.

EMPHYEMA OF THE ANTRUM.—Dr. William Carr, of New York County read a paper in which he spoke of the danger of using metal drainage-tubes and of the superior advantages of an opening through an alveolus. Personally, he did not think the nasal operation ever justifiable. If necessary, a sound tooth should be sacrificed and an opening made through the alveolus, preferably of the second molar tooth, but it was very rare that a tooth would not be found necrotic, so that no sound tooth would have to be sacrificed. After the opening had been made the cavity should be explored with a flexible probe for seæpta and foreign bodies, and after irrigation, closed with a plug of sterilized gauze. He did not believe that drainage was an important factor in the treatment. Drainage-tubes served as a means of infection and irritation, and by their retaining ligatures were apt to cause destruction of the adjacent teeth. Silver tubes would corrode very rapidly and might even slip into the antrum.—*New York Medical Journal.*

SURGERY.

IN CHARGE OF

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ABDOMINAL DRAINAGE.

MORDECAI PRICE, M.D., PHILADELPHIA, PA.

There has been no period in the history of abdominal surgery when Pennsylvania has not claimed, and with good grounds for the claim, to have masters in the work. The Atlees, in their day, were unquestionably leaders and pioneers in this work, and could they have had the drainage tube, they would surely have taken the glory from the latter half of the nineteenth century.

My first lessons in abdominal surgery were received from the hands of Washington L. Atlee. I have seen him operate in a number of uncomplicated cases and always with success, and I have time and again heard him, when asked what was found in case of death, answer, "blood and serum." Could he have had the help of the glass drainage tube, we cannot estimate what advances he might have made. The difference, in fact, between the surgery of MacDowell, Sir Spencer Wells and the Atlees, and the surgery of to-day is only possible by use of the drainage tube.

Philadelphia has always prided itself on the perfection of its surgery of every description, but especially abdominal surgery. It has always prided itself on the perfection of drainage; that its surgeons knew how to drain, and almost without exception its surgeons use the glass drainage tube. I thought that the question of drainage had been settled, not only in Philadelphia, but that abdominal surgeons throughout the world had been convinced of the usefulness and indispensability of the glass drainage tube. On account of this, I give the reasons that in my own work, influence the matter of drainage.

It has been stated recently that the glass drainage tube is fast passing out of use. This can be true only with surgeons with whom I have no acquaintance. Wherever drainage is necessary with us, glass is preferred if it can be used. In all pelvic and complicated abdominal operations, it is used almost without exception where drainage is indicated. Where there are no complications, no bleeding, no pus, no peritonitis, drainage can serve no good purpose. A justly celebrated surgeon says that drainage of the abdominal cavity is an expression of the present imperfect state of surgery. I would state that, in my opinion, the glass drainage tube is a very emphatic expression of the perfection to which surgery of

the abdomen has been brought. Without such drainage this surgeon might as well expect us to perform the perfection of surgery in the desperate cases that come into our hands, as to expect a carpenter to make a perfect piece of furniture from rotten wood.

Perfect surgery is that surgery which saves life. To deal with complicated cases, without a single anatomical feature of the abdominal contents recognizable, with bowel adherent, thickened, indurated and necrotic, attached to a tumor undergoing pathological changes from twisted pedicle or other complication, conditions which are rapidly killing the patient, we must remove such growth. To operate and save life is a triumph of surgery; ninety out of a hundred cases such as these would die without drainage; as it is ninety-five out of a hundred recover with it.

The indication for drainage is the possibility of poisonous material being left in the peritoneal cavity. Any fluid, pus, blood, serum or debris from any pathological condition will become poisonous if left in the peritoneal cavity. We know the power of the peritoneum to digest and take care of almost anything left in the peritoneal cavity when it is in good working condition, but the surgeon dealing with conditions that often accompany pathological growths and changes in the peritoneal cavity, does not find the peritoneum in a condition to be trusted with this important work. He therefore uses drainage, glass drainage, to guarantee the safety of his patient.

Glass drainage can only be accomplished with certainty when the surgeon comprehends just what he proposes to do with the drain. A glass drainage tube should be of small calibre of such length as to reach the most dependent point to be drained. It should have openings, the very smallest possible, to admit the fluid into the drain. Its end should be open. No portion of bowel should be under it. If there are two points in the pelvis or in the region to be drained, which cannot be emptied and drained by one tube, two or more tubes should be used. I have seen this necessary only in two or three cases among several thousand operations requiring glass drainage. I say this of my own work, and that of Dr. Joseph Price, whom I have had the pleasure of assisting and of watching his cases for many years. The drain should be cleaned by a long-nozzled rubber syringe, and the tube kept perfectly clean. Immediately after operation, the tube should be cleaned every twenty minutes or half-hour. As the discharge diminishes, the time should be lengthened from one to two hours. When the discharge becomes but slightly blood-colored serum, and from one to two teaspoonfuls only removed during the half-day, the tube should be removed. The tube also should be raised about a quarter inch every six hours during its stay in the abdomen, and a half rotation of the tube should be made at the same time. If glass drainage remains over thirty-six hours, it should always be followed by a small rubber drainage tube, with several holes near the end of the rubber, and, after perfect cleaning of the glass tube, the rubber passed through the glass tube to its very bottom, and the glass removed over it. This rubber tube should be removed twice daily, thoroughly scalded and passed back to within an inch of where it was before. Very few dressings will remove the rubber, the drainage track will have closed from the bottom, and

there will be no further trouble. This procedure is necessary after the use of glass drainage to make sure that no pocket is left at the bottom of the drainage tract. When drainage is used only from twelve to thirty-six hours, this precaution is unnecessary. No dressing of the mouth of the drainage tract, save to keep it clean.

I have seen gauze used but two or three times at the same time that glass drainage was used. I do not believe that it is an additional safeguard. On the contrary, I believe that it complicated the drainage.

It has been stated by a quite prominent operator that a glass drainage tube did not drain; that in a very few hours the drainage tube was encapsuled in lymph, and that the peritoneal cavity was shut off. To the contrary, in my experience, it has been clearly proved that it does drain perfectly, and every part of the peritoneal cavity, provided the operation has been properly performed, and the drainage tube placed in the most dependent position. If this were not so, why would we have free drainage of blood and serum in complicated cases where the enucleation extended throughout the entire pelvis, with separation of the head of the colon, the appendix and a number of feet of small intestines. From all these conditions, the oozing of blood and serum found its way into the hollow of the sacrum and was removed by the glass drainage tube. There is a reason for failure in all badly performed operations. An operator will begin his enucleation and separation of bowel, and leave great pockets, with an impenetrable wall of adherent viscera between the pocket of his enucleation and the pelvis where his drain is placed. To remove a tumor or pathological condition and not separate adherent bowel and omentum, is to leave a condition of affairs to prevent the serum and blood from finding its way to the drainage tube. Where all adhesions are separated, where the way is left clear for the serum and blood by gravity to find its way to the pelvis, there has never been a case in my experience where every drop of blood and serum and pus was not removed, and the condition of the patient showed clearly from the very start that there was nothing left for the peritoneum to do. I have never seen a failure that I could attribute to the failure of the drainage.

Just at the close of glass drainage it is important in some cases to freely move the bowel, so that as the intra-peritoneal drainage is removed the absorbents will take up the work and continue it. We have for many years ceased to purge our patients immediately after operations with the idea of preventing peritonitis, but often after complicated cases with delayed removal of the drainage tube, purgation is of great assistance.

Those who condemn glass drainage either have not used it correctly, or sufficiently long to appreciate its great advantages. In listening to discussions on this subject, we cannot help but notice the great discrepancies in statements on this subject. One man will remove the glass drain in twelve hours as a routine method. Another, who lays great stress on drainage, states that he cleans the tube personally every twelve hours. He also states that he places the bandages and dressings over end of the tube. Another, that there is danger of infection of the abdominal wound when exposed in order to dress the tube. Another, that it produces all

sorts of complications, fecal fistula, ulceration of the bowel; and, at the same time, he admits that the case was so desperate that he thought it best not to separate the adherent bowel, but removed only that portion of the diseased tube and ovary that seemed to be killing the patient. He therefore places the glass drainage tube in a case in which he has not completed the operation, and has left conditions so that no drainage, no matter how well placed, could save his patient.

The advocates of the gauze drainage make this statement: When the pelvis has been denuded of its peritoneum, and there are many abrasions of bowel and surrounding viscera, a glass drain will not answer; that the denuded portions of the pelvis must be packed with gauze in order that the bowels and surrounding viscera will not come into contact with the raw surfaces. They accomplish this from either above or from the vaginal route. I would simply ask, after the removal of the gauze, what is to prevent the irritated bowel coming into contact with the still denuded portion of the pelvis, for certainly no peritoneum has had time to form during the interval of drainage. If there is any place in abdominal surgery where glass drainage is demanded, where it does its best work, where it saves 95 per cent. of desperate cases, if the operation is properly done, it is in just such cases as the one spoken of above. I have seen it used in just such cases, with adherent and wounded bowel, in a number of cases where the bowel has been resected in the operation and the pelvis denuded of every portion of the peritoneum; ureters laid bare and the posterior face of the uterus denuded to its muscular coat. I have seen these cases recover without a single bad symptom, with no increase of temperature or pulse, with seemingly no systemic involvement of any kind, if the drainage was free from the start.

Some men set a fixed time for the removal of a drainage tube. This is out of the question. Some bad and complicated cases may require drainage only twenty-four hours; others may require drainage from three to four days. There can be no fixed limit. The requirements of each case is our only guide.

A strong advocate of gauze drainage thus expresses himself: "I have employed the abdominal gauze drain in about fifty cases. In a number of these cases it has proved inefficient, so far as the removal of the fluid was concerned. In some cases its early removal has been necessitated by an accumulation of blood serum. Its removal ordinarily causes severe pain to the patient. In a few cases sinuses have persisted for a considerable time, and in two or three cases ventral hernia has to my knowledge resulted."

A series of disasters of more serious magnitude cannot possibly follow any other mode of drainage save that of gauze. Accumulations of filth, blood, and 6 per cent. of hernia, is certainly not a showing to recommend it to anyone, much less to make an enthusiast of a man. I have never seen any such complication follow the use of the glass drainage tube.

Another observer makes the suggestion to use a large glass drainage tube, and that a rope of gauze be passed through the drainage tube so as to facilitate drainage; to place a stitch through the abdominal wall, so

that when the glass and gauze drainage is removed the drainage track can be closed by tying the stitch.

There could scarcely be suggested a more absurd and impracticable procedure or one that would be productive of more mischief. Free drainage often follows the removal of the drainage tube, and such discharge is welcomed by the operator as an evidence of successful drainage. The charge that glass drainage complicates recovery, produces fecal fistula and many other lesser evils, is only proof that the operator is either a bungler, or does not appreciate the fact that he has a wounded or necrotic bowel; and, instead of the drainage tube complicating his case, it is the salvation of his patient by giving a place of escape for feces and gas.

In the hands of experienced operators all these cases recover promptly. I have had them where, at the end of the operation, I expected fecal fistula, and placed glass drainage to guard against it, and thus guarantee the safety of the patient. The injury to bowel was so low, the necrosis so extensive, that immediate repair was out of the question. Some of these cases escaped fecal fistula, but all recovered by the use of the drainage tube.—*International Journal of Surgery.*

SURGICAL MORALS.

In an article on this subject published in the *Boston Medical and Surgical Journal* for March 19th, Dr. David W. Cheever says that in the present feverish condition of operative surgery, it may be prudent to ask ourselves what is the object of an operation and how we should regulate our conduct in unforeseen contingencies. The problem, he says, may be condensed into the following questions: 1. When to operate. 2. When not to operate. 3. When to stop. 4. When not to stop.

In regard to the first question, says the author, if we confine our selection of cases to those which clearly come under the cardinal rule for operation—namely, to relieve suffering, to prolong life, or both—there will be very little difficulty in the choice. We must consider whether life is imperilled and whether the suffering can probably be relieved. If we are asked to operate, he says, shall we accept only good risks, and decline the doubtful or hopeless cases?

The second question is a difficult one to decide. Operations should not be undertaken without the full consent of the patient and his family, if it is possible to obtain it, and there should be some responsible person who understands the nature of the operation to be done and what may be reasonably expected from it. No operation should be done when the patient is in a state of shock, unless hæmorrhage, apnœa, or obstruction of the bowels is present, as in hernia, for example. If there is time, says Dr. Cheever, the systemic condition of the patient should be fully considered—for example, as to the integrity of the heart, the arteries and the kidneys. In a case of no emergency, the age and the prospect of life of the patient should be taken into account. In cases of glandular infiltrations which are so extensive as to preclude perfect removal, he says, an

operation should not be done; for instance, in a tuberculous organ, or in a sarcoma of the antrum where the sphenoid cells cannot be extirpated. There are two important exceptions to this rule, however: 1. To relieve agonizing pain, an operation should be done on any slight chance, for, unless the suffering can be palliated, the patient had better die than live. 2. In a forlorn hope, so to speak, after the risk has been fairly stated, the patient is entitled to an operation, if he wishes it, and if he takes the responsibility; here, however, the limit must be those cases in which there are one or more chances of success.

In regard to the third question, says Dr. Cheever, must we stop when the patient fails? Not always, for the failure may be due to the anæsthetic or even to simple nausea. In this case the surgeon should stimulate the patient and consider carefully before giving up the operation. Stopping, he says, is indicated when we come to the end of all that can be taken out—for instance, in a case of malignant tumor; in an operation in the abdominal cavity, when a glance or a touch reveals that the tumor is not removable and that it has grown into vital parts; in an operation on the surface of the body, when stopping will not imperil life so much as going on; in syncope with a pulse at 108; with sighing respiration, and with a colliquative sweat.

Concerning the fourth question, says the author, "When not to stop," keep on as long as the patient breathes; it is his only chance. The contingencies are: An operation which has so far displaced and broken up a soft internal tumor as to render death from bleeding or from sepsis certain if any is left; an oozing hæmorrhage; a difficult tracheotomy; a crushed skull with a pulse of 40 and Cheyne-Stokes respiration. Having trephined, he says, we cannot stop until compression is removed and the bleeding checked. Extravasation of urine, and a bladder to be drained; if the patient dies in the process, we must drain the bladder. If we do not do all these things the patient dies; his only chance lies in their being done.

Surrounded with these terrible chances, says Dr. Cheever, the surgeon, like the executioner, raises or depresses his thumb, and the patient lives or dies. Surely, he says, there is no responsibility like this. All this should teach us, first, to be over-careful about getting in so deep that we cannot withdraw, or about meddling with what had better be left alone. Second, not to imperil life to cover our mistakes, for we all make them. Third, in self-defense, to withdraw from an operation, or from a case, at once, if our advice is not followed. To bear the responsibility, we must be absolute masters.—*Med. Jour.*

CONSERVATIVE SURGERY IN THE TREATMENT OF HEMORRHOIDS.—By Dr. Joseph B. Bacon, of Chicago. He found in looking over his records that but a very small per cent. of his operative cases had been purely internal or external hemorrhoids. Patients who were suffering or bleeding sufficiently to cause them to seek medical advice were those who had a mixed form of piles, in which the anastomosing vessels connecting the external and internal hemorrhoidal veins had become varicosed, and these dilated veins pressed upon the sensory nerve filaments over the inner

border of the external sphincter muscle, causing pain and prolapse of the internal hemorrhoids. A segment of the varicose system of veins must be removed, one segment on each side of the anus being sufficient. Remove those hemorrhoids that are causing the discomfort together with the external or skin tags, and the patient is cured, and only a small surface of either skin or mucous membrane had been disturbed. The ligature, clamp, and cautery, or crushing method, according to the choice of the surgeon, would answer the purpose.

TREATMENT OF INOPERABLE MALIGNANT TUMORS.—Dr. W. B. Coley, New York, in a paper read before the recent meeting of the American Surgical Association, in Washington, D.C., reported twenty-five cases of sarcoma treated by inoculating the patient with the toxins of erysipelas and bacillus prodigiosus, with six cures. Nine markedly improved and eight slightly improved. Also eight cancer cases, all but one of which showed improvement. The author's conclusions were as follows:

First.—The curative action of erysipelas upon malignant tumors is an established fact.

Second.—This action is much more powerful on sarcoma than carcinoma.

Third.—This action is chiefly due to the soluble toxins of the erysipelas streptococcus, which toxins may be isolated and used with safety and accuracy.

Fourth.—This action is greatly increased by the addition of the toxins of bacillus prodigiosus.

Fifth.—The toxins, to be of value, must come from very virulent cultures and must be freshly prepared.

Sixth.—The result obtained from the use of these toxins, without danger, are so nearly, if not quite, equal to those obtained from an attack of erysipelas, that inoculation should rarely be resorted to.—*International Journal of Surgery.*

APPENDICITIS.—Dr. W. Meyer (*Med. Rec.*, Feb. 29), sums up the indications for operative intervention as follows:

1. In cases of diffuse preforative appendicitis, the operation must always be done at once. Patients have the best chance to recover if operated upon within the first twelve hours. Exceptionally, patients get well without an operation.

2. In cases of acute appendicitis the patients always need careful observation. If the pulse goes up above 116 to 120, and has the tendency to stay there, the indication for an operation is given.

In case of doubt, the operation is better than waiting.

3. In cases of sub-acute (mild) attack of appendicitis, also after the first severe attack from which the patient recovers without immediate operation, the appendix should be removed. The appendix, once inflamed, has to be looked upon as a diseased organ, which is very apt to give repeated and more serious, even fatal trouble in the future.

When done at this time, we can almost always perform the blunt division of the abdominal muscles, according to the direction of their fibres, and thus save the patient the probable appearance of a ventral hernia.

POTT'S DISEASE.—"Pott's Disease," says Dr. R. W. Lovett, "is a very grave affection, and in advocating its treatment by recumbency, rather than by ambulatory measures, during the acute stage, I am speaking of what I believe to be the very best treatment. Other modes of treatment are, no doubt, excellent, but when one wishes to secure the very best result, it seems to me that, having recognized that apparatus is intrinsically imperfect, and necessarily so, to accomplish the purpose for which it is intended, it is incumbent upon the surgeon either to insist upon this treatment by recumbency, or to transfer the responsibility of ambulatory treatment to the parents. The use of apparatus, it seems to me, should be, during the acute stage, to vary the monotony of recumbency. That recumbency should be carried out by having the child lie upon its back upon a frame. The addition of traction to the legs and head I believe to be of benefit, and that it hastens recovery by quieting muscular spasm and improving the position of the spine. I believe that it should be used in all cases of paralysis due to Pott's disease."—*Med. News.*

CANCER A LOCAL DISEASE.—The evidence for this doctrine has been strongly presented by Dr. Jennings, in his work on "Cancer and its Complications," the second edition of which has been recently published in London. If cancer be a local disease, it is imperative that not only those tissues which are seen to be subjected to cancerous infiltration, but some of the surrounding tissues and the neighbouring lymphatic glands should be taken away by means of the knife at as early a date as possible. The amount of personal observation given in support of this method of treatment is not very great, but the careful analysis of the work and opinions of others and the comparison of the methods of termination of the disease under different methods of treatment amply warrant Dr. Jennings in drawing very wide and general conclusions.—*Brit. Med. Jour.*

CYSTITIS. —

R. Guaiacol.....	5
Iodoform.....	1
Sterilized olive oil.....	100

S. Inject one or two grams into the bladder once or twice daily in painful cystitis and tuberculosis.

—COLIN.

STERNUTATION.—Prolonged sneezing may be checked by injecting spirit of camphor well back into the nostril.—**STEWART.**

Prof. Edwin Klebs has been elected to the chair of Pathology in Rush Medical College.

This college has recently been recognized by the Examining Board of the Royal College of Physicians and the Royal College of Surgeons of London, England. This recognition entitles its alumni to all the privileges accorded to the graduates of other institutions recognized by that board.

MEDICINE.

IN CHARGE OF

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**THE MECHANISM AND DIAGNOSIS OF TRAUMATIC
CEREBRAL LESIONS.**

BY JOHN W. PERKINS, M.D.

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In this paper I wish to review the mechanism by which traumatic lesions in the brain are produced, and the means by which an exact diagnosis of the seat of the lesions must be made.

Until recently it has been considered justifiable for the surgeon, after having made a gross diagnosis of fracture of the base, "compression" or "concussion," to stand by and see his patient die, or become the subject of epilepsy, insanity or permanent paralysis. Medical literature is filled with cases illustrating the natural results of these injuries, following the "expectant" treatment. From them, one quickly learns how slowly and imperfectly nature repairs the lesions, and how far reaching are the after effects. Some have questioned whether a cerebral injury is ever completely recovered from. The evidence is now complete, that various forms of insanity, in many cases, originate in and are directly caused by a neglected injury to the brain. This has long been known of epilepsy and various motor and sensory disturbances. In a recent paper read before our Jackson County Medical Society, I reported in detail ten cases of cerebral injury, showing forms of mental derangement, from simple loss of memory, to persistent irritability of temper, melancholia, delusional and moral insanity and mania, all the direct result of intracranial injury. Most of these were due to old injuries; some submitted to operation and were relieved, others not. But the recital of the cases was not so much for the purpose of calling attention to the results of late treatment, as to the fact that symptoms of such nature had resulted from an unrepaired intracranial injury. To show how infrequent interference is in these cases, I need only quote the statistics recently furnished by one of the best hospitals in the country. In six years, 308 cases of severe head injury were treated with 115 deaths. In twenty cases fragments of bone were removed and in 24 cases only was trephining done. Eighty-two of the cases were characterized as "Fracture of the Base," of which 60 died. Three of the 82 were trephined, two without success and the third was successful in opening into the seat of the hemorrhage, but the vessel wa

not secured and death followed in twenty-one hours. No report is made as to the condition of those who survived. Thirty-two cases, excluding the gunshot cases, came to autopsy and showed extradural hemorrhages in thirteen, which the report comments on as "a larger proportion, of localized extradural hemorrhages than is generally appreciated."

I cannot dwell on the necessity of repairing at once and as completely as possible, the effect of an injury to the brain or its coverings. All will, I think, acknowledge the desirability but question the ability to locate most of the lesions when recent, and even if located, to relieve them. Apparently little effort has ever been made to get at the basal extradural hemorrhages which comprise such a large proportion of the fatal cases. These extravasations remain fluid for hours after an injury, and the suggestion is directly at hand, that the pressure could be taken off a well localized mass by a carefully directed aspirating trocar or needle introduced directly through the brain mass, as well as by an opening at edge of base and separating the dura. It is not my purpose however to enter into treatment.

It must be acknowledged that the exact diagnosis of recent intracranial lesions often presents a most complex problem. The real difficulty does not lie in the interpretation of symptoms, for these are often complete and conclusive in their indications, but rather in the lack of data furnished by an unconscious patient. There are facts however which may be obtained under the most disadvantageous circumstances, and these are sufficient in the majority of cases to lead to a correct diagnosis. It is always to be kept in mind that the absence of symptoms is as significant and possesses as much logical force as their presence. Also that the brain is not unlimited, hence a localization by exclusion in the absence of a direct diagnosis, is permissible.

Let us take first the mechanism by which the lesions are produced, and then the resulting symptoms with special reference to their localizing value. The first effect of a blow is received by the scalp, which may be cut, bruised, lacerated, or when protected, may show no evidence whatever of a serious lesion beneath. It is always to be carefully examined for such evidences as it may furnish. It is the most direct avenue for infection, leading to important and often disastrous secondary changes, and on that account is worthy the most painstaking care of the surgeon.

The effect on the cranium is determined by the force of the blow, and the curve, thickness and density of the bone. The character of the injury can often be inferred from the nature of the accident. In a general way it may be said that it is dependent on the velocity and concentration of the force. When the velocity is great, and the force is concentrated, the effect is most marked at the seat of impact, as when a bullet strikes the skull. But when the force is disseminated and of slow velocity the effect is generally most marked elsewhere, as when a man receives a blow from a sand bag.

With the exception of the fracture at point of impact, which may be depressed, cranial fractures are linear and almost invariably run towards the base, following the curve of the shortest radius and in the line of

least resistance. That this is not invariably true is due to the fact that in some instances the force is so applied as to force the fracture to follow a long curve, as in compression of the skull from the sides. The so-called fractures by *contre coup* are no longer to be considered possible. The only way in which the skull can be injured on the opposite side, is by injury against a resistance which is really equal to a second direct blow. This applies to the brain also, which is often injured by being bruised through its impact against the skull.

Most of the linear fractures have no importance in themselves, and it is unfortunate that modern surgery still classifies head injuries under "fracture of the vault," "fracture of the base," etc., as though these were important. The close association of such structures as the facial nerves, the middle meningeal artery and branches and the sinuses makes it necessary to estimate as closely as possible their direction and extent. It should also be borne in mind that extensive fractures can not be received without grave injury resulting to the cranial contents as a result of the same force which produced them. But a depressed bone in itself does no harm, were it not for the injury it inflicts on the parts beneath. It is the brain and its nerves which are of importance, and which must be considered from first to last. This has been formulated in the statement that "all cases of head injury should be estimated primarily with reference to the amount of damage which the cranial contents have received, and secondarily with reference to their becoming involved."

The brain is a soft solid, permeated with tougher blood vessels, and poised on a water bed over a very rough and irregular base. This water bed of cerebrospinal fluid surrounds the hemispheres and is continuous with that in the spinal cord. At the base of the brain, it varies much in depth, owing to the irregularities forming the so-called lakes. Inside the brain the ventricles are filled with the same fluid, and each blood vessel in the brain is suspended in a double lymph space also filled with the same fluid. Between the muscularis and adventitia of all isolated arteries is the adventitial lymph space of Robin, and outside of this, between it and the limiting membranes is the perivascular space—or space of His. Any increase in the size of the vessels take place at the expense of the fluid in one or both of these spaces—and as the skull is a closed box, it is conversely true that anything which displaces this perivascular fluid, must be attended by an increase in the size of the vessels, or rupture. Moreover not only the nerves but the nerve cells themselves, lie in spaces filled with the same fluid which connect with the perivascular spaces.

The fluid on the outside of the brain is directly continuous with that in the spinal cord, but that of the subarachnoid and intra-ventricular spaces is only communicable through the small foramen of Magendie at the fourth ventricle, the so-called cerebro-spinal opening. It is this cerebro-spinal fluid which plays the most important rôle in traumatic intracranial lesions.

The other factor is the elasticity of the skull as a whole. This varies greatly from infancy to old age, but must be most marked in the young adult skull with firmly united sutures and a large amount of animal mat-

ter in the bones. If dropped from a height on the floor such a skull will rebound like a ball. The interosseous membranes prevent the infant's skull from having the solidity necessary for such a rebound, and the brittle bones of old age break too easily, so that the problem varies somewhat at the extremes of life. It has been shown by Felizet that the adult skull, when struck a moderate blow, yields under it, forming what he calls the "cone of depression." It is similar to what occurs in a billiard ball or a bell when struck. The blow compresses the billiard ball in one diameter and it lengthens in the transverse. As it rebounds the long diameter becomes the short one and the short one lengthens, and this continues, the alterations becoming continually more feeble until the force is spent. This causes in a bell what we call its tone, which is long drawn out because its edge is accurately round and hangs free so that nothing interferes with the vibrations. But in the skull the effect is necessarily of short duration, the vibrations being quickly interrupted by its buttresses, irregularities and attachments.

Under these premises, what happens from a blow on the head? Let us say for simplicity, that it is not sufficient to produce a penetrating wound. Under the blow the skull is momentarily depressed—lengthens in the transverse diameter, and rebounds, becoming elongated in the diameter in which the blow is received. The bone may or may not be fractured. If depressed beyond a certain point it can not rebound and we have a depressed fracture. The fissure in the bone may involve vessels or nerves in close connection with it, leading to immediate hemorrhage or paralysis. The sudden depression of the skull drives the cerebro-spinal fluid forcibly from under it, and superficially it must spread laterally into the areas where the diameters are elongated—and what is not thus accommodated is forced into the perivascular lymph spaces, or forcibly injected into the spinal column. This explains how we can have a lesion of the spinal cord from a blow on the head. The quick rebounding of the skull tends to leave a vacuum at the four diameters where the maximum of motion has been, *i. e.*, at the point of the blow, diagonally opposite and at the two points at the extreme of the transverse diameters. Now the impetus given to the cerebro-spinal fluid is such as to send it out of the way, and the influx of the fluid is relatively slow, so that we have the vessels left without support, and they give way under the strain at the four points mentioned. Thus are accounted for the extradural and sub-dural hemorrhages.

That which happens in the brain is exactly analogous to that which happens in the cerebro-spinal fluid lying outside. The impetus of the blow received on the vault tends to drive the fluid from the larger ventricles into the smaller, from which there is no escape except through the small opening of Magendie.

All the perivascular lymph spaces receive the same impetus, and momentarily the blood vessels and nerves are unsupported; thus occur numerous minute intercerebral hemorrhages into the nerve sheaths, which are found as constant factors in cerebral injuries. The sudden intense distension of the fourth ventricle often results in rupture of its walls. In this way are accounted for the well-known glycosuria which so often

follows cranial injuries; also cases of immediate death from laceration of the vagi at their roots. The rush of the fluid through the foramen of Magendie into the spinal cord is sufficient to irritate and often to lacerate the restiform bodies in the bulb. It has been experimentally found that mechanical irritation of these bodies, produces a reflex anemia of the brain, attended with all the symptoms of the so-called "concussion."

Also the evidence of many autopsies points to them as the seat of the fatal lesion, so that the conclusion is irresistible that the opisthotonus, spasms, rigidity and other symptoms joined together under the name of concussion, find their explanation in the irritation of the restiform bodies, by the cerebro-spinal fluid as it is violently injected into the spine.

The brain mass itself, deprived of the protection of the cerebro-spinal fluid, is lacerated at the site of the blow, and on the opposite side through its own impetus against the bone. When the impulse is downward, it is found that the resulting injury against the jagged projections in the base are not more marked than against the smooth and rounded vault. These act like the elastic falx and tentorium which are stretched like sails in different planes between the cerebral masses, and take up a large portion of the force, directly preventing the impinging of the proximal half of the brain upon the distal portion and against the opposite bony wall. It is interesting to note that the tentorium is ossified in some animals, whose brains are built on the fore and aft plan, *e. g.*, cats.

All possible primary lesions thus consist of, 1, the fractures in the skull and rupture of nerves or arteries and sinuses in close connection with it, with their resulting hemorrhage; 2, lacerations of the cerebrum, basal ganglia and the underlying nerves; 3, hemorrhages into the brain substance, nerve sheaths and basal ganglia and edema of tissue adjacent to those parts pressed upon. Of these three sets of lesions, localized hemorrhages upon the surface are in the majority of cases the cause of death or permanent injury, and statistics show that a majority of them can be reached if located. The secondary lesions comprise unorganised blood clots, cysts, hematoidin deposits, collections of colloid bodies, cicatrices, miliary scleroses, adhesions, varicose veins, and last but not least, the secondary infections, pyogenic and sarcomatous.

I wish to-day to consider the symptoms from primary lesions only, *i. e.*, the fractures, lacerations and hemorrhages which we see in a recent case. I wish to repeat that the linear fractures are of little importance beyond indicating the possible source of other lesions.

The inference to be drawn from immediate facial paralysis, hemorrhage from the ear and a true sub-conjunctival hemorrhage are too obvious to be repeated. The depressed fractures interfere with or suppress the functions of the portion of the cortex pressed upon and demand immediate attention, not with a view of restoring the skull, but wholly with reference to the underlying brain. There is no such thing as a depressed fracture without symptoms, unless you suppose that there is a portion of a man's brain without function. It may take time and study to demonstrate them, however. The effect of the lacerations and hemorrhages depend upon their situation and extent. A laceration may cause immediate and total abolition of function at the site, through the severing of

the nerve connections of the part. The phenomena resulting from a hemorrhage, and the mechanism by which it acts, are best seen in cases where a small vessel is ruptured and a considerable time occupied in the development of symptoms. Slight at first, it irritates the abutting cells and the normal action of these cells is manifested peripherally in response to the stimulation. If into the motor area, involuntary twitchings or spasms of a muscle or group of muscles may result. As the hemorrhage increases in amount, it presses upon the cells, and driving out the intercerebral fluid prevents the circulation of blood and lymph through the part pressed upon. From the irregularities of pressure upon the vessels, a halo of edematous tissue invariably forms around the compressed area. This area is bloodless, therefore without function, and this loss is manifested peripherally. It is not to be seen by looking at the compressed area. The resulting symptoms comprise all possible motor and sensory disturbances, mental and moral aberrations according to the parts pressed upon. A good example of the varying effects of pressure from hemorrhage is seen in the eye symptoms resulting from rupture of the middle meningeal artery. At the outset the eyes twitch toward the side opposite the lesion, and remain there with contracted pupils and often constant nystagmus until the pressure is sufficient to cause a paralytic lesion when the eyes roll toward the side of the lesion, the pupil on the side of the lesion dilates and the paralysis is complete. The importance of a hemorrhage depends upon the nature of the tissues pressed upon the degree of pressure. A mass the size of a pea, suddenly extravasated into the medulla may be immediately fatal, while a pint of blood may be slowly and harmlessly spread over a hemisphere with few recognizable symptoms.

A depressed fracture acts like a localized hemorrhage in the cortex and is equivalent to the introduction of a foreign body into the cranial cavity. From it the general cerebro-spinal pressure rapidly rises and gradually falls, leaving the depressed area anemic in the midst of an area of edematous tissue which rapidly forms.

From the local pressure there results a general difference in the temperature of the sides of the body. When the compression is slight, the opposite half of the body (*i. e.* the paralyzed half) shows an axillary temperature distinctly higher than that of the other side. Whereas, when the compression is considerable, the reverse is the case, and the opposite side has a lower temperature than that on the same side of the lesion. It has been suggested as a working hypothesis to account for these facts, that a small pressure produces an irritative lesion of the inhibitory mechanism of the vaso-motor centre supplying the opposite side of the body, and so a dilatation of the cutaneous vessels it produces, causing a rise in the surface temperature. A greater pressure produces a paralysis of the inhibitory mechanism, so that the vaso-motor centre acts without restraint, constricts the vessels, and leads to a fall in temperature. This point has not yet been fully worked out, but may be of considerable importance when fully developed.

A local compression of the cortex also causes characteristic changes in the pupil. If the compression is small, an irritative lesion apparently

results and at the same time, as the temperature of the opposite side of the body becomes elevated, the pupil of the same side contracts and re-

acts poorly to light. When the compression is greater (the opposite temperature falls) the pupil of the same side dilates, while the opposite pupil contracts.

When the pressure becomes great enough to considerably affect both hemispheres, the opposite pupil will also dilate. Dilation of the pupil primarily on the same side as the lesion was described thirty years ago by Mr. Hutchinson, and has since been known by his name, and the "Hutchinson pupil" has become familiar as a sign of hemorrhage from the middle meningeal artery. The phenomenon was supposed to be due, by Mr. Hutchinson, to the gravitation of the blood toward the base and its pressure upon the third nerve. But recent experiments have shown that pressure at that point is not necessary to produce the phenomenon. Furthermore it would be difficult to explain on this hypothesis, as Mr. Dean points out, how it is that only the fibres of the third which go to the iris are paralyzed, while the other muscular branches are not. It would appear that any cortical pressure, at least in this

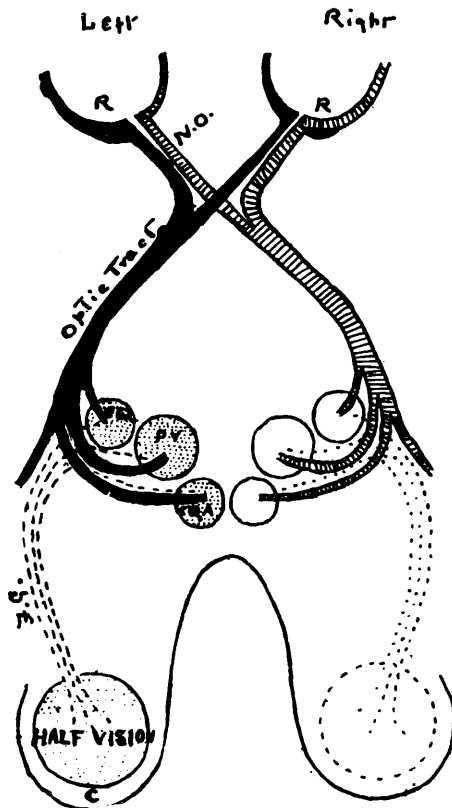


FIG. 1.—Showing course of visual fibres. R, retina; NO, optic nerve; PV, pulvinar; CGL, corpus geniculatum laterale; CQA, corpus quadrigeminum anterius; FG, fibres of Gratiolet; C, cuneus.

region, is sufficient to produce the dilated pupil.

Beside the alteration of the pupil referred to, which is really a paralysis of the muscular fibres of the iris, we may have as eye symptoms: 1, paralysis (and spasms) of the ocular muscles; 2, alteration in the field of vision; 3, incoördination of the parts concerned in the act of vision in each eye singly. In order to understand the ocular symptoms it is necessary to know a little of the central visual apparatus. The movements of the external muscles of the eye are controlled by the third, fourth and sixth nerves, and this motor mechanism "is finely bilateral but the sensory mechanism is badly unilateral," and hence of much greater localizing value. This unilateral disposition affects not each eye singly, but the lateral halves of both eyes. Taking first the muscular apparatus, and the third, fourth and sixth nerves: If we turn our eyes to the right or left it is done by the double synchronous action of the internal rectus of one

eye and the external of the other. This is the physiologic process known as conjugate deviation.

Definite relations do not appear to exist between any one part of the motor area and the ocular movements. Irritation of the whole cortex as well as the visual area occasion ocular movements toward the opposite side (conjugate deviation) and these movements are greater, the farther the irritation is removed from the macular region of the visual area. The fibres from their

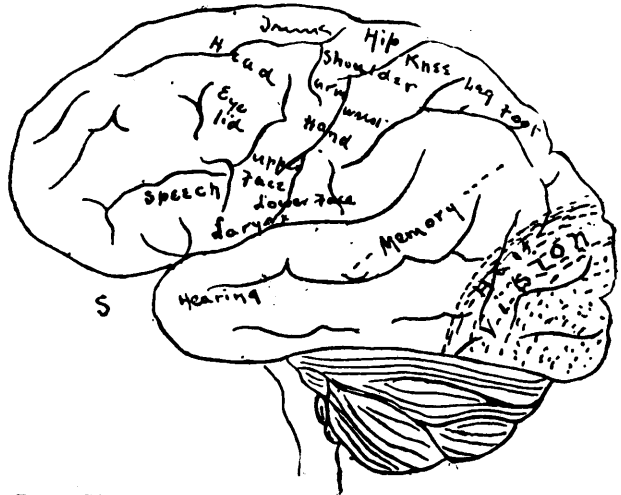


FIG. 2.—Diagram showing external surface of left hemisphere. R. Rolando; S. Sylvius.

cortical nuclei are collected and rearranged and coordinated at the top of the pons Varolii and pass out thence together, coming into close relations again in the neighborhood of the cavernous sinus and the sphenoidal fissure. The only portion of the cortex which seems to have a definite ratio to any of the muscles about the eye is a portion of the anterior central convolutions in front of the face area (Fig. 2). Pressure at this point causes a falling of the upper lid (levator palpebræ superioris), on the opposite side from the lesion. The connection of the basal motor ganglia with the cortex of the cerebrum is as yet uncertain, but the fibres pass down in the anterior part of the internal capsule and through the pyramidal tract to the neighborhood of the third nerve where they cross. As the internal recti are supplied by the third and the external by the sixth pair, a limited lesion in the pons may result in separating conjugate movements into its elements.

A considerable lesion in the pons will produce a wide spread ocular palsy. And the farther away from the pons the lesion is, either cortically or peripherally, the more limited will the paralysis be. Lesions above the pons and in the cortex produce physiologic paralysis *i. e.* of associated movements of both eyes. Lesions below the pons will paralyze single nerves and their corresponding muscles. Excepting that, a lesion at the cavernous sinus and sphenoidal fissure may take in a group of nerves but affecting one eye only. And this paralysis will be crossed with any body paralysis which may be present: To summarize: Conjugate deviation of the eyes, accompanied by twitching, spasms or other irritative symptoms, is indicative of a lesion in the cortex on the opposite side to the deviation. Conjugate deviation accompanied by paralytic symptoms, dilatation of the pupil, indicates a lesion on the side toward which they deviate. Ir-

regular or partial conjugate deviations and wide spread palsies indicate a lesion in the pons. Monocular palsy may mean a lesion anywhere between the eye and the basal nucleus, but if more than one nerve is implicated, the lesion may be near the sphenoidal fissure, or in the cavernous

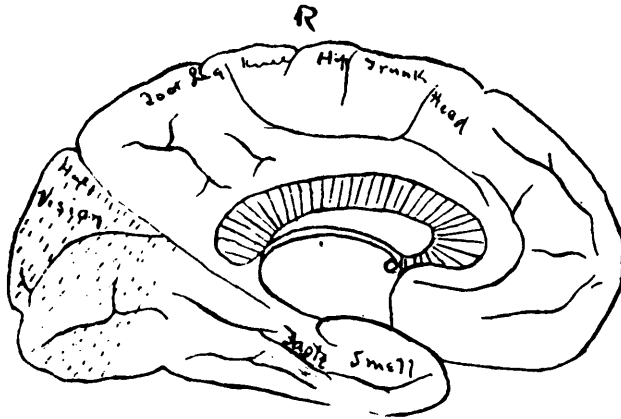


FIG. 3.—Diagram showing mesial surface of left hemisphere.

sinus. Ptosis results from paralysis of the third in its course or pressure on the anterior central convolution. In the sensory act of vision, two orders of central apparatus are involved, whose relations are best understood from the diagram (Fig. 1). The optic nerve divides into three parts which go to the pulvinar, the anterior corpora quadrigemina and the lateral corpora geniculata. These are usually spoken of as the primary visual centres. These are in turn directly connected with the cortex of the occipital region of the cerebrum called the secondary or half vision centres (Fig. 1 c). As was said in speaking of the motor mechanism, the sensory mechanism is "badly unilateral," and is connected with, not each retina singly, but the corresponding halves of both retinae. This I believe is made clear in the diagram.

The same distinction is to be found here as elsewhere between irritative and paralytic lesions. If the lesion in the visual cortex is slight, the irritation is manifested in subjective sensations of flashes of light, of colored fire, etc., and may be referred to the opposite eye, or may be common to both eyes. A lesion large enough to suppress the function of the cortex is manifested by a loss of vision in the lateral halves of both retinae on the side of the lesion. This symptom is known as homonymous hemianopsia. It may be caused by a lesion anywhere between the chiasm and the cortical visual centre, but practically for our purpose it is necessary to consider only the cortex lesion, as any hemorrhage large enough to interrupt the conduction in the optic tract would be otherwise immediately fatal. Wilbrand's test is of use here in case of doubt. A fine pencil of light is directed on to the paralyzed side of the retina; if the pupil contracts, the lesion is cortical; if it does not, it is in the optic tract. Central vision in cases of hemianopsia is usually unimpaired, the macular centre being apparently double and common to both eyes.

In rare cases the lesion may be so placed as to involve a portion of the macular centre, thus causing incoördination of the visual images of one eye and giving rise to monocular diplopia. The inference from this symptom is immediate and direct as to the implication of the macular

centre. The sensory eye symptoms must be looked for. It should be remembered that a paralysis of the left side of both retinae means that right half of the field of vision is involved.

Leaving the eye we come to the motor apparatus, of which the centres have been well differentiated. They are grouped around the fissure of Rolando and can be best shown quickly by a diagram (Figs. 2 and 3). The location of the leg, arm and face centre, eyelid, speech, hearing and smell are accurate, and any paralysis or spasm of cortical origin will appear on the opposite half of the body. The fibres from the cortex are collected, pass through the internal capsule into the crura cerebri, thence into the pons where the facial portion crosses to the opposite side (Fig. 4). The arm and leg fibres pass on into the medulla where they cross over. Somewhere between the cortex and the crus cerebri, probably in the internal capsule, the sensory fibres join the motor, but their centres are as yet poorly worked out. A lesion in this part of the cortex is often purely motor. Lower down the lesion must involve sensation.

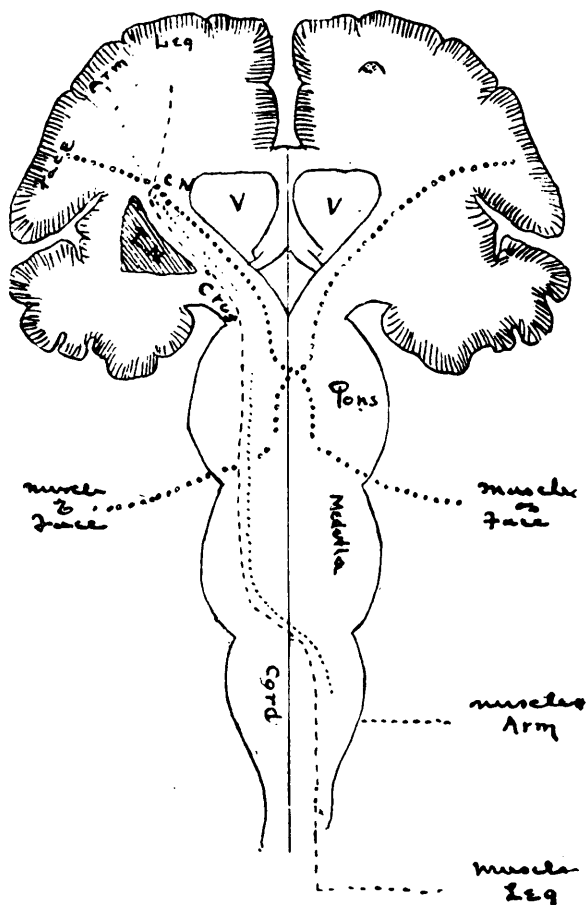


FIG. 4.—Showing course of fibres from motor tracts. V, lateral ventricles; LN, lenticular nucleus; CN, caudate nucleus. Between them the internal capsule.

When the lesion is above the crus cerebri, we have the ordinary crossed paralysis of the face, arm and leg; but from the crus down we may have one or another of the alternate paralyzes combined with a lesion of the cranial nerves in most instances. There may be 1, paralysis of the face arm and leg on the opposite side to the lesion and of the muscles supplied by the third nerve on the same side; 2, paralysis of arm and leg on the opposite and face on the same side; 3, paralysis of the arm and leg on the opposite and of the muscles supplied by the seventh and sixth on same

side; 4, paralysis of the arm and leg on the opposite side and the face on both sides; 5, paralysis of face, arm and leg on the opposite side, and anesthesia (from paralysis of the fifth) on the same side of the face; 5, paralysis of the arm and leg on the opposite, and the tongue on the same side. It is important to keep in mind the significance of the cross paralyses. What has been said of paralyses applies equally well to spasms.

So much for connected facts regarding the possible seat of lesions. There remain several disconnected facts, which are often of great significance. The first of these is the hyperpyrexia often attending a hemorrhage into the pons. The screaming fits which result from irritation of the posterior portion (testes) of the corpora quadrigemina and the incoördination of movements following pressure upon anterior portion of the quadrigemina are worthy of note. Pressure upon the middle lobe of the cerebellum also produces incoördination especially in the legs. Vomiting which is so common in head injuries has some localizing value. In the vast majority of cases it is a pure reflex caused by pressure or irritation of the membranes of the brain. It may be also caused by direct implication of the vomiting centre in the medulla from which the vomiting is usually active and persistent. In ordinary cases it is to be taken as indicative of a surface lesion, and its frequency may be roughly used in connection with other symptoms in estimating the degree of intracranial pressure.

Similarly manifestations of pain point to a surface lesion as was pointed out by Mr. Hilton many years ago. But all manifestations of pain are apt to be suppressed quickly by the rise in the intracranial pressure. It is a valuable localizing symptom however when present. The retraction of the head and neck, associated with incoördinated movements, mechanical yawning, low temperature, slow and feeble pulse and especially jerky uneven feeble respiration are characteristic of hemorrhages into the cerebellar fossa.

Unconsciousness commonly follows severe head injuries immediately. If it does not pass off in a short time it means an increased intracranial pressure, probably from hemorrhage. If it passes off promptly and after a short lucid interval the patient becomes again unconscious, the diagnosis of hemorrhage is certain. Associated with paralytic symptoms and dilated immobile pupils, it is indicative of excessive intracranial pressure, probably from hemorrhage, and demands immediate operation, if only to relieve an edematous dura in the absence of definite localizing symptoms.

In conclusion it may be said that the cerebral centers are not to be considered as sharply defined in their relation to the body but as spots of maximal relation whose functions merge into and are directly connected with those of other centres. The cerebral centres are not related to the body like the keys of a piano to its strings, but rather as the keys of an organ which by its stops may bring forth many combinations in harmony with the pipe which corresponds to a given key.

OBSTETRICS AND GYNAECOLOGY.

IN CHARGE OF

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HARMFUL EFFECTS OF THE BICYCLE UPON THE GIRL'S PELVIS.

In this paper reference is made only to parturition, and the word pelvis includes both the "static" and "dynamic" pelvis.

Walking is as necessary to the proper moulding of the semicartilaginous bones of the girl's pelvis, in reference to natural childbearing, as is the use of a muscle for its development and symmetry. A girl weighing one hundred pounds riding a bicycle on a level surface makes the counter-pressure of *only four pounds* against the pressure of the head and trunk, balanced upon a too narrow and rigid surface. As in our climate the bicycle is used nine months in the year, and as the modern girl walks less and less, while more abundant nutrition, both intellectual and animal, is supplied, increasing the size of the fetal skull, her prospects for instrumental delivery, symphyseotomy, and celiotomy increase. It is yet too early to verify this prediction, but for years the very large increase in the number of cases in which the forceps has been used by the masters in obstetrics demonstrates the evil effects of the lack of walking.

When Nature increases the size of the fetal head it increases the capacity of the mother's pelvis, but such increase may be frustrated by art. Through laziness man is said to have worn his tail off by much sitting, and through the fashion of not walking woman will add to the inconveniences, if not the impossibilities, of natural labor. For centuries the horse has been utilized, but both the teaching of anatomy and of propriety has prohibited the woman from bestriding his soft back. The fact is that the straddling attitude is unnatural in man, and only became popular through the chase and through war, and surgical injuries are sufficiently common on account of such attitude. The parts traversing the male perineum are sensitive and important and lie superficially. But they are slightly protected from pressure by broad and comparatively long ischial tuberosities which are *near together*. In addition the perineum of the male is moderately protected by hair. In the female perineum the tuberosities are smaller, sharper, and *wider apart*, and it is comparatively without hair. As shown by its tissue, physiology, and function, the perineum of woman is a kind of *supplemental uterus*. It is padded with connective tissue, prolonged pressure upon which must cause condensation and atrophy, thus adding "atrocious" pain to the second stage of labor and much liability to rupture.

"Until after the period of puberty the pelvic bones readily yield to mechanical influences" (Playfair); therefore there is much probability that the bicycle will at the yielding period tend to press the ischial tuberosities inward and upward, and the younger the girl the more the distortion. And if such is the case there is added a serious complication to the flattened pelvis, the most usual deformity in Europe and in America. Then, in addition to a narrowed lateral outlet, as the coccyx comes lower down and extends further forward in woman, it may be ankylosed through pressure and jars. However, as it is easily broken in labor, this is not so serious. Parvin, without reference to the bicycle, seems to think that the simple weight of the body may cause the flattened pelvis. If such is true, then the slightly forward inclination of the pelvis of a girl on a bicycle may further tend to the production of such anomaly. The pelvis is not in the axis of the body, and it is among the last portions of the body to be matured, at 20 years of age. Then it is only mature until a period of conception, when its synoviæ and ligaments grow, the perineum participating. This is the case up to 45 years of age on an average. The difference between the shape of the child's and the adult's pelvis is most largely due to pressure and counterpressure through living levers, the body and lower extremities. This is well proven in the exaggerated development of the side of the pelvis used by a youth with one leg. From the weight of the trunk "the upper portion of the sacrum, in rotating forward, drags upon the posterior ligamentous attachments of the ilia. This traction would, were it not for their union at the symphyses and the pressure of the heads of the thigh bones, cause the ossa innominata to revolve around the sacral articular surfaces like doors upon their hinges. As a result of the antagonistic action of the symphysis (pubis) and the sacro-iliac ligaments, however, the ossa innominata bend at the point of least resistance (in the growing bone) in front of the sacrum, and in this way an increase takes place in the transverse at the expense of the antero-posterior diameter" (Lusk).

In the lower animals, the weight of the body being distributed to four legs, the pelvis is much less complicated in shape, is more square-shaped.

To digress a little: In a practice extending over eighteen years I have never seen a case of placenta previa except in active, hard-working women. That the bicycle will predispose to placenta previa is a question which may be decided in the affirmative.—*The American Journal of Obstetrics*.

VENTRO-SUSPENSION OF THE UTERUS. PREGNANCY AND TRANSVERSE POSITION OF THE FŒTUS.

MILANDER (*Zeitschrift für Geburtshülfe und Gynäkologie*,) has collected a considerable number of cases in which pregnancy supervened after the operation of ventro-suspension of the uterus. He adds two cases, which are as follows: His first was that of a multipara upon whom suspension of the uterus had been performed to remedy prolapse of the anterior vaginal wall and retroflexion of the uterus. Milander

was called to the patient in labor, finding the fundus of the uterus two fingers' breadth below the umbilicus, while above the symphysis there was a thickened or scar tissue the width of a hand in the linea alba. The abdominal wall was depressed at this place. The child had been expelled, but the placenta was retained, although there was but slight hemorrhage. The placenta was readily removed by friction, and the patient made an uninterrupted recovery.

A second case was that of a multipara upon whom the operation of ventro-suspension had been made because of prolapse of the vagina and uterus. The patient had recovered well from the operation, and was admitted again to the clinic in the pregnant condition. The uterus was found two fingers' breadth above the umbilicus, the head upon the right side of the pelvis, the breech upon the left. The anterior abdominal wall was adherent to the anterior wall of the uterus at the site of the former suture. By palpating the round ligaments, it was possible for the physician to determine that it was not the fundus of the uterus which was found two fingers' breadth above the umbilicus but that it was the posterior wall of the uterus which was greatly distended, while the fundus itself was lying two fingers' breadth beneath the umbilicus. The heart-sounds were heard in the median line. The vulva was swollen, while the cervix was drawn strongly backward against the promontory of the sacrum, the external os admitting two fingers. The membranes had ruptured, and the scapula, arm, and a loop of the umbilical cord could be felt. As dilation was slow and pains were weak, De Ribe's bag was introduced, but was only partially successful. Under narcosis it was possible to dilate the os and to make version and extraction. The child was asphyxiated, but readily revived. There was a tear of the pelvic floor, which was easily united.—*American Journal of the Medical Sciences.*

TREATMENT OF UTERINE FIBROIDS.—The rapid changes in the manner of treatment of these growths have produced a condition of doubt in the minds of many as to what course they should follow. Penrose, in a review of the subject, says: Hysterectomy is advisable in the vast majority of cases of fibroid tumor of the uterus; in all cases in which there are urgent symptoms from pressure or in which there are urgent subjective symptoms referable to the uterus; in all fibrocystic, cedematous, and myomatous tumors; in all tumors of intraligamentous or subperitoneal growth; in all large tumors which have become decidedly abdominal; in all cases in which we cannot safely and surely remove all ovarian tissue and the whole of the Fallopian tube. The operation of castration should never be undertaken unless the operator is prepared to perform hysterectomy, should this be found necessary. The suitable cases for castration are hard fibroid tumors of small size, of such development that no pressure is produced, and when there are no marked subjective or reflex symptoms. In the case of an old woman who has passed the menopause, in whom the fibroid tumor has stopped growing, and in whom there is no discomfort from the size of the tumor or from pressure, operation is not indicated.—*Am. Jour. Obst.*

SUSPENSIO UTERI.—Howard Kelly reports two hundred cases with no deaths, no involved convalescence, and only one failure to retain the uterus in position. His method of operation is as follows: After due preparation, emptying the bladder, and anæsthesia, the abdomen is slightly elevated and an incision three to five centimetres long is made, beginning about two centimetres above the symphysis, down into the abdominal cavity. The peritoneum is then caught with artery forceps on each side and drawn out; this is to prevent pulling in the peritoneum by the suspensory sutures and leaving none to close the incision. The retroflexed uterus is then hooked up and lifted into ante flexion by means of two fingers carried into the wound. One side of the incision is then elevated with two fingers, and the peritoneum and subperitoneal fascia caught with a curved needle carrying the suspensory silk ligatures. The amount of tissue embraced is about one-third of an inch wide and one-eighth of an inch in depth. The same ligature is then conducted through the uterus on its posterior face below the fundus, and finally through the peritoneum and fascia of the opposite side, when it is tied, bringing the uterus up snugly against the anterior abdominal wall. After tying the first suspension suture the second is easily put in, entering and emerging on the abdominal wall just above the first and piercing the posterior surface of the uterus just below the first; when it is tied it increases the ante flexion. The sides and front of the uterus are examined to see that no intestine is caught, and the omentum is drawn down, and the abdomen is closed by taking off the forceps and sewing up first the peritoneum with the finest silk, and then drawing together the fascia with one or two silver-wire mattress sutures, finally closing the skin with a subcuticular suture of fine silk. The patient may rise sooner, but it is better to keep her quiet from two to three weeks. It is not necessary to wear an abdominal bandage or a pessary afterward.—*Am. Jour. Obst.*

ABDOMINAL HYSTERECTOMY WITH INTRA-PERITONEAL TREATMENT OF THE STUMP.—Mr. Harrison Cripps considers that the surgical removal of fibroid tumors of the uterus was called for in the following class of cases: (1) Excessive hæmorrhage, uncontrolled by the ordinary method of treatment, and in which oophorectomy is impossible; (2) serious pressure effects on the bladder or rectum; and (3) when the pain or the size of the tumor renders the patient unable to earn her living. Mr. Cripps contrasted the extra-peritoneal with the intra-peritoneal method of treatment of the pedicle. The latter gave him the best results. Whilst in the extra-peritoneal method the danger from sepsis was slighter, that from obstruction of the intestine and ureters seemed greater than in the intra-peritoneal method. This greater risk of peritonitis in the intra-peritoneal method was from infection through the vagina. To minimise this risk Mr. Cripps laid stress on two points: (1) Thorough and repeated douching of the vagina with perchloride of mercury; and (2) care in accurately closing the peritoneum over the surface of the stump. Details of the method of operation employed were then given, stress being laid on two points: (a) The importance of having sufficient room supplied if necessary by making a long abdominal incision, and (b) the method of secur-

ing the vessels in the broad ligaments. This depends on whether the layers of this ligament have been separated by lateral burrowing of the tumor or not. Notes were then given of eight cases operated on by the intraperitoneal method (up to September, 1895). Seven cases ended in recovery; there was one death from sepsis, due to infection from the vagina.—*Lancet*.

UTERINE MYOMA.—E. C. Dudley reports four cases of uterine myoma, with various complications, removed by abdominal incision, to illustrate the fact that no stereotyped operation for this trouble can be laid down. Each case must be operated upon according to the indications which it presents. Sometimes the entire uterus and its appendages must be sacrificed; often they may all be preserved, as should be done when the tubes and ovaries are healthy; sometimes the cervix uteri may alone be left. In certain cases the injury to the pelvic peritoneum is so great that drainage is necessary; in others the injury is so slight that when the ligatured stumps are drawn down into the vagina and the vaginal and abdominal wounds are closed there is no peritoneal traumatism save the united wounds. Vaginal drainage is preferable to that through the abdominal wound, as affording better drainage and complete closure of the abdominal wound and consequent rapid convalescence, with the minimum risk of ventral hernia. When no opening has been made into the vagina in the operation proper, such an opening should, as a rule, be made posterior to the cervix for the purpose of drainage.—*Am. Jour. Obst.*

DYSTOCIA FROM VENTROFIXATION.—A woman, æt. 23, entered Goubaroff's service during the second day of labor. In 1890 she had undergone a ventrofixation on account of uterine retroversion. Examination under chloroform showed retraction of the vagina, undilated os, and right dorso-anterior position of the fetus. An attempt to perform external cephalic version failed. It was then decided to wait for dilatation and deliver by podalic version. The pains came at intervals of about ten minutes and finally assumed a tetanic character; the os, however, remained closed. On account of the high position of the os manual dilatation was not successful. Laparotomy and dividing of the adhesions was contraindicated by the danger from hemorrhage, rupture of the pathologically changed uterus, and because the fetal heart sound had become irregular and demanded rapid delivery. Cesarean section was performed and a living child obtained. Mother recovered.

Milander has collected seventy-four cases of ventrofixation which subsequently became pregnant. Of these one woman had died before labor commenced; ten were still pregnant. In six cases abortion occurred, there were prematurely delivered, and fifty-four went to full term. In three cases the fetus presented transversely, in one the breast, and in another case the ear was the presenting part. The remaining forty-nine cases had normal positions. Except some pain at the site of the fixation, pregnancy presented no complications. Feeble labor pains were observed in two cases, and in eleven cases aid was required; this consisted in two

Cesarean sections, twice podalic version, one extraction by the foot, and four times the forceps was applied. The author points to the large proportion of abnormal positions and the seriousness of the operations required. The uterus in many cases, owing to its abnormal position, can only expand laterally, and this accounts for the great frequency of cross-births.—*The American Journal of Obstetrics*.

MODERN OBSTETRIC TEACHING.—Farnsworth thinks that pads, couches, and disinfectants should come under the ban as doing harm rather than good. He believes that cleanliness of physician and patient is the cardinal necessity. The scrubbing brush, boiled water, and fresh linen are essentials. Vaginal douches do harm by removing the natural mucus provided for lubrication and protection.—*The American Journal of Obstetrics*.

THE PREVENTION OF PUERPERAL SEPTIC INFECTION IN PRIVATE PRACTICE.—Herman (*British Medical Journal*), considers bichloride of mercury the best antiseptic for obstetric practice. He draws attention to careful cleansing of the hands, sterilization of all instruments by heat and boiling, and the importance of thoroughly clean clothing. Internal examinations should be as infrequent as possible. The external parts should be thoroughly washed. As a lubricant for the finger, bichloride of mercury in glycerin 1:2000 is recommended. Healthy women do not require preliminary douches. Immediately after labor the physician should give a douche of bichloride of mercury 1:2000. If a hand or instrument has been introduced within the uterus, it should also be cleansed. If labor has been difficult, so that necrosis of the tissues is feared, a douche of bichloride of mercury 1:4000 should be continued twice daily. It is important that explicit directions be given to nurses, and this is best accomplished by printed rules giving careful details for their conduct.—*American Journal of the Medical Sciences*.

TETANUS FOLLOWING ABORTION SUCCESSFULLY TREATED BY ANTITOXIN.—Withington reports in the *Boston Medical and Surgical Journal*, the case of a patient, aged thirty years, who had an abortion, denying positively any interference of a criminal nature with her pregnancy. Two days afterward she was seen by a physician who curetted and douched the patient, and one week later she was able to sit up. She gradually developed stiffness of the neck and lower jaw, with cramps in the legs. Her temperature varied from 100° to 102°. There was no evidence of sepsis about the abdomen or uterus. The patient gradually grew worse, with repeated attacks of spasm, with opisthotonos. Bromide and chloral were used in large quantities with no apparent result. She was able to take considerable quantities of liquid nourishment. Twenty-two cubic cm. of tetanus-antitoxin serum were injected; gradual improvement followed, she having received in all three injections upon successive days, a total quantity of 68 cubic cm. Her gradual recovery followed.—*American Journal of the Medical Sciences*.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

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DIETETICS IN NEURASTHENIA.—Jas. G. Kierman, M.D., (*The Medical Standard*), says Neurasthenics are generally dyspeptic. They suffer from nervous dyspepsia, as the diagnosis has it. This is correct, and nowhere is the vicious circle in pathology more clearly established than in gastro-intestinal neurasthenia. Weak nerve centres interfere with normal gastric functions and again the products of a faulty digestion, being absorbed by the blood, poison in their turn the nervous centres, including those which preside over nutrition. In nine cases out of ten pepsin or some other reputed digestive ferments are prescribed and taken for months and years, again to the detriment of the patient. Many carry their dyspepsia powders with them, having become perfect slaves to the ferment. In many cases pepsin does direct harm, in others induces inactivity of the gastric glands on the same principle as predigested foods. The advance physician is prone to resort to the stomach tube and wash out the stomach. In some this is of great benefit, at least temporarily; in other patients the introduction of the tube marks the beginning of a period of intense suffering and of a series of collapses.

A tolerably reliable dietary injunction is: Do not eat anything raw. With few exceptions, which generally have to be learned by experience, the neurasthenic is apt to digest, under proper precaution, anything that is well done. Idiosyncrasies, however, ought always to be expected.

While this is most emphatically true and a great deal of most decided harm is done by manufacturing nosophobias through washing out the stomach and allied procedures in neurasthenia, still the mal-digestion and mal-assimilation problems present and evinced in lithæmia, glycosuria, oxaluria, and other evidences of perverted hepatic action and tissue metabolism do involve a question of no little interest from the standpoint of therapy and prognosis. Digestion and absorption of nitrogenous material is a problem solved with comparative ease. Digestion and absorption of starches and sugars is a much more difficult task. It is undeniable that in many cases of neurasthenia, starches and sugars would be of decided value could they pass the intestinal tube into the system. In children whose state closely resembles that of neurasthenics, degenerates and neurotics, starch and sugar are admissible not to be omitted from diet. The problem here as in neurasthenia is to pass them beyond the intestine. In my opinion the problem is excellently solved by the introduction of the product of fungoid action known as taka diastase. It can be dusted on the starchy food without interfering with its flavor.

ACCIDENT NEUROSES.—A recent editorial in the *Boston Medical and Surgical Journal* discusses a contribution of Prof. Adolf Struempell in a late issue of the *Muenchener Med. Wochenschrift* (3rd and 10th December, 1895) on the subject of the results of traumatic shock, the much disputed so-called traumatic neuroses. It calls attention to the importance of these in a sociological point of view, the moral effect upon the community, and especially the working classes, of the more or less indiscriminate bestowal of damages, as in a measure perhaps more important than the purely medical side of the question. It is this last, however, that we have to do with here, and the conclusions of Professor Struempell carry considerable authority. He treats these symptoms mainly as a psychosis, a manifestation of hysteria, or hypochondria, or neurasthenia, and dwells upon the importance of treating it as such. The special diagnostic points, the anæsthesias, limitations of the visual field, etc., have had their importance overestimated, as has also the question of simulation, which may not exist in any conscious or responsible way, even when the physical symptoms are exclusively due to the mental state. Still he does not absolutely exclude all actual organic disease in these conditions, though he holds its occurrence must be rare. The occasional cases of actual mortality without obvious lesions certainly indicate this, and the newer methods of investigation into the finer anatomy of the nerve elements may yet prove that there is more often a material organic basis than he admits. The following are his conclusions, as given by the *Journal*:

"1. The name 'traumatic neurosis,' in its common acceptation, should no longer be used as the expression for a definite and special disease.

"2. It is probable that a true 'traumatic neurosis' exists in the sense of a chronic organic change resulting from a severe commotio cerebri or commotio spinalis. Such cases are, however, rare.

"3. The so-called objective symptoms of accident neuroses do not properly deserve the name. All such symptoms are dependent upon the psychical state of the patient.

"4. The distinction between simulation, purposive exaggeration, and a true neurosis is easy theoretically. Practically the difficulties in diagnosis are often great. The changing character of certain symptoms does not necessarily imply simulation.

"5. It is of the utmost practical importance, whenever possible, to prevent the onset of the neurosis. Palliation has a much more brilliant outcome than treatment when the condition is established.

"6. In all cases it is the duty of the physician to bring it about that the patient shall again gradually accustom himself to work."

The third conclusion is, perhaps, a little too positive, except as referring only to the hysterical anæsthesias, etc. There must be in cases such as are admitted as probable in the second, some actual objective symptoms.

NITRO-GLYCERIN IN THE TREATMENT OF SCIATICA.—Dr. William C. Krauss, of Buffalo, N.Y., read a paper on this subject before the Medical Society of the State of New York, recently held at Albany.

Although skeptical in regard to new measures and remedies, in the face of the abundance of measures recommended, such as electricity, heat,

cold, acupuncture, nerve stretching, hypodermic injections, splints, extension, rest, cauterization, not to speak of the innumerable medicinal agents, he, however, tried Nitro-Glycerin and reported seven cases, all of which were speedily cured or greatly benefited.

The administration of Nitro-Glycerin should be as quickly as possible after the onset of the pain, whether it be neuritic or neuralgic in character; beginning with one minim of the one per cent. alcoholic solution and increasing until the peculiar physiological effects of the drug are obtained. Seven cases were reported and are here briefly summarized:

CASE I. Male; age 50—60: has been a frequent sufferer of rheumatism and sciatica for years. On Thanksgiving day, 1895, he was taken with an acute attack of sciatica. Various measures were tried without any effect and the case was turned over to the writer. Nitro-Glycerin in 1 minim doses of the one per cent. solution, three times daily, was prescribed and in three days the severe pain had disappeared, and after ten days the patient was freed from all sciatic pain.

CASES II. and III. were that of husband and wife, both suffering with acute sciatica. The husband, however, had been a rheumatic for some years and had also had gout. In two weeks' time under the Nitro-Glycerin treatment both were relieved of the sciatica.

CASE IV., that of a stenographer, used to sitting ten hours daily on a hard-bottom chair, began to complain of symptoms denoting a neuritic affection of both sciatic nerves. Nitro-Glycerin and rest thoroughly dispelled these symptoms and in a short time she was again able to resume her customary work.

CASES V., VI. and VII., were hospital cases, and received marked benefit from this form of treatment.

The disagreeable effects of the Nitro-Glycerin, as congestive headaches, flushing, etc., may be relieved by the bromides.

The author does not claim that it will cure every case of sciatica, but if it relieves fifty per cent., it will be doing what no other single drug has heretofore done.

GRIEF FROM A MEDICAL STANDPOINT.—The nervous system requires complete rest after blows caused by sorrow. Recent medical observations show that the physical results of depressing emotions are similar to those caused by bodily accidents, fatigue, chill, partial starvation, and loss of blood. Birds, moles, and dogs, which apparently died in consequence of capture, and from conditions that correspond in human beings to acute nostalgia and "broken heart," were examined after death as to the condition of their internal organs, and it was found that the nutrition of the tissues has been interfered with, and the substance proper of various vital organs had undergone the same kind of degeneration as that brought about by phosphorus or the germs of infectious disease. The poison of grief is more than a man. To urge work, study, travel, the vain search for amusements, is both useless and dangerous. For a time the whole organism is overthrown, and temporary seclusion is imperative for proper readjustment. Grief can not be ignored, neither can it be cheered up. It must be accepted and allowed to wear itself away. Readjustment comes

slowly. Sorrow, grief, and all great misfortunes should be regarded as conditions similar to acute infectious disease, which they resemble in result; and, later, as convalescence from such disease. Seclusion, rest, sleep, appropriate food, fresh air, sunshine, interests that tax neither mind nor body, these are requirements in this class of illness.—*Charlotte Medical Journal*.

THE PATELLAR REFLEX.—The diagnostic importance of this in nerve pathology is well known; it is seldom wanting in healthy persons, even during sleep. It is usually exaggerated in cerebral lesions; lesions of the lateral columns; is wanting in degeneration of the posterior columns of the spinal cord, and in tabes, where it is an important symptom from the commencement of the disease, the return of the reflex indicating amelioration. There are, however, exceptions. Thus the reflex may return in an ataxic, suffering from an apoplectic attack. Pick has found that the sensitive medullary fibres transmitting the reflex, still contain healthy normal fasciculi. The reflex persists so long as the radicular zone of the cord between the dorsal and lumbar regions is not affected. The sensitive fibres conveying the patellar reflex are situated in this zone, but do not form a compact fasciculus.

Pick has also noted another exception. The brain exerts an inhibitive action over reflexes, which explains their exaggeration in cerebral disease. And it often happens that the patellar reflex is wanting in the paralytic insane, with lesions of the brain cortex; it is the same with lesions which diminish the cranial capacity. According to Meyer, in cerebral tumors, degeneration of the intra spinal prolongations of the posterior roots are found. Perhaps in this case the cerebral compression is extended along to the cord. Dinklen has, in fact, found the same lesions in hydrocephalus and in cerebral tumors. Pick has also described degenerative lesions of the prolongations of the posterior root in several cases of cerebral tumors, which would seem to confirm the above statements.—*La France Med.*

SLEEP.—A very sensible article by Dr. W. J. Bell, of St. Joseph, Mo., appears in the November *Medical Herald* on this subject. We abstract two paragraphs. The author evidently reads the *Alienist and Neurologist*.

“Upon the patient's ability to procure refreshing sleep, more than upon any other factor, depends the prognosis in a given case. It would be well for the gynecologist, the surgeon and the man in general medicine, and better a thousand times for the patient if the value of sleep as a therapeutic agent were more fully considered.”

“Too often has the surgeon's knife been given the credit for convalescence when ovaries, only partially diseased or not diseased at all, have been removed, or rents in the cervix or perineum too insignificant to mention have been sewed up. Careful weighing of the evidence in such cases will frequently show that rest in bed and regular diet with perfect sleep were the means of granting relief.”

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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GONORRHEAL ENDOCARDITIS.

Although a number of observers, including La Cassagne, Marty, Baudin, Moussons, and Desnos, long ago recognized endocarditis as a complication of gonorrhoea, until recently little attention has been paid to the manner in which the inflammation of the cardiac valves is brought about by the urethral infection. Indeed, it is generally believed that blennorrhagic endocarditis is very rare, and most text-books on surgery, in discussing the differential diagnosis between gonorrhoeal rheumatism and ordinary rheumatism, point out that the absence of cardiac lesions is suggestive of the former. However, careful bacteriological examination of the lesions found in fatal cases of acute endocarditis indicates that gonorrhoea may be a more important factor in the etiology of valvular disease than has been commonly supposed. Leyden was among the first to investigate the subject from a bacteriological stand-point. In the *Deutsche medicinische Wochenschrift* for September 21, 1893, he reports a case of chronic gonorrhoea, with gonorrhoeal arthritis, which eventuated in an ulcerative endocarditis. Both the mitral and aortic valves were affected. In the exudation on the valves, micro-organisms corresponding in all particulars to gonococci were found in pure culture. After an exhaustive review of the literature of the subject up to that date he concludes that the relation of gonorrhoea to endocarditis is proven by a great number of observations ; that a part of these cases undergo a chronic course and become partially cured ; that other cases undergo a malignant change and end in death.

In the *American Journal of the Medical Sciences* for September, 1893, Councilman presents an elaborate report of a case of acute myocarditis with hemorrhage into the pericardium, occurring secondary to gonorrhoea. Both knee-joints contained a purulent fluid. Gonococci were found in the secretions of the urethra and joints, and in considerable numbers in sections of the cardiac muscle. Unfortunately, the case is not a complete one, owing to the fact that cultures were not made at the time of the autopsy, the organisms being studied only in cover-slip preparations, and in the sections. As the lesions did not resemble those produced by pus organisms, or even by pneumococci, and as the clinical course of the disease, especially the absence of fever, suggested a gonorrhoeal rather than a purulent infection, the writer favors the view that the myocarditis was excited by the gonococci, and not by a secondary accidental infection.

Fressel ("Endocarditis Gonorrhoeica," Inaugural Dissertation, Leipzig, Edelman, 1894) reports the case of a young woman who was admitted to the hospital in a moribund state, with all the manifestations of severe cardiac affection. It was subsequently learned that four weeks before admission she had suffered with pain in one foot, and later had developed difficulty in breathing. A post-mortem examination showed ulcerative endocarditis of the mitral and aortic valves, and gonorrhoeal vaginitis. An examination of the exudation on the valves revealed diplococci which corresponded closely to gonococci.

Dauber and Borst (*Deutsches Archiv für klinische Medicin*, Band LVI, 1895) report a case of malignant endocarditis following gonorrhoea in a man aged 20 years. Examination of the heart on admission showed no lesions, but on the eighteenth day after the appearance of the urethral discharge, symptoms of aortic insufficiency developed. Death resulted from septic nephritis and hypostatic pneumonia. Gonococci were detected in the urethral discharge by staining. The autopsy revealed extensive vegetations and ulcerations on the aortic valves. In the vegetations were diplococci, some of which had all the morphological and tinctorial properties peculiar to gonococci, and were within the cells. No cultivation of the urethral organisms was made. Cases similar to the foregoing have been published by His, Rothmund, Winterberg, and Hering. Unfortunately many of the reports upon the subject which have appeared are unsatisfactory, since staining alone has been relied upon to identify the gonococcus. Thayer and Blumer, however, have recently published (*Archives de Médecine expérimentale*, November, 1895) a case of gonorrhoeal septicemia with endocarditis in which cultures of the blood were carefully made during life. The authors conclude that the organism found on the valvular vegetations was the gonococcus, for the following reasons: (1) Its form and disposition were characteristic. (2) Though often free, the organism was found within the protoplasm of the leucocytes in the valvular thrombus. (3) The organism did not develop in ordinary media. (4) It easily grew on a mixture of human blood and agar (one-third blood). (5) It decolorized by Gram's method.

These cases and similar ones which have been recently reported not only confirm Leyden's conclusions, but indicate that gonorrhoea may cause endocarditis either by a secondary accidental infection or, perhaps, by a direct invasion of the valves of the heart by the gonococci themselves.—*University Medical Magazine*.

DECIDUOMA MALIGNUM.

On the evening of the first Wednesday in April there was a large gathering at the Obstetrical Society; the Fellows had assembled to hear the experience of experts on a grave subject. It is highly satisfactory to witness men discussing important but doubtful matters which we feel they are especially competent to handle. Hence the April meeting of the Society might be held up as a type or model of what an ordinary evening assembly of a learned association ought to be.

Two reasons brought many of the ablest of British obstetricians and gynæcologists to the meeting. In the first place no original communication on deciduoma malignum had hitherto been published in the British empire. The disease was first noted by Sanger in 1888. About fifty original scientific or clinical papers appeared between that date and last year in Germany, France, and Italy. As long ago as 1840 an English writer, Wilton, demonstrated, on the evidence of a case that the vesicular mole sometimes shows true malignant characters. A few abstracts published in our EPITOME between 1889 and 1894 turned the attention of English writers to this subject. Yet no original English communication on deciduoma malignum appeared until May, 1895. Then at last an English monogram was published, but it was the work of an American, Dr. Bacon, of Chicago, and the new case which he reported had been observed, not in any English-speaking land, but in Prague. Hence the Czechs, as well as the Germans, were before the Anglo-Saxons. In June a far more important communication was issued in English, but the author was another distinguished American, Dr. J. Whitridge Williams, and his work will require further criticism. In July, 1895, Mr. Doran noted the absence of any British report on deciduoma malignum in the course of a paper on placental polypus, read at the Society. The particular polypus in question showed, undoubtedly, placental tissue, yet there was no evidence from the clinical history nor from the microscopic appearances how far pregnancy had preceded the patient's death. Hence the histology and pathology of decidua and chorion came under discussion—a subject of interest, then, but of yet higher import, for well-known reasons, at the present moment. One reason is the question of what is really to be detected in the metastatic deposits in the lungs, etc., in deciduoma malignum. In January, 1895, Dr. Champneys, in the *Practitioner*, recorded his experience of some unusual cases of hydatid mole. In one instance he found nodules in the lungs, which made it probable, in his opinion, that the case was allied to those described as deciduoma malignum.

Hence there was a large attendance at the April meeting, as British experience of deciduoma is a novelty. There remains a second reason why the Fellows of the Obstetrical Society took an unusual interest in the papers selected for that evening. Many suspect that the very term—deciduoma malignum—is misleading, being based on a fallacious interpretation of microscopic appearances. That opinion was the subject of one of the communications which were then brought forward.

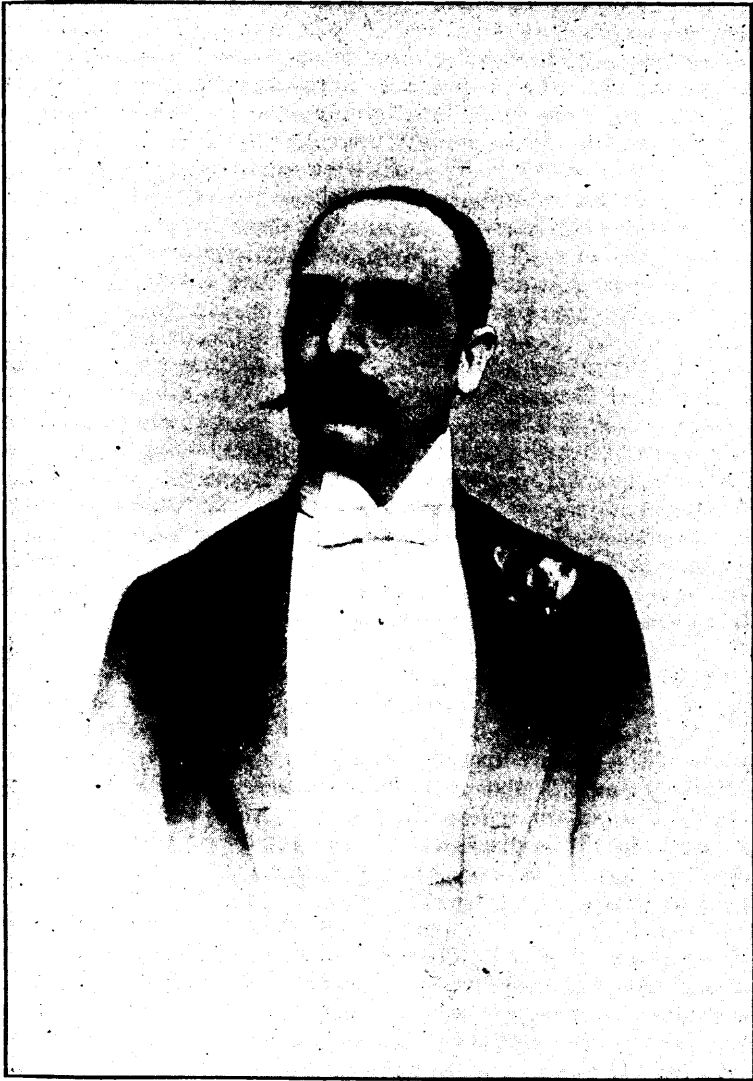
Mr. Rutherford Morison, of Newcastle-on-Tyne, contributed the first paper, an important clinical note on a case where the evidence that metastasis developed in the lung was clinically strong though, unfortunately, there was no necropsy. Dr. Herbert Spencer read a very full report of a case under his observation in 1889. By the aid of the magic lantern he demonstrated a fine series of photomicrographs. A short clinical and pathological report of another case was read by Mr. Malcolm and Dr. Hebb. The pulmonary metastases were very striking, and some microscopic sections, carefully prepared by Dr. Hebb, were exhibited at the meeting and much admired. Together with a large number of valu-

able sections illustrating Dr. Herbert Spencer's and Mr. Morison's papers, they were referred to a committee of experts for further scrutiny.

Those who are enthusiastic about medical novelties, however, would do well to study Dr. Eden's paper, which was also read at the April meeting. That observer has already issued valuable monographs on the histology and development of healthy placenta. In his opinion much doubt exists not as to the malignancy but as to the decidual character of primary tumor and the metastases. Professor Sanger first described deciduoma malignum as such; but Dr. Eden doubts that the primary and uterine tumor was made up of decidual cells in Sanger's case. Similar cellular growths, however, have been detected by Dr. Eden and others in the uterus, when their origin could not have been decidual. The same observer exposed a grave error from which the most famous writers are not always free. He showed that it was not clear in several foreign reports of this new disease that delivery or abortion had taken place before its development. A graver charge was made by Dr. Eden, for in some cases the primary disease was not clearly determined to be uterine. Thus, in Dr. Whitridge Williams's interesting monograph, which we recently reviewed, it is stated that the patient was attended in her confinement by Dr. W. E. Harris, who prescribed a lotion for a nodule on the right labium majus at the end of a fortnight. A week later he found that there was a rapidly-growing tumor on the labium. When admitted into hospital, a little over a month after labour, the tumor was sloughy, and the patient died two months later. Deposits were certainly found in the uterus and lungs; but the early history points, as Dr. Eden insisted, to the labium as the primary seat of disease. Dr. Harris, who must have examined the uterus, makes no note of any tumor in that organ.

The supporters of the deciduoma theory base their opinions to a great extent on the appearance in the metastatic deposits of essentially decidual or allied structures. But Eden shows that there is no uniformity of opinion about the minute histology of the foetal appendages, and that the "syncytium" resembles plasmodia found in sarcoma not related to gestation. In short (and we understand that Dr. Kanthack agrees with him in most particulars) the disease known as deciduoma malignum may yet prove to be but a rapidly growing sarcoma. Pregnancy, so common, may easily coincide with sarcoma of the uterus, a rare disease which occurs during the child-bearing period. Histology may mislead. A sarcoma is made up of rapidly growing elements, but so are the normal foetal appendages. Hence appearances observed alike in normal decidua and in common sarcoma may have been falsely taken as evidence of identity. The truth may be that these appearances simply represented rapid growth. Deciduoma malignum may yet prove a scientific delusion.

—*British Medical Journal.*



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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

The subject of our sketch AMOS FRANKFORD ROGERS, the youngest son of the late John Barker Rogers, of Bradford, received his early education by private tutor and in the local Grammar school and Upper Canada College. He received his medical education in McGill University, Montreal, where he graduated M.D.C.M., in 1874. In June, 1874, he went to England, attended St. Thomas' Hospital, London, and the Royal Infirmary, Edinburgh, and received the degrees in 1875, of L.R.C.S., Edinburgh, and L.R.C.P., Edinburgh. He passed the examinations of the Ontario Medical Council in the spring of 1876, and began the practice of medicine in Ottawa, where he has remained since. In 1889, he was elected President of the Medico-Chirurgical Society of Ottawa, and in 1890, he contested the election for a seat in the Ontario Medical Council and defeated Dr. Cranston, who was President of the Council at that time. In 1894, the redistribution of Divisions threw Dr. Darley Bergin, M.P., and Dr. Rogers into one Division (No 17 Division) and in the election for a member of the Medical Council, Dr. Rogers defeated Dr. Bergin by a very large majority. In 1895, Dr. Rogers was elected Vice-President of the Medical Council and at the session just closed he was elected President by acclamation. In May, 1896, Dr. Rogers was married to Margaret R., eldest daughter of Dr. Alexander Falkner, of Williamstown, Ontario.

THE ONTARIO MEDICAL COUNCIL

At the opening session of the Medical Council this year, Dr. Rogers, of Ottawa, was advanced to the presidential chair, and Dr. Thorburn, of Toronto, was made vice-president.

The first matter of importance taken up was the old question of matriculation. The council arranged it in accordance with the terms of agreement entered into by the Ontario Government, and the executive and legislative committees of the council at a conference held in March last. The terms of the above agreement were set forth in our May issue. It is a matter for sincere congratulation that this long-vexed question is

at length happily settled, and we hope no restless spirits, in the council or out of it may, for many a year, disturb the fair and equitable standard now in force.

Petitions were received from the medical faculties of Toronto University, Trinity Medical College, The Western University, The Woman's Medical College, and also one from all the students resident in Toronto, asking that an eight months' session be made compulsory, and that the summer session be abolished, as also the fifth year of study. In all, ninety-nine students signed the petition, the others not being accessible, having left the city before the petition was circulated.

Queen's was the only educational institution in the province which made objections to the proposed change.

The Educational Committee of the Council received deputations from Toronto, Trinity and The Women's Colleges, and the matter was very fully discussed. Several members of the deputations attached more importance to the lengthening of the session than to the abolition of the fifth year.

The Education Committee advised that spring examinations be deferred to the third Tuesday in May, in order to accommodate any school that might give an eight months' session, and that all students be allowed the summer session who presented tickets for an eight months' session, in all cases the fifth year of clinical work to remain. On this matter the committee was not unanimous. In committee of the whole Council, Dr. Williams moved that an eight months' session, with no summer session, but with the fifth year retained, be made obligatory in 1897. Dr. Britton moved that the summer session and the fifth year be abolished and an eight months' session be compulsory forthwith. Both motions were defeated, and the original recommendation of Education Committee adopted.

A committee was appointed, consisting of those members who expect to visit the Canadian Medical Association to confer with deputations from other provinces, to consider and report upon the question of uniform standards of matriculation, professional training, and uniformity in the manner of conducting professional examinations, as a step towards inter-provincial reciprocity in licensing.

After a long discussion in Council, it was decided to advertise for all printing, which was done by the Printing Committee. The chairman reported that lower tenders could probably be secured later on. Considering this, the matter of printing was left in the hands of Drs. Barrick and Emory with instructions that the annual announcement appear at as early a date as possible.

The question of a free journal to all licentiates came up, when it appeared that *The Dominion Medical Monthly* offered to supply a journal which should cost the Council *twenty-five cents (!)* while *The Review* wanted one dollar per year for each member of the college.

The good sense of the Council has at last got uppermost, and neither tender was accepted. It was decided that there should be no free journal hereafter. No *chromo* so to speak to each man who pays his annual fee. The opinion of the Council is that a verbatim report in the announcement,

will justify proceedings, and that a subsidized journal is not necessary as an advocate, and further that the publishing business is not a natural function of the Council, especially when it interferes as it has done for the past few years, with vested interests, in the shape of all other medical journals published in Canada.

The receipt of fees from members during the past year have been very satisfactory. Numerous communications have, however, been received from members enclosing fees, but protesting against those who refused to pay being allowed to go free. This contention being absolutely just, the Council decided to reinstate the penal clause 41a, to come into force in December next.

The Ontario Medical Library Association, was equipped at its institution, and is now carried on entirely by the profession in Toronto. Its members in Toronto pay an annual fee of two dollars towards its maintenance. Every licentiate outside Toronto, is invited to make use of it free. In consideration of these facts the Council fixed the annual rental of the room occupied by the Association, at the nominal sum of one dollar.

The list of text books recommended to students was revised to meet the latest advances in medical science.

A committee consisting of Toronto members was appointed, with whom the prosecutor, Mr. Wasson, is to confer in order to make prosecutions more effective and less expensive. The members of the committee volunteered to do the work gratuitously.

The whole meeting was characterized by a better tone than has existed for some years. While it was seen and felt that strong convictions existed, less captiousness was shown by the leaders of the so-called defence association, and all settled down to hard work, with the result that the same work which last year occupied two weeks, was concluded in five days.

There was a better feeling shown all through the proceedings, pointing, we hope, to the speedy unification of the profession in the province.

THE ONTARIO MEDICAL ASSOCIATION.

In this issue is a full report of the proceedings at the late meeting of the Ontario Medical Association, held at Windsor, June 3rd and 4th.

The meeting was certainly a success so far as social enjoyment was concerned, but was not so large as former meetings; nor were the papers so numerous as heretofore. This was caused by quite a number of gentlemen having promised papers, and not eventuating when called upon, either in person, or by the presence of the promised paper to be read by some one else.

The quality of work was, however, good, and the discussions of the papers read most interesting and instructive.

The Western men, in their Committee of Entertainment, showed the proverbial western hospitality. Indeed the cheer was continuous, potent and well flavored.

The whole resources of the western store of Ontario and a part of Michigan were at the disposal of whatever doctor saw fit to use them, by day or night. Everyone who attended will long feel a deep debt of gratitude to That Committee for the good quality of the lemons and soda provided on the second morning.

Hiram Walker & Sons, Parke Davis & Co., Frederick Stearns & Co., and Messrs. Girardot, all vied in making it pleasant for the visiting doctors, and succeeded admirably. Few of our profession in the East knew of the extensive works and excellent wines manufactured by Messrs. Girardot in our own country.

Dr. Grasett is to be complimented on the manner in which he conducted the business of the meeting. An abstract of his address appears in our report.

THE ONTARIO MEDICAL ASSOCIATION.

The regular meeting of the Ontario Medical Association was held in Windsor, June 3rd and 4th; the President, F. LeM. Grasett, occupying the chair.

"The Treatment of Puerperal Sepsis" was the title of a paper by Henry T. Machell.

The death-rate from puerperal sepsis had lessened infinitely since the introduction of a septic and antiseptic principles into the practice of mid-wifery. But the statistics of deaths from "puerperal diseases" gave a most incorrect idea, not only of the amount of puerperal sepsis, but also of the number of deaths from that cause. For instance, in 1893, in Toronto, population 190,000, births 4,153, there were two deaths reported under the head of "puerperal diseases." Too often "malaria," "milk fever," "fever from mental emotion," "la grippe," were given to slight rises of temperature, a moderate tenderness over the abdomen and mal-odor of the lochia.

A knowledge of the causes of puerperal infection suggested the proper prophylactic treatment. The indication was to exclude bacteria: "no bacteria, no infection; no putrefaction, no suppuration." The essayist then pointed out the means whereby this could be brought about, except in autogenetic cases. These included healthy woman, clean house, clean room, clean linen, clean bed and bedding. The accoucheur's hands and nails should be thoroughly scrubbed for several minutes with a brush, soap and hot water, the nails cleaned and trimmed smooth, then the hands should be completely immersed for some minutes in an antiseptic solution. The examining hand should maintain this perfect condition all through labor. Little stress was laid on the pre-and post-partum douches. All tears should be attended at once. All decidua should be removed. If sepsis supervened a great point was to recognize it at once. The accoucheur should not delude himself by thinking he was dealing with some concurrent condition, but ascertain at once the nidus of the bacteria and the site of infection and treat promptly and strenuously, cleansing grey spots, cauterizing with carbolic acid or Churchill's tincture of iodine;

douching and thorough curettement of the endometrium, with supporting constitutional treatment were fully detailed by the reader of the paper. The coal-tar products might reduce the temperature, but the sepsis would remain. They were to be condemned. Alcohol in the early stage was not advisable. Purgatives were indicated in every case—six or eight grains of calomel followed by magnesiun sulphate. To lower the temperature he recommended the cold head, and abdominal coil, and free sponging. If asthenia supervened, alcohol in quantities, free feeding, quinine, strychnine and other stimulants were to be relied on. The effect of the staphylococcus antitoxin was yet to be seen.

“Tongue-like Accessory Lobes of the Liver” was the title of a paper read by Alexander McPhedran, of Toronto. He said the chief interest in the subject was in connection with the diagnosis of abdominal tumors. These lobes of the liver were of great variety as to shape and position, and would often mislead one in the diagnosis of abdominal tumors. Riedel believed them to be caused by tight lacing, and traction by an enlarged gall-bladder were usually found in women. In the cases reported, tight lacing had had little to do with the production of the deformity, and the position of the gall-bladder at the lower part of the mass was an accident rather than a cause of its formation. The essayist reported 7 cases he had had in which these accessory lobes were found. In most cases they had occurred with some intercurrent abdominal disease, an operation for which, revealed these structures.

The president then read his annual address, which is in part, as follows:—

The association aims to bring together, he said, men from all parts of the province, and this time it welcomed the special contingent of the profession from across the border. The speaker said he thought that this province might feel a sense of gratification in knowledge of the fact that it was not behind in matters of medical science and progress. In Toronto alone there were three flourishing medical societies. The president then referred feelingly to the losses the association had sustained by death. He said that matriculation in medicine in Ontario has been lately in an anomalous state. The Medical Council in requiring a special certificate, and none other, inflicted an undeniable hardship in some cases. The growing feeling of discontent had been met by a compact, which will almost certainly go into force at the next meeting of the council. Reciprocal registration between Canada and the United Kingdom has so far yielded no practical results, but the speaker thought desirable results could be obtained when registration between the several provinces of the Dominion was secured. If a graduate of Ontario, passing with the highest honors at the Provincial university, stamped with the hall mark of the College of Physicians and Surgeons of Ontario, to say nothing of the newer and more distinct provinces, could not practise his profession in the United Kingdom how can we ask with any reasonableness reciprocal registration from Britain. The speaker thought that if the inter-provincial registration difficulties could be overcome there would not be much trouble in securing recognition of the members of the profession in the United Kingdom.

Not quite 15 years ago, Koch announced to the world his great discovery that a specific bacillus is the primary cause of tuberculosis, establishing as an undoubted fact what many had even before this regarded as highly probable. All objections that this characteristic bacillus was not the cause of the disease, were, by the multiplicity of confirmatory evidence in all parts of the world completely met. In the same way the infectious nature of the virus was completely established, not only by inoculation in susceptible subjects, but also by contact of an unprotected surface and matter holding the specific germ. If then the infectious element in tuberculosis abides in the secretions of the parts affected, is it not wise to control this avenue of propagation without unduly pressing on the patient and his friends. How far this is desirable all at once is a question. Perhaps for the present it is wiser to educate and enlighten the mass of the people on this subject, pointing out in simple, unmistakable terms, the nature of the disease, how easily it is communicated, how one can best protect himself and his friends from the spread of the disease leaving for the future any more radical action. This year sees a beginning made in a measure for the sanitarium treatment of cases of tuberculosis in our own country. The national Sanitarium Association has been incorporated, a board of wealthy and influential men in different parts of the country has been chosen as its directors. Before long we hope to see, not in Muskoka only, but also in the Rocky Mountain section of our Northwest, several buildings specially erected on favorable spots to receive and benefit, and often cure, those who without such surroundings could have nothing to hope for, but await the lingering and incurable end. Already the Association has received pledges of \$70,000 for its purposes. A most satisfactory and well sheltered site of 40 acres of bush land near Gravenhurst has been secured, with the option of purchasing 30 additional acres adjoining. Plans have been drawn, contracts let and before long the first Cottage of our Canadian Sanitarium for tuberculosis will be erected. The ever increasing mortality from tuberculosis like a plague mark, is estimated at 1 in 7 for destruction. The failure of all so called specific treatment for this disease, and the amazing results secured by the advocates of the hygienic and dietetic treatment in these sanitariums which treat exclusively for consumptives, makes one glad that at last we have such a one at our own doors. Such treatment is not a new idea. It has been used since Hippocrates, and many places in Switzerland, Germany, England and elsewhere have long been used in this way. I believe it may be set down to the credit of the United States that the Adirondack College Hospital at Saranac Lake, New York, was one of the first of these institutions to open its doors to the poorer class among phthisical patients. I can myself bear testimony in my own experience to the great good my patients have received from a residence in the Adirondacks in this place. Dr. Osen recently said: "We are finding Trudeau Sanitarium in the Adirondacks a perfect Godsend. Why, I can put my hand on not less than a dozen young men whom we sent there with undoubted phthisis, who returned to us well and who remained well." I do not wish to intrude upon the address a medicine which deals with the treatment of Tuberculosis, but I could not refrain from referring to the beginning of the Sanitarium treatment in our province.

"The Operative Treatment of Mammary Carcinoma." A paper thus entitled was read by William Burt. The essayist quoted Halstead's deliverance that cancer of the breast is a curable disease if operated upon properly and in time. Cheyne results showed 57 per cent. of cures as obtained by using the three-year limit. He (the speaker) thought it would be well to adopt the four-year limit. These results had been obtained by doing the "complete operation." With one surgeon this meant the removal of the breast and axillary glands, fat and fascia in one piece; with another, the removal of the pectorals as well and the supraclavicular glands; others, the periosteum to which the muscles are attached; another, the cutting through of the clavicle for the better removal of the glands. The essayist preferred the term "wide" instead of "complete."

He held that an early diagnosis was of very great importance. If women were taught that a large number of cases of cancer of the breast were curable by an early and wide operation, he believed few would refuse operation. Diagnosis of malignant disease early was often difficult, and to do the wide operation for a benign swelling was criminal, the teaching to operate on every breast tumor after thirty-five was neither logical nor surgical. The reader then reported two of his cases in which the wide operation had been done. In one, two inches of the axillary vein required removal, as it was involved in the cancerous gland mass.

As regards the origin of secondary growths as a local recurrence, he did not think that the mutilation of the knife—that the wound itself—was a primary source of them. The functional disability produced by the wide operation of Halstead and Meyer was not as great as one would suspect. By means of the anterior fibres of the deltoid a woman was able to dress her back hair. It would take a couple of decades yet before the question of percentages could be adjudicated upon.

Dr. A. B. Welford, in discussing this paper, spoke of the influence antiseptic methods had on reducing the mortality of this operation. He gave a resume of some twelve cases. Of one of these he said:—

In speaking of the possibility of secondary deposits in the brain from primary breast carcinoma, a patient of mine, the last one operated upon, presented very rare and interesting symptoms, and in all probability adds another proof to the series in the production of diabetes insipidus by pressure or irritation of a definite coarse lesion in the floor of the fourth ventricle. Mrs. B. aet. 81. had a small scirrhus nodule a little above and to the right of the left nipple, of two and one-half years' duration, which was giving her great pain. The axillary gland did not seem to be affected. There was great thirst, and large quantities of urine being passed, from 17 to 20 pints daily; temperature normal, and other symptoms generally found with polyuria. The tumor, breast and axillary glands were removed, the latter being distinctly infiltrated. The wound healed nicely. After operation the urine gradually began to diminish, until before death took place it was down to 4 pints in 24 hours. Considerable nausea and some vomiting continued every day, and at the end of two weeks increased. She gradually became drowsy, temperature sub-normal, respira-

tion slowed, pulse feeble and varied between 109 and 140. She could be roused, and talked rationally at times; pupils equal. Three days later, the drowsiness deepened into coma; pupils became unequal, left much dilated when death ensued. No post-mortem could be obtained, but the case was so identical with one reported in the *London Lancet*, Oct. 11th, 1890, page 767, under the care of Mr. Walsham, that I feel fairly convinced that we had a case of secondary deposit in or near the floor of the fourth ventricle, as in Mr. Walsham's case it was verified by post-mortem. What pathological change took place as the result of the operation whereby the urine was so much reduced in daily quantity? or was it only a coincidence? The same fact was noted in the case referred to.

G. T. McKeough, in discussing this subject, called attention to the very poor results of the very best operators until recent years. Dennis reports 38 cases with 45% having passed successfully the three year limit. Halstead has had 50% of cures. These results were due to more perfect technique, antiseptic and aseptic precautions and a better knowledge of the pathology of carcinoma, the precise manner in which it spreads and affects surrounding tissue. He emphasized the importance of early operation and outlined carefully the steps in the operation.

"The Preservation of the Perineum," was the title of a paper by C. B. Oliver. He said, in part:—"When the perineum is rigid and undilatable, it has been my practice to introduce two fingers of the right hand into the vagina, and with each pain stretch the perineum in advance of the head. I have often found extreme rigidity disappear in a few minutes under this treatment. The patient's attention being occupied by the severity of the pain, no objection is ever raised to this procedure.

When the head begins to distend the vulva, our real work begins. Full expansion has by this time been secured. Two fingers are introduced behind the occiput, and this part of the head is brought well down under the pubic arch. The diameter of the head passing through the outlet will thus be materially lessened, and so also will be the tension on the perineum. Although by this step an almost inappreciable lessening of the diameter may at times be attained, it may still be sufficient to prevent serious laceration. Attention to this practice should be a routine practice.

Of the various methods which have been advocated by older writers, for the prevention of perineal laceration, it is best to say nothing.

Unless the physician feels that he has both perineum and head under complete control, he will suffer the mortification of witnessing frequent lacerations. There is only one method which, to my mind, meets the necessary requirements. Olshausen and others have advocated the plan of expelling the head in the interval between pains by means of the thumb or finger in the rectum, but as far as I can learn, this practice has not been very widely adopted. Four years careful study has convinced me that this is the method par excellence. The second finger of the right hand is introduced into the rectum beyond the child's chin. The disengaged left hand is used to press the perineal tissues from each side towards the median line, and while the patient is cautioned not to bear down, the head is brought into the world at the will of the operator.

No one who has not tried this method can appreciate the absolute control it affords you over the movement of the head. A thumb in the rectum will often answer equally well.

The next paper on the list was a most able one by Dr. Harvey, of Wyoming, Ont., on "Broncho Pneumonia in Children."

The Doctor said that broncho-pneumonia or capillary bronchitis was to be found in children from childbirth to the age of seven years, though if found after five years old, the child will be most likely undeveloped, strumous and delicate. After dealing exhaustively with the anatomy of the lung both in foetal life and in childhood, and stating the condition of the parts when affected with the disease, he gave a most learned discourse on the pathology, causes, symptoms and termination of capillary bronchitis, giving, as to cause, its predisposing and exciting causes, and averring that resolution should always be the physician's hope and aim in treatment.

In treatment the doctor insisted on good ventilation and steam moistened air, and if the patient's temperature should rise above 101°, he advises sponging with tepid or cold water every few hours. He prescribes mercury in one of its combinations, to keep the bowels in a relaxed state.

Emetics should be exhibited where there is a cyanosed, lethargic state or where bronchial respirations are present.

The doctor believes in stimulants in all stages of the disease, and expectorants and febrifuges as the case demands. As to nervous stimulants, Dr. Harvey considered that it was best to begin their use before the heart's action begins to fail. Above all, he has great faith in strychnia, for which he claims—1st, it excites the vasomotor centres and contracts the arteries; 2nd, It increases the blood-pressure, and will thus keep up the circulation with a weaker heart; and, 3rd, it increases the excitability of the respiratory centres, which keeps up respiration in spite of the sedative action of sepsis and dioxide. The doctor advises that strychnia should be administered early and up to convalescence, beginning with 1/60 of a grain.

After speaking of counter-irritation and hyper-oxygenation, Dr. Harvey concluded by stating that, of course, the feeding of the patient should be most carefully looked after.

The next paper was one on 'Diphtheria and its Treatment,' read by Dr. Charteris, of Chatham.

The Doctor described the general symptoms of diphtheria, and said that he treated it locally with weak astringents as Tinct. Ferri, Mur. Potas. Chlor. listerine and carbolic acid, or solution of peroxide of hydrogen. He administered internally quinine in fair sized doses and strychnia in small doses. The Doctor stated that he was anxious to elicit a discussion on the subject of the treatment of the disease by antitoxine. He quoted the large number of cases reported which had given way to the latter remedy.

He said that he had used it himself with excellent results, but thought that it should only be used in those malignant cases where the larynx was involved. The administration of the drug, the doctor said, was very easy.

In his opinion the injection of the solution should be repeated in twelve hours, and that a third, and even a fourth may be given. He stated that the effect of the remedy was well shown in twelve hours, and that he had known cases to exhibit entire resolution in from fifty to sixty hours.

The Doctor, in conclusion, said that limited time prevented him from giving the general treatment of Diphtheria, but that a nourishing diet and surrounding antiseptics were of great consequence.

A paper entitled "Phthisis as a Factor in the Causation of Insanity," was read by Dr. E. H. Stafford, of Toronto, in which the writer brought some statistics to bear upon the relationship existing between phthisis and insanity. While the fact is noticeable that among the insane a very frequent mode of death is by consumption, the latter disease itself does not as often cause insanity: the disease in the majority of cases running its course without any unusual mental symptoms beyond perhaps the *spes phthisica*.

The frequency of phthisis in some other classes beside the insane seems, the writer thought, to suggest that the disease does not attack all members of the community indiscriminately, but rather those who present some form of degeneration.

SURGICAL SECTION.

Dr. T. K. Holmes reported some surgical cases. The first patient was a man aged forty-four who had suffered from pain in the stomach and hypochondriac region, so severe that gall-stones were suspected. None, however, could be detected and there was no jaundice. He had failed greatly in weight and complained constantly of severe dyspeptic symptoms and what he described as a drawing or twisting of the bowels. He had a fear of being left alone. Local palpation of the abdomen revealed a large movable right kidney, which could be displaced beyond the median line and descended freely with each inspiration. The technique of the operation of anchoring it was fully described by the essayist. An interrupted recovery followed with a complete disappearance of the symptoms. The Doctor discussed the bibliography of the subject. The second case was a description of the operation of nephrectomy for renal tumor, which dated from an injury to the left side. The third case was the report of an abdominal hysterectomy.

He followed the following order:

1. Opening the abdomen.
2. The ligation of the ovarian vessels near the pelvic brim, either on the right or on the left side, slanting them toward the uterus and cutting between.
3. Ligating the round ligament of the same side near the uterus, cutting it free, and connecting the two incisions in order to open up the top of the broad ligament.
4. Incision through the vesico-uterine peritoneum from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge so as to expose the supra-vaginal cervix.
5. Pulling the body of the uterus to the opposite side to expose the uterine artery low down on the side opened up. The vaginal portion of the cervix is located with the thumb and the forefinger and the uterine

artery, seen or felt, is tied just where it leaves the uterus. It is not always necessary to tie the veins.

6. The cervix is now cut completely across just below the vaginal vault, severing the body of the uterus from the cervical stump, which is left below to close the vaginal vault.

7. As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up or rolled out in the opposite direction the other uterine artery comes into view and is caught with artery forceps about an inch above the cervical stump.

8. Rolling the uterine body still farther, the other round ligament is clamped and cut off and lastly ovarian vessels are clamped at the pelvic brim and the removal of the whole mass consisting of the uterus, tubes and the ovaries is completed.

9. Ligatures are now applied in place of the forceps, holding the uterine artery, round ligament and ovarian vessels; if the surgeon prefers, these may be tied as they are exposed without using the forceps.

10. After the enucleation the operation is now finished by closing the cervical tissue over the cervical canal and then by drawing the peritoneum of the anterior part of the pelvis (vesical peritoneum and anterior layer of the broad ligaments) over the entire wound area and attaching it to the posterior peritoneum by a continuous cat-gut suture.

Dr. Holmes' paper was then discussed:—

Dr. Carsons felt that it was very difficult to decide when it was best to perform the operation of nephrorrhaphy and on his own part left such patients alone until the symptoms became serious. Fibroid tumors on the contrary he thought should be removed at once.

Dr. Eccles, of London, pointed out the difficulty of making a satisfactory diagnosis. He had on more than one occasion tried manipulation of the greatly dilated kidney when large quantities of urine would be passed. He also advised the use of the urethral speculum and the insertion of a tube in the ureter for the easing of the passages.

Dr. McGraw, of Detroit, observed that gall stones may be mistaken for floating kidney. The gall bladder at such times may be quite as moveable. Moreover sewing the kidney makes a powerful mental impression upon a hypochondriac patient.

Dr. McLean, of Detroit, also touched upon the mental impressions produced by such operations and pointed out that some fibroids are best left alone.

Dr. Metcalf described a case of floating kidney where fixation of the organ was followed by immediate improvement.

The treatment of abortion was a paper read by Dr. McKeogh, of Chatham.

Dr. Longyear opened the discussion by stating that he thought it barbarous to resort to so much manipulation, and distasteful both to practitioner and patient. He also exhibited a special form of forceps for withdrawing the bag from the uterus, a proceeding which he was assured entailed much less inconvenience than the use of the tampon.

Dr. Harrison, of Cleveland, advocated the use of the dull spoon curette supplemented by a thorough washing.

Dr. Spence, of Toronto, deprecated the felicity with which most "written operations" are conducted, and maintained that no instrument could be as satisfactory as digital examination.

The evening session was opened by a demonstration of the Roentgen Rays and a discussion of the value of the new discovery in surgical diagnosis.

Dr. H. C. Scadding exhibited Hewitt's apparatus for the combined administration of nitrous oxide gas and ether. He pointed out that this form of anæsthetic possessed special advantages. It was a very safe anæsthetic, it acted quickly and was an agreeable one to administer.

The second apparatus shewn was for the administration of nitrous oxide and oxygen. This was the best anæsthetic for dental work. There was no embarrassment of the respiration or of the circulation.

Dr. Cruickshank read a paper on "The Differential Diagnosis of Typhoid Fever." He said:—

"Not long ago a mortality of 17 per cent. was considered a good result, but Brand's revival of the cold water cure reduced this one-half, while Dr. Thistle, of Toronto, by an elaboration of another plan claims to have reduced the death-rate much more. A Dr. Woodbridge modified this same plan into a specific and claims to show that the mortality is less than one per cent. producing in evidence a list of cases. Reputable physicians, however, reply that the majority of such cases were not typhoid at all. But the sincerity of either side cannot be doubted, so the diagnosis of typhoid fever becomes a matter of a good deal of concern to some of us. The doctor then referred to the "peculiar opportunity" Windsor had of studying the disease lately, and detailed the recent pollution of the water supply by the manure from the cattle barns. The relative positions of the Walkerville sewer outlets and Windsor intake were described. Under ordinary circumstances it is almost impossible for the small outflow of sewage to get out 50 feet on such a river, but to get out 200 feet in a current of three or four miles an hour with the intake 40 feet down must no doubt be a rare occurrence. Eight days after the pollution of the water supply by the opening of the shore intake took place a remarkable outbreak of fever, and the diagnosis of this was his text. There was some difference of opinion as to the nature of this fever among the local physicians. He would say nothing of typhoid arising out of a great variety of other diseases where there is no dispute; the real difference of opinion begins with mild and abortive fevers. One says typhoid, another says only malarial, bilious or continued fever, or something else. It may be that the difference in death rate is not caused so much by difference in treatment as in difference of diagnosis. It would seem easy to-day with the microscope to decide as between typhoid and malaria. In Windsor for a number of years there has been no case of intermittent fever, and therefore no continued malarial fever. A malarial patient may, of course, contract typhoid, but this would not lessen the virulence of the typhoid. A mild fever could hardly be typho-malarial, and typho-malaria could not occur where there was no other evidence of malaria. The doctor's reasoning, of course, led up to the conclusion that the late outbreak was of necessity typhoid, of a mild character gen-

erally, but still the true typhoid. Troubles began, he said, when it was attempted to distinguish a mild case of typhoid from one of simple gastric fever. During the outbreak there were over 150 cases, some lasting one day and some two months. Of these he had 34 in his own practice. The doctor then went into a minute description of several cases from attack to convalescence. Some held that typhoid never aborts, but while he did not claim that typhoid can be aborted or that he could do so, typhoid certainly does abort. The doctor went on to show that in the recognition of typhoid no one symptom was essential nor can any two or three be mentioned which may not be irregular or absent in undoubted cases of typhoid, and on the other hand there is not one of the usual symptoms which may not be present in other diseases. Cases were quoted in support of this position. Much had been expected from bacteriology, but it had failed. Osler says the death rate is $7\frac{1}{2}$ per cent., and the essayist seemed disposed to pin his faith to this figure. In conclusion the doctor said that to distinguish gastro-intestinal fever from typhoid was often impossible. A mild case of continued fever might be typhoid, and a fatal one gastro-intestinal. In prevalence of typhoid we should presume the mild cases are typhoid. The death rate of any hospital is not a criterion for private practice. He emphatically disputed the statement made by a speaker of the previous day, that a case which did not run 20 days was not typhoid at all.—*From Windsor Press.*

"The Absorbable Ligature in Abdominal Surgery," was the title of a paper by M. V. Mann, of Buffalo. The ligature referred to was the cat-gut. He called attention to the disadvantages of silk, and the treatment of the pedicle by cauterization.

The cat-gut did away entirely with some of the danger following an infection, which sometimes occurred. The ligature is softened, liquifies and disappears. The cure of the abscess or sinus is not complicated with the presence of a continuous focus of infection. One objection made against cat-gut was the difficulty of rendering it aseptic. He had proven that by the method of sterilization he had adopted, the material was completely sterile. This could be done by the dry sterilization or by boiling in Kumoll, placing in solutions of sublimate in ether or soaking in formaline solution.

To prevent slipping—another objection raised—the gut should never be used after having been placed in water, unless prepared by the Kumoll or formaline process. If taken from alcohol the slight tendency to slip could be overcome by simply pulling firmly upon the strands, or having his assistant do it for him, while he makes the second turn in the knot. By using the knot of Dr. Hanks, in which one strand is put through the second loop twice, all danger of slipping is absolutely done away with.

Dr. W. B. Geikie opened the discussion in medicine on "the treatment of phthisis." The remarks first referred more particularly to the treatment of the patients in the pretubercular stage. Then he discussed the value of the specifics generally used when the disease had established itself; and also those medicines best fitted to treat cough, diarrhoea and other symptoms.

In discussing this paper, Dr. Hodge, of London, said to effect a cure in phthisis, an early recognition of the disease was necessary—even in the

"silent stage" when the prominent symptoms were anaemia, debility, cough and quickened respiration. Early hæmoptysis because it directed early attention to the condition of the lung was a favorable symptom. A tendency to a fibrous rather than to a caseous metamorphosis was a favorable condition. Absence of excessive tissue sensibility, of hereditary taint, the inoculation with a mitigated virus, admission of the bacilli through the respiratory passages rather than through the vascular apparatus, a sound organic state of the patient,—all these were favorable to treatment. The two lines of treatment were the attacking of the bacilli direct, and the fortifying treatment. The latter was the most satisfactory. Fats and proteids should be pushed, except in dyspeptic cases, when liquid food, easily digested, should be given. As to alcohol he was not very favorable; if given at all, it should be administered at meals and in small doses. The dwelling should be well ventilated and lighted, and situated on a dry soil. Storm windows should be discarded. The question of climate, exercise, bathing, clothing, medicinal treatment, were each concisely discussed.

As to anti-specifics, the essayist spoke of tuberculin anti-tubercle serum, aseptolin; but he believed creasote to be the remedy *par excellence* along this line.

TWO CASES OF SLOW PULSE.

This was the title of a paper read by P. A. Dewar. He said the causes of irregular and slow heart's action were so numerous that the difficulty in any one case was not in assigning as the causation of the trouble (to the patient at least) but rather in determining which one of the many causes was to be credited and relieved if possible, thereby treating the ailment in the only logical way. Pepper had mentioned a case in which the pulse was 22. Flint had mentioned cases as low as 26; but these were either functional or of a temporary nature. The two cases the speaker had to report were, he believed, the result of intra-cranial trouble. The first patient shewn was a man 63. He gave the history of rheumatism and malaria. Two years ago he consulted the essayist. He was pale and haggard. The respirations were sighing, the digestion faulty. All the organs seemed normal except the heart. Its beat was strong and regular. The rate was 22 per minute, unaffected by position or exercise. It dropped to 16. Rose to 36. Frequently fell to 20. Of late he had distinct attacks of *pelit mal*. The pulse lately had become rapid, weak and irregular. The second case gave also an epileptic history. The pulse beat about 25. The members examined the patients.

"Occipito-Posterior-Positions," was the title of a paper by A. A. McDonald. Authorities differed as to the frequency of these cases, and also as to their importance. Some held that they occurred frequently, others that they occurred rarely. Some held that nature looked after the majority of such cases, and that labor terminated easily. Others held that it was one of the greatest obstetric difficulties. In a case recently reported, where the occiput had rotated into the hollow of the sacrum, the mother and child had both died. The essayist discussed the causation of this condition, and then referred to the diagnosis. The diagnosis, he said, was often difficult, and required the introduction of the hand,

the patient being anaesthetised. Diagnosis then being ascertained, treatment could at once follow by turning the occiput into the anterior position, the shoulders and body being turned at the same time. The Doctor then reported four cases in which this condition of affairs was present, and where turning led to an easy and rapid delivery.

"Missed Abortion" was the title of a paper by F. R. Eccles. This was a subject that lay on the border-land between obstetrics and gynecology. It was important from a medico-legal and also from a moral point of view. The condition was difficult to diagnose. In missed abortion the patient may have gone the whole period of gestation, and the uterus be no larger than at the third month.

Just how long the blighted ovum might be retained in the uterus was an unanswerable question; some put the limit at nine months,—a mere *arbiter dictum*. The symptoms were vague and uncertain in most cases. There have been symptoms of pregnancy which have lessened or entirely disappeared. Irregular losses of blood with more or less pain and uterine contractions have been noted, and in looking back, one infers that the fœtus died about the period in which the said symptoms occurred. Then there was the history of deranged health. Placental polypus, myoma of the uterus and ectopic gestation were to be considered in the diagnosis. The treatment, once the diagnosis was established, was to empty the uterus under anæsthesia.

The essayist then reported the history of cases.

Dr. Primrose read a paper on amputation at the Hip for Advanced Tuberculous Disease.

"Conservative Surgery of the Eye." This was a paper read by Dr. Reeve, which will appear in THE CANADA LANCET.

The next paper was read by title, being one by Dr. J. M. Cotton, on "Haemoptysis."

As to the causes of haemoptysis, the Doctor divided them as follows:

I. Hæmorrhage from the pulmonary artery or its radicles.

(a) Rupture or wound of the lung from external violence.

(b) Active hyperæmia of lungs, vicarious, or induced by violent effort or excitement.

(c) Mechanical hyperæmia of the lungs.

(d) Necrotic divisions of vessels in lungs.

(e) Aneurismal dilatation or simple erosion of branches of Pulmonary Artery.

(f) Primary Atheroma of the pulmonary artery within the lung.

II. Hæmorrhage from the bronchial capillaries.

III. Hæmorrhage from the Aorta or one of its great branches.

After reciting some interesting cases of severe hæmorrhage, in three of which there was an entire absence of tubercular bacilli in the spatium, the Doctor stated that although pulmonary hæmorrhage occurs in all stages of phthisis, the reason that hæmorrhage was not always present was because the contents of the vessels usually undergo thrombosis.

The writer said that hemorrhage in the early stages of phthisis was sometimes beneficial, relieving congested areas, and causing the patient to take greater care of himself by having his attention drawn to this symptom.

As to the treatment of pulmonary hemorrhage, the doctor advocated rest, fresh air, freedom from anxiety, broken ice dissolved in the mouth, and a full hypodermic of Morph: Sulph: $\frac{1}{4}$ to $\frac{1}{2}$ gr. with $\frac{1}{100}$ Atrop: Sulph:

If bleeding still continues under this treatment, he advised half drachm of Turpentine in Emulsion.

After the Hæmoptysis has ceased the Doctor has great faith in the inhalation of creasote, iodine, eucalyptus or pinus sylvestris with lots of chloroform added as a sedative.

In conclusion he gave a case of hæmoptysis connected with cardiac disease, which, he said, was purely mechanical, and due to obstruction and reversal of the circulation.

The committee on necrology made their report which was adopted.

The committee to consider the question of lodge practice reported that it could not propose any fixed scheme yet applicable to the whole province, but they strongly condemned the growing evil and recommended that an effort be made to have each society in the province take the subject into its consideration and pledge itself in every way whatever to making lodge practice by any physician discreditable. This pithy report was signed by Dr. J. Spence, of Toronto, chairman, and was adopted.

A cordial vote of thanks was tendered to the profession of Windsor for the hearty and munificent manner in which they had entertained the visiting members of the Ontario association.

The officers elected for the year are:—

Pres., Dr. Coventry, Windsor.

1st Vice., Dr. Eccles, London.

2nd Vice., Dr. Clark, Kingston.

3rd Vice., Dr. Machell, Toronto.

4th Vice., Dr. J. P. Armour, St. Catharines,

General Sec., J. N. E. Brown, re-elected.

Asst. Sec., E. H. Stafford, Toronto.

Treas., Dr. Carveth, Toronto.

Toronto was chosen as the next meeting place.

CORONERS.—The following gentlemen have been appointed Associate Coroners:—Dr. John Marks Stewart, of Chesley, for Bruce; Dr. Alfred Skippen, of Grand Valley, for Dufferin; Dr. Michael James, of Mattawa, for the district of Nipissing.

BIRTHS.

On June 6, 1896, at Woodville, the wife of Dr. McKay, M.P.P., of a son.

At 325 College Street, on the 21st inst., the wife of A. R. Gordon, M.D., of a son.

MARRIAGES.

At Port Hope, June 25th, James Whiteside Bridges, M.D., of Frederickon, N.B., to Mabel Gertrude Metcalfe.

At the home of the bride's brother, Charles F. Farnsworth, Memphis, Tenn., on the 2nd ult., Ethel, daughter of the late Thos. Ripley Farnsworth, to Dr. Geoffrey Boyd, of Toronto.